Description

A 6 figure general purpose, rugged, electromechanical counter, either panel or base mounted, with manual knob reset, key reset, or non-reset. Frame and housing provides rigid support for accurate alignment and trouble-free use. Distinctive numerals enhance visibility under adverse viewing conditions.

Features

- Panel or base mount
- Rigid support for accurate alignment
- Enhanced visibility
- Manual knob, key or non-reset

Options

- Voltages
- Lead lengths
- Terminations
- Mounting
- 1071-024S - additional key for model 1026

Specifications

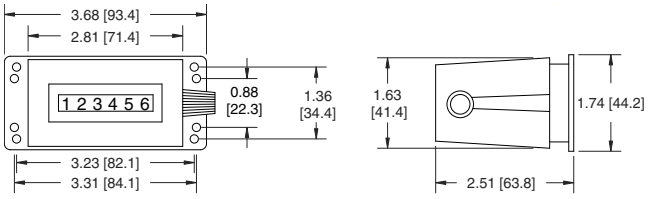
Figures: 6 figures, white on black, 0.19" [5mm] high
Reset: Knob, lock and key, or non-reset
Speed: 1,000 counts/minute (min. 30ms - on, 30ms - off)
Voltage: 24, 115, 230 VAC or 24 VDC (+/- 10%, but not to exceed 10 volts)
Power: 7.8 watts (nominal)
Mounting: Base or panel
Terminations: (2)#22 AWG 105°C wire leads, 8" [203mm] long
Operating Life: Beyond 50 million counts
Temp. Range: -15°F to +140°F [-26°C to +60°C]
Approvals: UL Recognized, CSA Certified, CE Compliant
Weight: 18 to 22 oz. [510 to 624g]

Models	Description
1-1006	230VAC, base mount, knob reset
2-1006	115VAC, base mount, knob reset
3-1006	24VAC, base mount, knob reset
8-1006	24VDC, base mount, knob reset
2-1016	115VAC, base mount, non-reset
P1-1006	230VAC, panel mount, knob reset
P2-1006	115VAC, panel mount, knob reset
P3-1006	24VAC, panel mount, knob reset
P8-1006	24VDC, panel mount, knob reset
P2-1016	115VAC, panel mount, non-reset
P31-1026	230VAC, panel mount, lock and key reset
P32-1026	115VAC, panel mount, lock and key reset
P33-1026	24VAC, panel mount, lock and key reset
P38-1026	24VDC, panel mount, lock and key reset

* Items in bold are normally in factory stock.

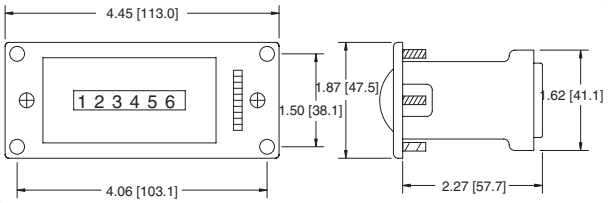
Dimensions

Base Mount



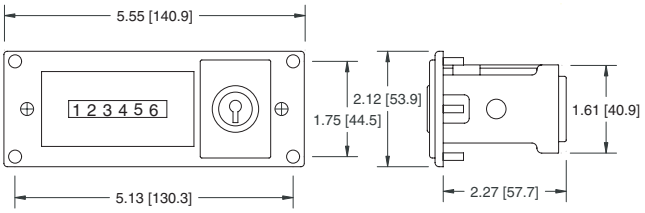
Mounting holes: 0.15" [3.8mm] Dia.

Panel Mount



Screws provided: 6-32 x 0.6 [15.2mm]
Panel cutout: 3.85" x 1.75" [97.8 x 44.5mm]

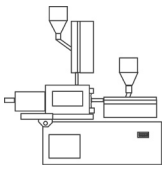
Lock and Key Reset



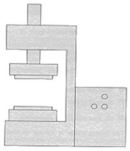
Screws provided: 6-32 x 0.6 [15.2mm]
Panel cutout: 4.88" x 1.75" [124.0 x 44.5mm]

Applications

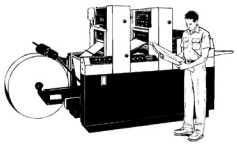
Molding machines



Punch press

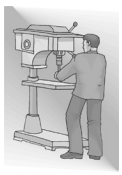


Printing presses



Test labs

Secondary Machines



Description

A 7 figure, rugged, electromechanical counter, either panel or base mounted, with manual knob reset, key reset, or non-reset. Frame and housing provides rigid support for accurate alignment and trouble-free use. Large, easy-to-read numerals assure readability.

Features

- 7 figure
- Panel or base mount
- Rigid support for accurate alignment
- Large easy to read numerals

Options

- Voltages
- Lead lengths
- Terminations
- Wheel color

Specifications

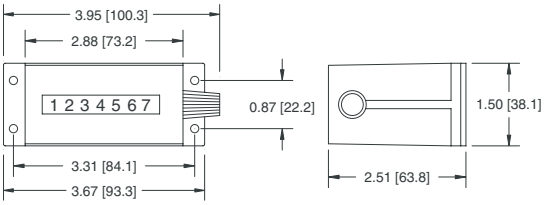
Figures: 7 figures, white on black, 0.19" [5mm] high
Reset: Knob, lock and key, or non-reset
Speed: 1,000 counts/minute (min. 30ms - on, 30ms - off)
Voltage: 24, 115, 230 VAC or 24 VDC (+/- 10%, but not to exceed 10 volts)
Power: 7.8 watts (nominal)
Mounting: Base, panel, or behind the panel
Terminations: (2)#22 AWG 105°C wire leads, 8" [203mm] long
Operating Life: Beyond 50 million counts
Temp. Range: -15°F to +140°F [-26°C to +60°C]
Approvals: UL Recognized, CSA Certified, CE Compliant
Weight: 14 to 18 oz. [397 to 510g]

Models	Description
1-1007	230VAC, base mount, knob reset
2-1007	115VAC, base mount, knob reset
3-1007	24VAC, base mount, knob reset
8-1007	24VDC, base mount, knob reset
2-1017	115VAC, base mount, non-reset

Models	Description
P2-1007	115VAC, panel mount, knob reset
P2-1027	115VAC, panel mount, lock and key reset
P8-1027	24VDC, panel mount, lock and key reset
R2-1007	115VAC, behind the panel, knob reset
R2-1017	115VAC, behind the panel, non-reset

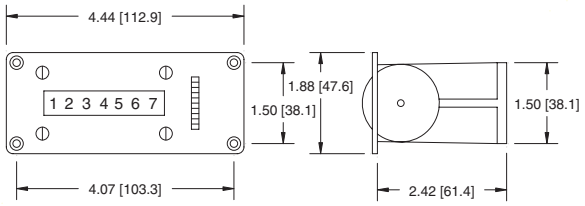
Dimensions

Base Mount



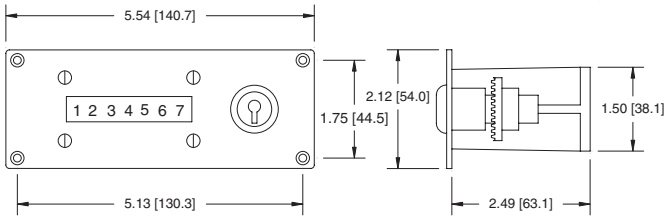
Mounting holes: 0.15" [3.8mm] Dia.

Panel Mount



Screws provided: 6-32 x 0.6 [15.2mm]
Panel cutout: 3.85" x 1.75" [97.8 x 44.5mm]

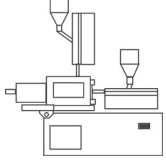
Lock and Key Reset



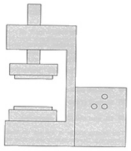
Screws provided: 6-32 x 0.6 [15.2mm]
Panel cutout: 4.88" x 1.75" [124.0 x 44.5mm]

Applications

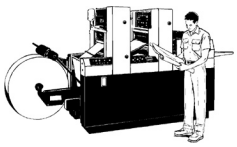
Molding machines



Punch press

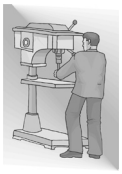


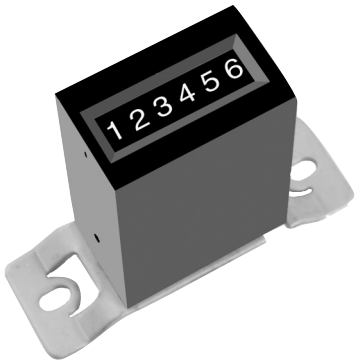
Printing presses

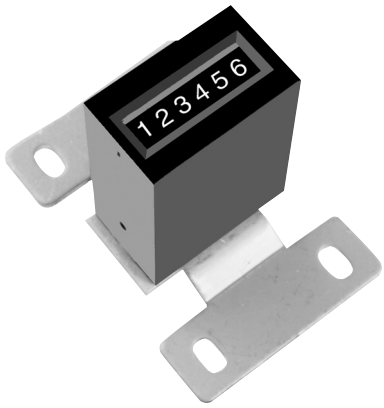


Test labs

Secondary Machines







Description

The Model 40 is a low cost, non-reset totalizer, available with 6-7 figures (white on black background). A wide choice of operating voltages and mountings make this product adaptable for most applications. The Model 40 is an ideal solution for applications that require low cost and product reliability.

Features

- Low cost
- Small size
- DC and AC

Options

- 6 or 7 figure
- Multiple mounting choices
- Voltages

Specifications

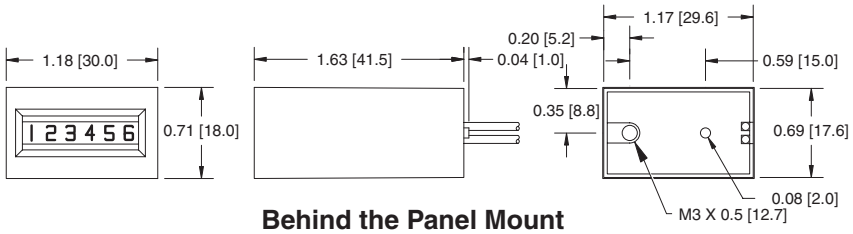
Figures:	6 or 7 figures, white on black, 0.12" (3 mm) high
Reset:	Non-reset
Speed:	600 counts/minute (min. 50ms - on, 50ms - off)
Voltage:	115 VAC, 5, 12 or 24 VDC (+ 10/-15% tolerance)
Power:	1.4 watts AC, 1.0 watts DC (nominal)
Mounting:	Rear, behind the panel, snap-in, base or PCB mount
Terminations:	(2)#22 AWG 221°F [105°C] wire leads,10.5" [266.7mm] long or (2) 0.03" [0.8mm] Dia. pins for PCB mounting
Operating Life:	Beyond 3 million counts
Temp. Range:	+23°F to +104°F [-5°C to +40°C]
Weight:	Less than 1 oz. [28g]

Models	Description
2-4016	115VAC, 6 figure, rear mount, wire leads
R2-4016	115VAC, 6 figure, behind the panel mount, wire leads
R9-4016	12VDC, 6 figure, behind the panel mount, wire leads
SR2-4016	115VAC, 6 figure, snap-in panel mount, wire leads
T2-4016	115VAC, 6 figure, PCB mount, pins
V8-4016	24VDC, 6 figure, V-base mount, wire leads

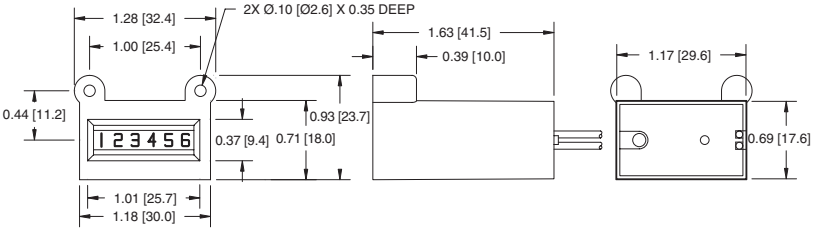
Models	Description
2-4017	115VAC, 7 figure, rear mount, wire leads
R2-4017	115VAC, 7 figure, behind the panel mount, wire leads
R9-4017	12VDC, 7 figure, behind the panel mount, wire leads
SR2-4017	115VAC, 7 figure, snap-in panel mount, wire leads
T2-4017	115VAC, 7 figure, PCB mount, pins
V8-4017	24VDC, 7 figure, V-base mount, wire leads

Dimensions

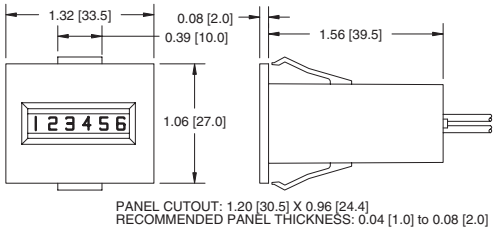
Rear Mount



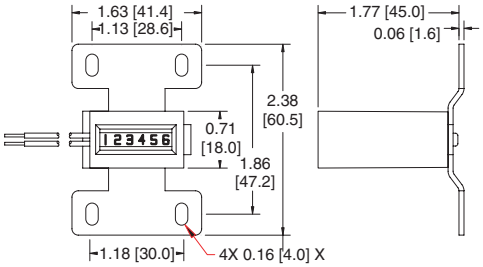
Behind the Panel Mount



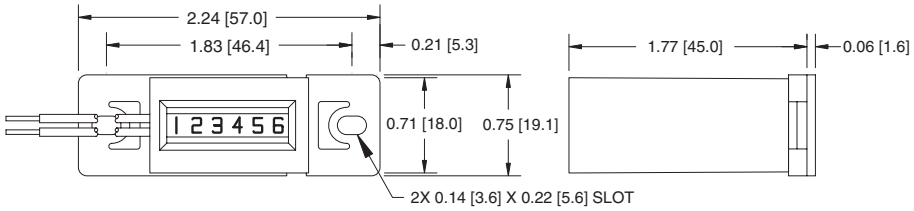
Snap-In Panel Mount



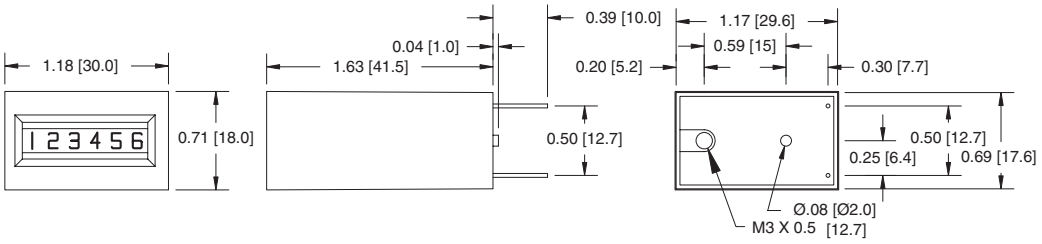
V-Base Mount



D-Base Mount

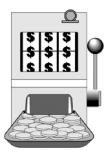


PCB Mount



Applications

Vending/Gaming machines



Photocopiers

Items dispensed

Office equipment

Description

The Redington Model 40 LCD counter provides a large 7-digit display, 0.18" [4.5mm] in a PCB housing. The LCD counter is 100% interchangeable with the existing IGT electromechanical counter. The counter operates on 24VDC, the same input voltage as the existing IGT counter. The counter is tamperproof and provides the user with a long life high speed counter, up to 130 counts per second (CPS). The existing electromechanical counter is rated at 20 CPS.

Features

- Interchangeable with existing electromechanical counter
- Internal lithium battery (7+ year life)
- Always on display
- 24VDC count input
- PCB mount
- Long life - no mechanical parts to wear out

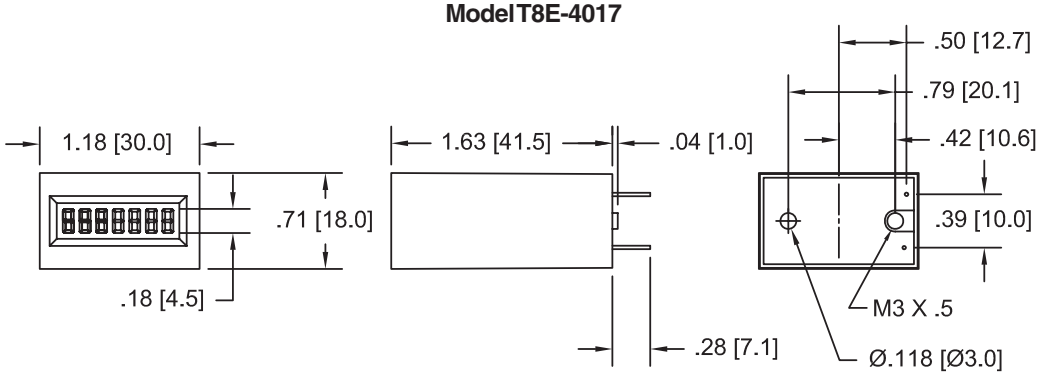
Specifications

Display: Large 7-digit, 0.18" [4.5mm], LCD, black on light background (9999999 Counter)
Inputs: 24 VDC
Battery Life: 7+ years (internal lithium battery)
Reset: Non-reset
Case: Tamperproof, polymer material
Operating Temp: -4°F to 140°F [-20°C to 60°C]
Terminations: PCB 2-pins
Weight: 1oz [28g]

Models	Description
T8E-4017	24VDC, 7 digits, PCB mount, 130 CPS

Dimensions

Model T8E-4017



Applications

Vending/Gaming machines

Photocopiers

Items dispensed

Office equipment

Description

The Model 40 is a low cost, non-reset totalizer, available with 6-7 figures (white on black background). A wide choice of operating voltages and mountings make this product adaptable for most applications. The Model 40 is an ideal solution for applications that require low cost and product reliability.

Features

- Low cost
- Small size
- DC and AC

Options

- 6 or 7 figure
- Multiple mounting choices
- Voltages

Specifications

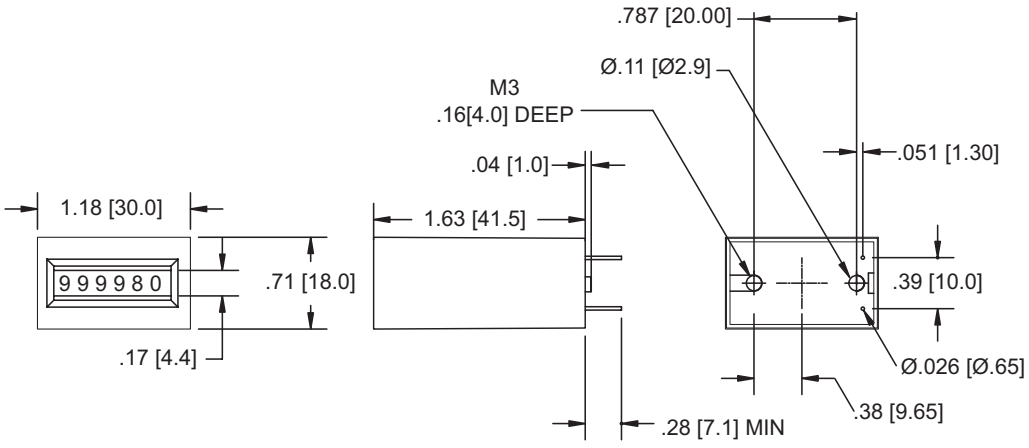
Figures: 6 or 7 figures, white on black, 0.12" (3 mm) high
Reset: Non-reset
Speed: 600 counts/minute (min. 50ms - on, 50ms - off)
Voltage: 12 or 24 VDC (+ 10/-15% tolerance)
Power: 1.0 watts DC (nominal)
Mounting: PCB mount

Terminations: [266.7mm] long or (2) 0.03" [0.8mm] Dia. pins for PCB mounting
Operating Life: Beyond 10 million counts
Temp. Range: +23°F to +104°F [-5°C to +40°C]
Weight: Less than 1 oz. [28g]

Models	Description	Models	Description
P8-4016	24VDC, 6 figure, PBC mount, pins	P9-4016	12VDC, 6 figure, PBC mount, pins
P8-4017	24VDC, 7 figure, PBC mount, pins	P9-4017	12VDC, 7 figure, PBC mount, pins

Dimensions

PCB Mount



Applications

Vending/Gaming machines

Photocopiers

Items dispensed

Office equipment



Description

A 6 figure, non-reset counter. Metal/plastic frame assembly assures ruggedness while one piece cover discourages tampering. Precision molded internal gearing requires no lubrication for long, accurate count life. Applications include warranty verification, electronic game counting, coin box tallies, or wherever small size, highly visible numerals, and solid construction are critical.

Features

- Small size
- Highly visible numerals
- Solid construction

Options

- Voltages
- 7 figure
- Lead length
- Special connectors
- Extended temperature range
- Count x 2

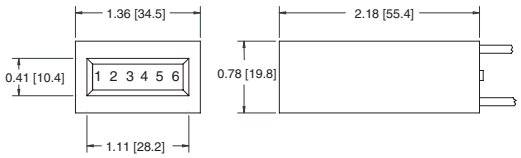
Specifications

Figures: 6 figures, white on black, 0.18" [4.6mm] high
Reset: None
Speed: 600 counts/minute (min. 50ms - on, 50ms - off)
Voltages: 115VAC, 24VDC (+/- 10%, but not to exceed 10 volts)
Power: 1.5 watts (nominal)
Mounting: Rear, behind the panel, base, or combination
Terminations: (2) #22 AWG 221°F [105°C] wire leads, 10" [254mm] long
Operating Life: Beyond 3 million counts
Temp. Range: +23°F to +104°F [-5°C to +40°C]
Approvals: UL Recognized, CE Compliant
Weight: 2.5 oz. [71g]

Models	Description	Models	Description
2-4416	115VAC, 6 figure, rear mount	V2-4416	115VAC, 6 figure, base mount
8-4416	24VDC, 6 figure, rear mount	V8-4416	24VDC, 6 figure, base mount
R2-4416	115VAC, 6 figure, behind the panel mount	RV2-4416	115VAC, 6 figure, combination mount
R8-4416	24VDC, 6 figure, behind the panel mount	RV8-4416	24VDC, 6 figure, combination mount

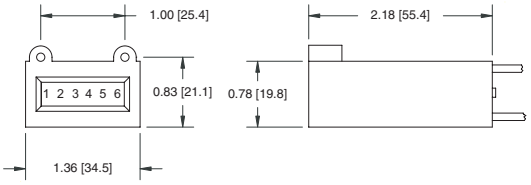
Dimensions

Rear Mount



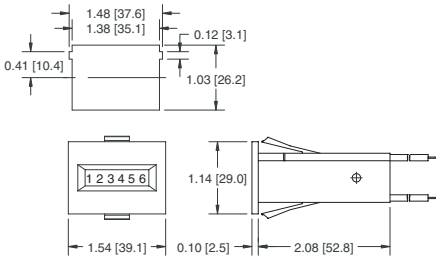
Mounting hole: For M3 screw

Behind the Panel Mount

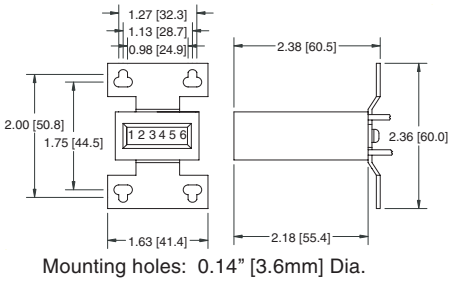


Mounting holes: For M3 self tapping screw

Snap-In Panel Mount



Base Mount



Mounting holes: 0.14" [3.6mm] Dia.

Applications

Warranty verification

Coin box tallies

Electronic game counting

Description

A compact, economical, 6 or 7 figure, non-reset, electromechanical counter designed for general purpose industrial and commercial counting applications. It is designed for a variety of mounting methods as required by the application. Commonly used for coin-operating equipment, photocopiers and vending machines.

Features

- 6 or 7 figure
- Compact
- Non-reset
- Variety of mounting options

Options

- Voltages
- Lead lengths
- 5 figure

Specifications

Figures: 6 or 7 figures, white on black, 0.17" [4.3mm] high
Reset: None
Speed: 1,000 counts/minute AC, (min. 30ms - on, 30ms - off)
1,200 counts/minute DC, (min. 25ms - on, 25ms - off)
Power: AC: 24VAC ~ 4 watts
115VAC ~ 3.5 watts
230VAC ~ 5 watts
DC: 12/24VDC ~ 2 watts

Mounting: Panel or base
Terminations: (2) #22 AWG 105°C wire leads, 12" [305mm] long
Operating Life: Beyond 10 million counts
Temp. Range: -15°F to +140°F [-26°C to +60°C]
Approvals: UL Recognized, CSA Certified, CE Compliant
Weight: 3.5 oz. [99g]

Models	Description
P2-4816	115VAC, 6 figures, P panel mount
P8-4816	24VDC, 6 figures, P panel mount
R2-4816	115VAC, 6 figures, R panel mount
SR2-4816	115VAC, 6 figures, SR panel mount
SR8-4816	24VDC, 6 figures, SR panel mount
V1-4816	230VAC, 6 figures, V base mount
V2-4816	115VAC, 6 figures, V base mount
V3-4816	24VAC, 6 figures, V base mount
V8-4816	24VDC, 6 figures, V base mount
V9-4816	12VDC, 6 figures, V base mount

Models	Description
D8-4817	24VDC, 7 figures, D base mount
P2-4817	115VAC, 7 figures, P panel mount
P8-4817	24VDC, 7 figures, P panel mount
R8-4817	24VDC, 7 figures, R panel mount
SR8-4817	24VDC, 7 figures, SR panel mount
V2-4817	115VAC, 7 figures, V base mount
V8-4817	24VDC, 7 figures, V base mount

* Items in bold are normally in factory stock.

Applications

Control panels

Gaming machines

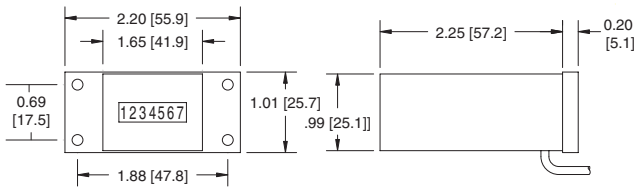
Vending machines

Coin-operated equipment

Photocopiers

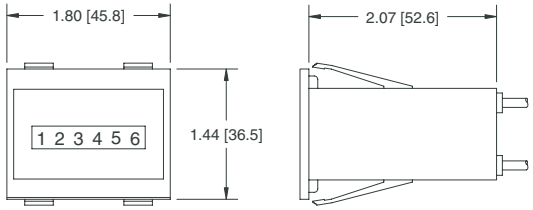
Dimensions

D - Mount



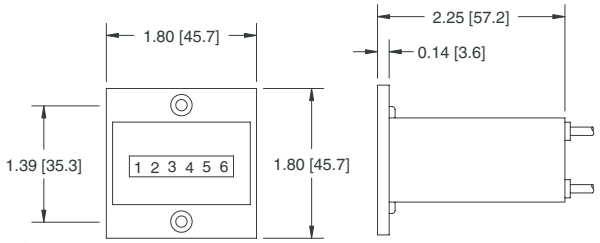
Mounting holes: 0.15” [3.8] Dia.

SR - Mount



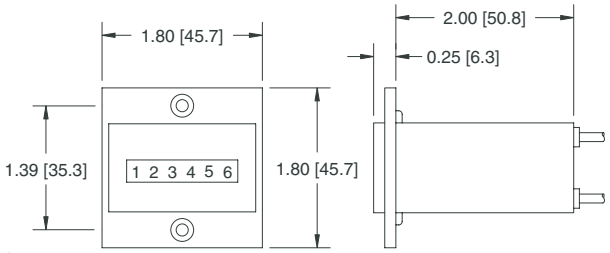
Panel cutout: 1.67” x 1.29” [42.4 x 32.8mm]
Recommended panel thickness: 0.04” to 0.08” [1.0 to 2.0mm]

P - Mount



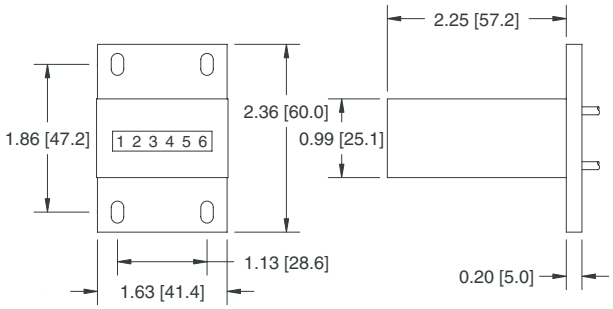
Mounting holes: For #5 flat head screw
Panel cutout: 1.72” x 1.05” [43.7 x 26.7mm]

R - Mount



Mounting holes: For #5 flat head screw
Panel cutout: 1.72” x 1.05” [43.7 x 26.7mm]

V - Mount



Mounting holes: 0.16” x 0.28” [4.1 x 7.1mm] slots

Description

Economically priced 4 and 6 figure push-button reset, electromechanical counter designed for use where limited space is a factor and when reliability is critical. Rugged operating mechanisms require no lubrication or maintenance. Compact size and minimum space requirements make the Model 49 ideally suited for use in control panels, business machines, and test equipment.

Features

- Compact
- No maintenance
- Quick reset

Options

- Voltages
- Extended temperatures
- 4 or 6 figure

Specifications

Figures: 4 or 6 figures, white on black, 0.16" [4mm] high
Reset: Push-button
Speed: 600 counts/minute
(min. 50ms - on, 50ms - off)
Voltages: 115VAC, 24VDC
(+10% to - 15%)
Power: AC: 115VAC ~ 3 watts
DC: 24VDC ~ 2 watts

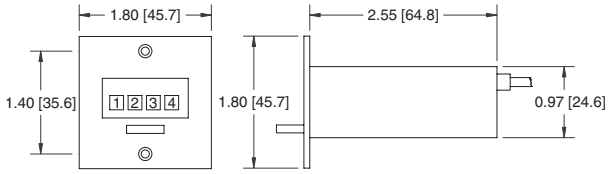
Mounting: Panel, base, or bail
Termination: (2) #22 AWG 105°C wire leads, 10" [254mm] long
Operating Life: Beyond 100 million counts
Temp. Range: -15°F to +140°F [-26°C to +60°C]
Approvals: UL Recognized, CE Compliant
Weight: 4 oz. [113g] (4 fig.), 5 oz. [142g] (6 fig.)

Models	Description	Models	Description
B2-4904	115VAC, 4 figure, bail mount	B2-4906	115VAC, 6 figure, bail mount
B8-4904	24VDC, 4 figure, bail mount	B8-4906	24VDC, 6 figure, bail mount
D2-4904	115VAC, 4 figure, base mount	D2-4906	115VAC, 6 figure, base mount
P2-4904	115VAC, 4 figure, panel mount	**P2-4906**	115VAC, 6 figure, panel mount
P8-4904	24VDC, 4 figure, panel mount	**P8-4906**	24VDC, 6 figure, panel mount
P9-4904	12VDC, 4 figure, panel mount	P9-4906	12VDC, 6 figure, panel mount

* Items in bold are normally in factory stock.

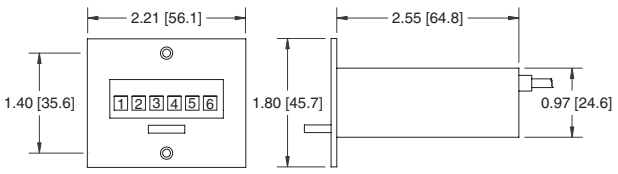
Dimensions

Panel Mount - 4 Figure



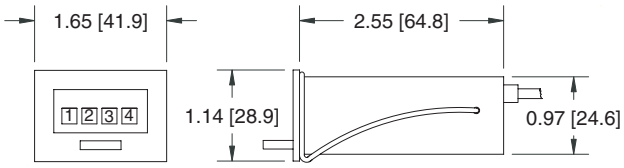
Panel cutout: 1.46” x 1.01” [37.1 x 25.7mm]
Mounting holes: For #4 flat head screw

Panel Mount - 6 Figure



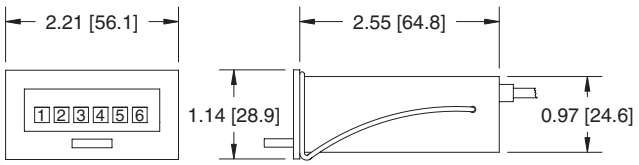
Panel cutout: 2.00” x 1.01” [50.8 x 25.7mm]
Mounting holes: For #4 flat head screw

Bail Mount - 4 Figure



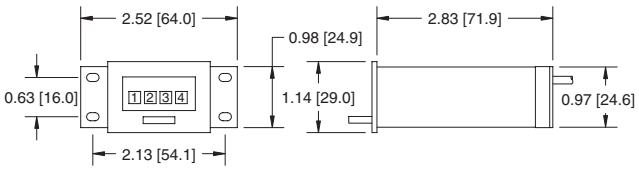
Panel cutout: 1.46” x 1.01” [37.1 x 25.7mm]

Bail Mount - 6 Figure



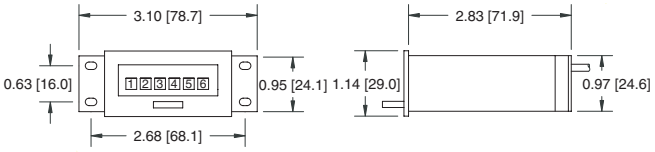
Panel cutout: 2.00” x 1.01” [50.8 x 25.7mm]

Base Mount - 4 Figure



Mounting holes: 0.12” x 0.20” [3.1 x 5.1mm] slots

Base Mount - 6 Figure



Mounting holes: 0.12” x 0.20” [3.1 x 5.1mm] slots

Applications

Test Equipment

Control Panels

Business Machines

Medical devices

Description

The model 710 AC hour meters and minute meters are widely used in panel applications where number size and visibility are critical. Its tough, Lexan bezel and distinctive styling enhance appearance and durability. Available in 5 figure reset or 6 figure non-reset versions.

Features

- Large figures
- Tough, Lexan case
- Reset or non-reset

Options

- Private label faceplates
- Bracket mount
- Mounting bracet (721-0003)
- Splash proof kit (721-0017)
- Heavy duty splash proof kit (721-0018)
- Gasket (17210-004s)

Specifications

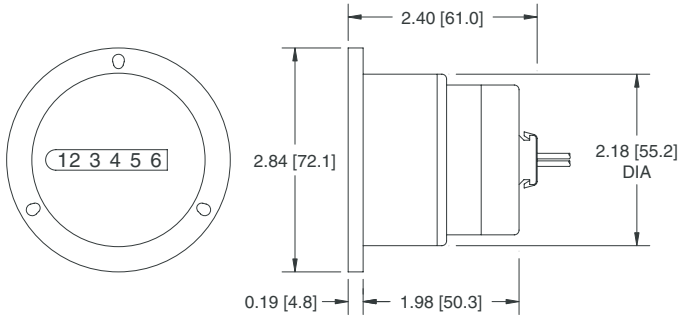
Figures: 5 figures, 9999.9 (reset) or 6 figure, 99999.9 (non-reset), 0.19" [5mm] high
Reset: Reset (on front or side) or non-reset
Voltages: 24, 115 or 230VAC, (+/-10%), 50 or 60 Hz.
Power: 3 watts (nominal)
Mounting: Panel (3-hole)
Terminations: 8" [203.2mm] wire leads or terminal block
Temp. Range: -20°F to +160°F [-29°C to +71°C]
Approvals: UL Recognized, CSA Certified, CE Compliant
Weight: 6 oz. [170g]

Models	Description
710-0001	115VAC/60Hz, non-reset, 99,999.9 hrs, 8" [203mm] wire leads
710-0002	115VAC/60Hz, non-reset, 99,999.9 hrs, terminal block
710-0003	230VAC/60Hz, non-reset, 99,999.9 hrs, 8" [203mm] wire leads
710-0006	24VAC/60Hz, non-reset, 99,999.9 hrs, 8" [203mm] wire leads
710-0008	115VAC/60Hz, non-reset, 99,999 hrs, 8" [203mm] wire leads
710-0009	115VAC/50Hz, non-reset, 99,999.9 hrs, 8" [203mm] wire leads
710-0013	115VAC/60Hz, front reset,9,999.9 hrs, 8" [203mm] wire leads
710-0014	230VAC/60Hz, non-reset, 99,999.9 hrs, terminal block
710-0018	115VAC/60Hz, non-reset, 99,999.9 min, 8" [203mm] wire leads
710-0024	24VAC/60Hz, non-reset, 99,999.9 hrs, terminal block
710-0026	115VAC/50Hz, non-reset, 99,999.9 hrs, terminal block
710-0032	115VAC/60Hz, front reset,9,999.9 hrs, terminal block
710-0051	115VAC/60Hz, non-reset, 99,999 hrs, terminal block

* Items in bold are normally in factory stock.

Dimensions

8" [203mm] Wire Leads

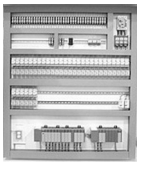


Mounting holes: For #4 screws on 2.44" [62.0] B.C.
and #6 screws on 2.53" [64.3] B.C.
Panel cutout: 2.21" [56.1] Dia.

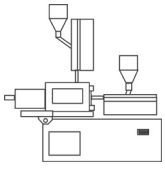
Applications

Office equipment

Control panels

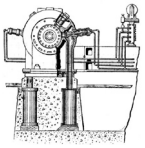


Industrial equipment



Test equipment

Compressors



Description

The Redington Model 711/731 provides a family of compact 7 figure, AC or DC Hour Meters. Models are available in the standard industry housings, 2-Hole rectangular, flush-round and flush-rectangular. DC Models are quartz controlled for high reliability and accuracy. A choice of two rectangular panel cutouts are offered 1.45" X 0.95" [36.8mm X 24.1mm] or 1.45" X 0.87" [36.8mm X 2.1mm]. The Round meter has a panel cutout of 1.99" [50.5mm].

Features

- 7 figure, 99999.99
- Various voltage inputs
- Quartz accuracy (DC)
- Large figures, 0.14" [3.6mm]
- CE Compliant
- UL Recognized/CSA Certified for AC
- UL/cUL Recognized for DC

Options

- Special voltages
- Terminations
- Panel cutout

Specifications

Figures: 7 figures, 0.14" [3.6mm] 99999.99
Reset: Non-reset
Voltages: 24, 115 or 230VAC (± 10%), 50 or 60 Hz 10-28VDC
Power: 2 watts AC, 0.4 watts DC
Mounting: Clip or mounting holes
Termination: 1/4" [6.3mm] spade terminals with screws (AC)
1/4" [6.3mm] spade terminals (DC)
Accuracy: 0.01% (DC) quartz
Case Material: Black polymer
Weight: 1.2oz. [35g]

Environmental:
Front Panel: IP65
Operating Temperature: -22°F to +180°F [-30°C to +82°C]
Storage Temperature: -40°F to +185°F [-40°C to +85°C]
Vibration: 1g [10/500Hz] IEC 68-T2-34
Shock: 30g [18ms] IEC 68-T2-27
25g [16ms] IEC 68-T2-19
Agency Approvals: CE Compliant
UL Recognized/CSA Certified for AC
UL/cUL Recognized for DC

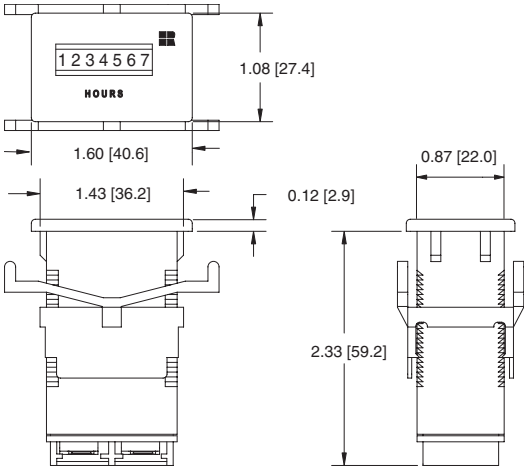
Models

Models	Voltage AC	Mount	Panel Cut-out		
			1.45 X .87	1.45 X .95	1.99
711-0013	115VAC/60Hz	Round			X
711-0014	230VAC/60Hz	Round			X
711-0113	115VAC/60Hz	Flush Rect	X		
711-0114	24VAC/60Hz	Flush Rect.	X		
711-0120	115VAC/60Hz	Flush Rect		X	
711-0123	230VAC/60Hz	Flush Rect.		X	
711-0130	115VAC/60Hz	2-Hole	X		
711-0131	230VAC/60Hz	2-Hole	X		
711-0132	24VAC/60Hz	2-Hole	X		
711-0133	115VAC/50Hz	2-Hole	X		
711-0138	230VAC/60Hz	Flush Rect.	X		

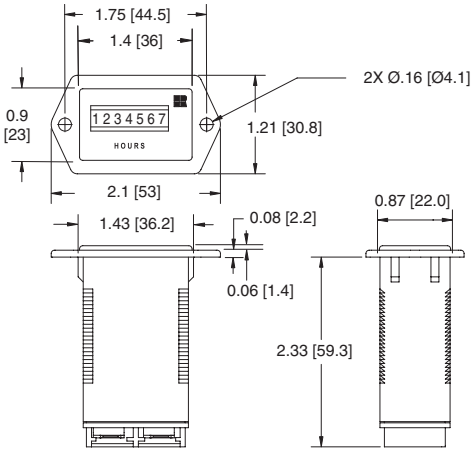
Models	Voltage DC	Mount	Panel Cut-out		
			1.45 X .87	1.45 X .95	1.99
731-0006	10-28VDC	Round			X
731-0040	10-28VDC	2-Hole	X		
731-0041	10-28VDC	Flush Rect	X		
731-0042	10-28VDC	Flush Rect		X	
731-0051	10-28VDC	2-Hole		X	

* Items in bold are normally in factory stock.

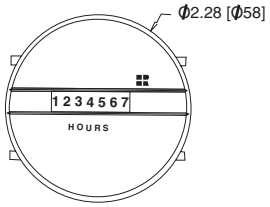
Dimensions

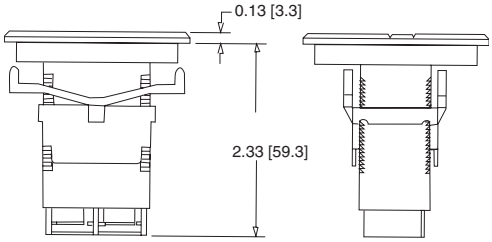


PANEL OPENING 1.45 [36.8] X 0.87 [22.1]
PANELTHICKNESS 0.50" [12.7]

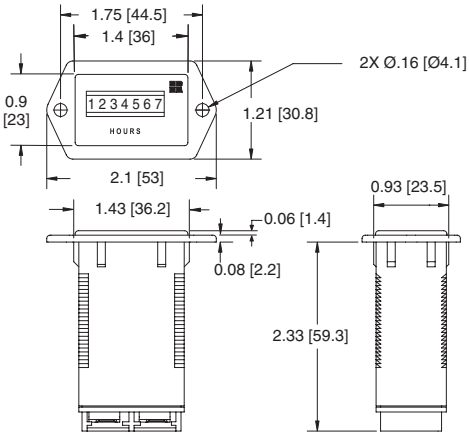


PANEL OPENING 1.45 [36.8] X 0.87 [22.1]

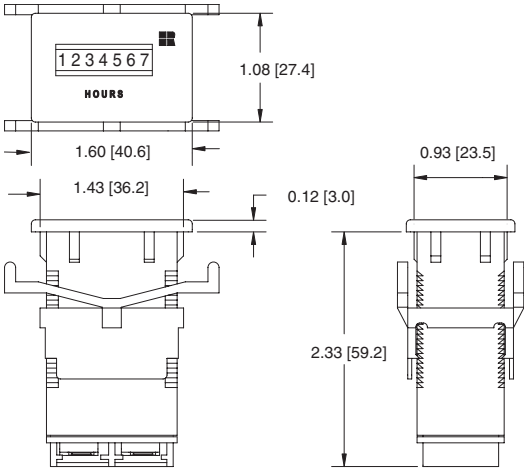




PANEL OPENING 1.99 [50.5] DIA



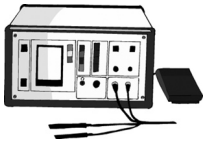
PANEL OPENING 1.45 [36.8] X 0.95 [24.1]



PANEL OPENING 1.45 [36.8] X 0.95 [24.1]
PANELTHICKNESS 0.50" [12.7]

Applications

Medical equipment



Test equipment

Office equipment

Description

These 7 figure, AC or DC hour meters with running indicators, offer crisp, distinctive styling for many panel applications. Available in square and round bezel, flush mount, or three-hole round panel mount. Each is light-weight, low power, and carry UL, CSA and CE approvals.

Features

- 7 figure, 99999.99
- Various voltage inputs
- Distinctive styling

Options

- Terminations
- Din rail
- Voltages

Specifications

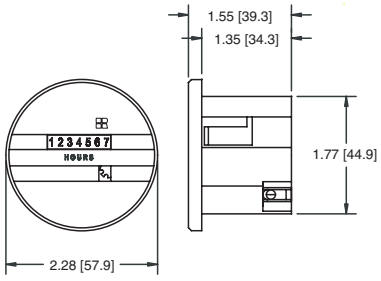
Figures: 7 figures, 0.14" high [3.6mm], 99,999.99 hours
Reset: Non-reset
Voltages: 24, 115, or 230VAC (+/-10%), 50 or 60Hz., 10-80 VDC
Power: 3 watts (AC), 1.2 watt maximum (DC)
Terminations: 1/4" [6.3mm] spade terminals, with removable screws, or 8" [203mm] wire leads
Mounting: Panel (mounting hardware included)
Front Panel: IP65
Temp. Range: -22°F to +158°F [-30°C to +70°C]
Approvals: UL Recognized and CSA Certified (AC only), CE Compliant
Weight: 1.6 oz. [46g]

Models	Description	Models	Description
711-0150	115VAC/60Hz, 2.28" Dia., Flush mount, screw termination	711-0182	24VAC/60Hz, 1.89" Sq., Flush mount, screw termination
711-0152	230VAC/60Hz, 2.28" Dia., Flush mount, screw termination	**711-0190**	115VAC/60Hz, 2.05" Sq., Flush mount, screw termination
711-0160	115VAC/60Hz, 2.93" Dia., 3-hole round, screw termination	711-0192	24VAC/60Hz, 2.05" Sq., Flush mount, screw termination
711-0162	230VAC/60Hz, 2.93" Dia., 3-hole round, screw termination	711-0193	115VAC/50Hz, 2.05" Sq., Flush mount, screw termination
711-0163	230VAC/50Hz, 2.93" Dia., 3-hole round, screw termination	711-0195	24VAC/50Hz, 2.05" Sq., Flush mount, screw termination
711-0164	24VAC/60Hz, 2.93" Dia., 3-hole round, screw termination		
711-0171	115VAC/60Hz, 2.93" Dia., 3-hole round, 8" wire leads	**731-0046**	10-80VDC, 2.93" Dia., 3-hole round, screw termination
711-0180	115VAC/60Hz, 1.89" Sq., Flush mount, screw termination		

* Items in bold are normally in factory stock.

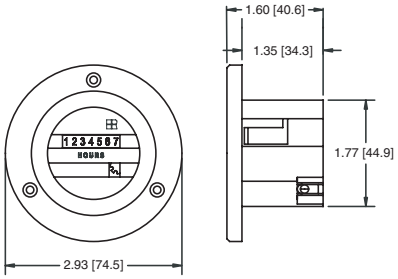
Dimensions

2.28" Dia. Flush



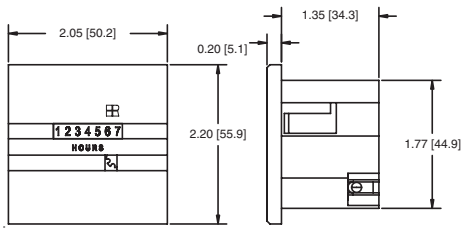
Panel cutout: 1.99" [50] Dia. or 1.81" [46] Sq.

3 - Hole Round



Panel cutout: 1.99" [50] Dia. or 1.81" [46] Sq.
Screws provided: 4-40 x 5/8" [16]
Bolt hole circle: 2.44" [62]

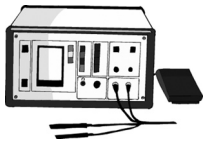
1.89" or 2.05" Square



Panel cutout: 1.99" [50] Dia. or 1.81" [46] Sq.
(for 1.89" Sq. use 1.81" [46] Sq. cutout only)

Applications

Medical equipment



Test equipment

Office equipment

Description

A rectangular style AC hour meter designed to complement existing meters in control panels. Available in 6 figure reset or 7 figure non-reset. The non-reset model incorporates a retaining clip to lock into panel, while the reset version has a metal bracket and screw.

Features

- Large figures
- 6 or 7 digits
- UL Recognized, CSA Certified, CE Compliant

Options

- Reset or non-reset

Specifications

Figures: 6 figure (reset) or 7 figure (non-reset), 0.19" [5mm] high
9,999.99 hours. (reset version)
99,999.99 hours. (non-reset models)
Reset: Push-button, or non-reset
Voltages: 115VAC (+/- 10%), 50 or 60 Hz.
Power: 2 watts (nominal)

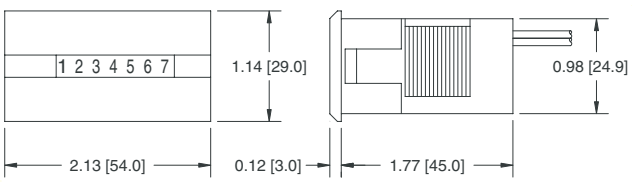
Mounting: Panel (mounting hardware included)
Termination: 19" [483mm] wire leads
Temp. Range: -4°F to +158°F [-20°C to +70°C]
Approvals: UL Recognized, CSA Certified, CE Compliant
Weight: 2 oz. [57g]
Options: Voltages

Models Description

711-0019	115VAC/60Hz,	reset,	6 figure,	9,999.99 hrs.,	19" [483mm] wire leads
711-0020	115VAC/60Hz,	non-reset,	7 figure,	99,999.99 hrs.,	19" [483mm] wire leads
711-0041	115VAC/50Hz,	non-reset,	7 figure,	99,999.99 hrs.,	19" [483mm] wire leads

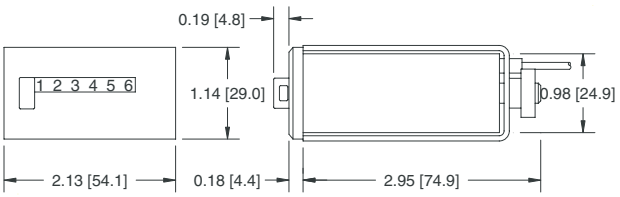
Dimensions

Non-Reset



Panel cutout: 1.98" x 0.99" [50.3 x 25.1]

Reset



Panel cutout: 1.98" x 0.99" [50.3 x 25.1]

Applications

Medical equipment

Test equipment

Office equipment

Model 720 Electromechanical Hour Meter

Description

A 5 figure (reset) or 6 figure (non-reset), AC hour meter encased in a rugged steel housing. The non-reset models are completely sealed. Reset models are available, as are both wire lead and terminal block versions.

Features

- Rugged steel housing

Options

- Chrome bezel
- Readouts to 9999.99 hrs.
- Voltages
- Gasket (721-0004)

Specifications

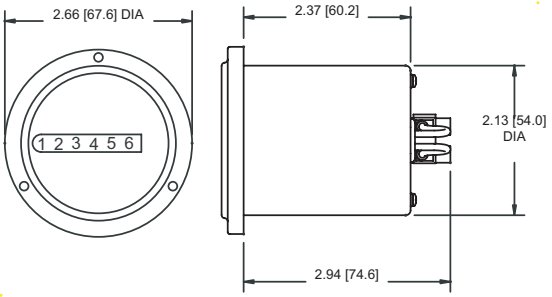
Figures:	5 figure (reset) or 6 figure (non-reset), 0.19" [5mm] high, 9,999.9 (reset) or 99,999.9 (non-reset)
Reset:	Reset or non-reset
Voltages:	24, 115, and 230VAC (+/- 10%), 50 or 60Hz.
Power:	3 watts max.
Mounting:	Panel (3-hole or metal clamp)
Termination:	Terminal block or 6" [152mm] wire leads
Temp. Range:	-40°F to +160°F [-40°C to +70°C]
Approvals:	UL Recognized, CSA Certified, CE Compliant
Weight:	10 oz. [284g]

Models	Description
720-0001	24VAC/60Hz, non-reset, 3-hole round, 6" [152.4mm] wire leads
720-0004	115VAC/60Hz, non-reset, 3-hole round, terminal block
720-0007	115VAC/60Hz, non-reset, 3-hole round, 6" [152.4mm] wire leads
720-0008	115VAC/60Hz, non-reset, metal clamp, terminal block
720-0011	115VAC/60Hz, non-reset, metal clamp, 6" [152.4mm] wire leads
720-0012	115VAC/60Hz, front reset, 3-hole round, 6" [152.4mm] wire leads
720-0030	115VAC/50Hz, non-reset, 3-hole round, 6" [152.4mm] wire leads
720-0031	230VAC/60Hz, non-reset, 3-hole round, terminal block
720-0036	230VAC/60Hz, non-reset, 3-hole round, 6" [152.4mm] wire leads

* Items in bold are normally in factory stock.

Dimensions

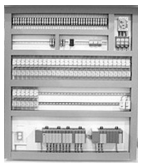
Non-Reset / Terminal Block



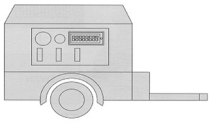
Panel cutout: 2.16" [54.9] Dia.
Mounting holes: 0.125" [3.2] Dia. on 2.44" [62.0] B.C.

Applications

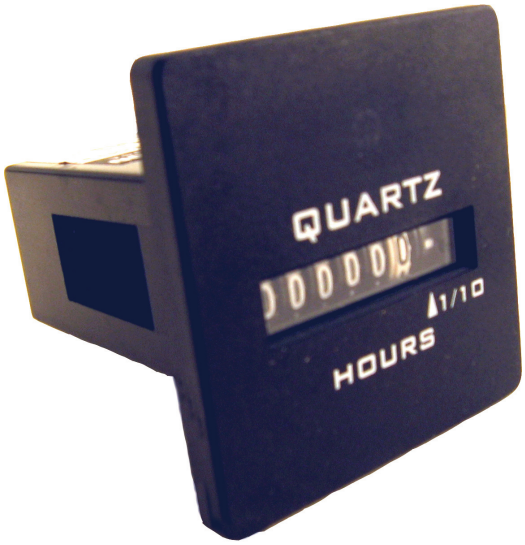
Control panels



Industrial equipment

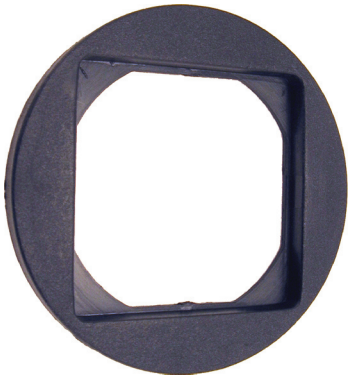


Test equipment



722-0030/732-0030, 1.89" [48mm] Square

Square Panel, 2.84" [72mm]



Round Panel, 2.84" [72mm]

Square Panel, 2.2" [55mm]

Description

The Redington Model 722 provides an AC Hour Meter with an operating range of 90-264VAC 50/60 Hz. You no longer require two separate meters, one for 115VAC and one for 230VAC. The Redington Model 732 provides a DC Hour Meter with an operating range of 10-80VDC. 732 Models are protected for 2x battery voltage and/or reverse polarity. A quartz time base insures accurate long-term time keeping while the sealed case protects against the environment and provides years of reliable service. Models have a square front panel dimension of 1.90" [48mm x 48mm]. Three adapter panels are also available for fitting additional panel dimensions.

Features

- 722 Operating voltage 90-264VAC 50/60Hz
- 732 Operating voltage 10-80VDC
- Totally Sealed
- UL/cUL Recognized, CE & RoHS Compliant
- 6 Figure, 99999.9

Options

- Wire leads
- Terminals up, down, straight
- Available adapter panels

Specifications

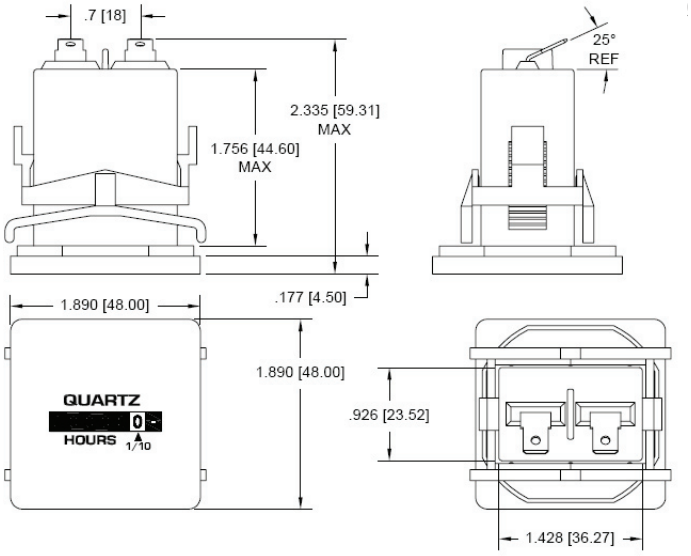
Figures:	6 - digits, 0.14" [3.6mm] 99999.9 Hours and indicator - white on black Decimal - black on white
Reset:	Non-reset
722 Voltage:	90-264VAC 50/60Hz
732 Voltage:	10-80VDC 50/60Hz
Power:	1 watt max.
Mounting:	Clip (with optional adapter panels)
Termination:	¼" [6.3mm] spade terminals
Weight:	~2 oz [57 g]
Accuracy:	± 0.02% over entire range

Case Material:	Black polymer
Lens Material:	Polymer
Agency Approvals:	UL/cUL Recognized, CE, RoHS, SAE J1378
732 Overvoltage & Reverse Polarity:	Protected for 2x battery voltage/reverse polarity
Environmental:	Totally Sealed
Temperature:	-40°F to +185°F [-40°C to + 85°C]
Humidity:	95% (SAE J1378)
Vibration:	10-80 Hz. 20g max. (SAE J1378)
Shock:	55g @ 9 - 13msec (SAE J1378)

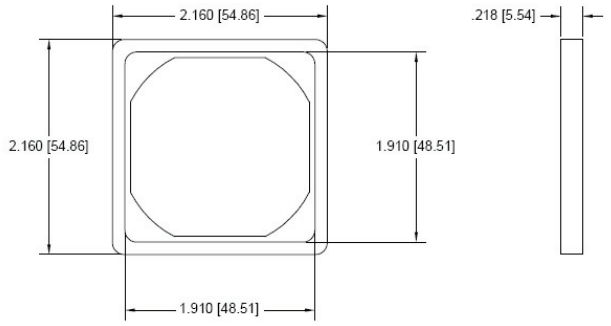
Models	Description
722-0030	Square Panel mount with Clip, 90-264VAC 50/60Hz, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0030	Square Panel mount with Clip, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
1662-026	Square Panel, 2.2" [55mm]
1662-024	Square Panel, 2.84" [72mm]
1662-025	Round Panel, 2.84" [72mm]

* All items are normally in factory stock

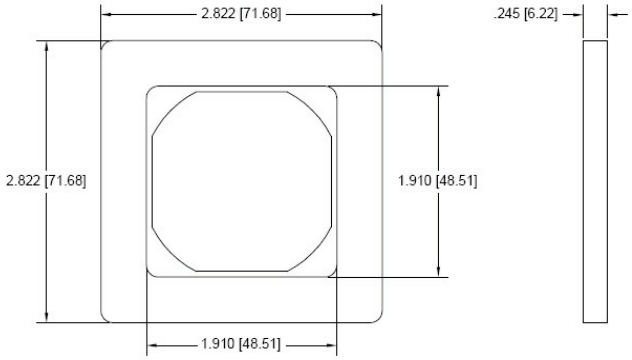
Dimensions



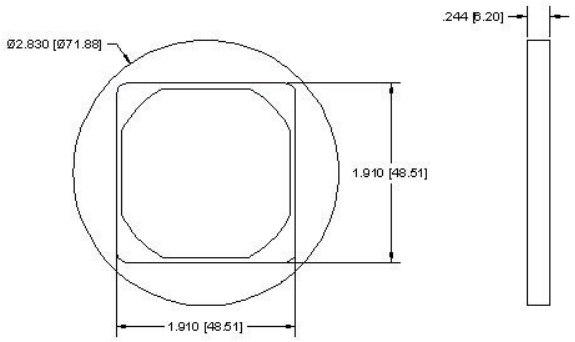
722-0030/732-0030



Square Panel, 2.2" [55mm]



Square Panel, 2.84" [72mm]

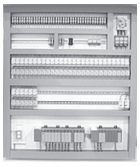


Round Panel, 2.84" [72mm]

Model 722 Applications

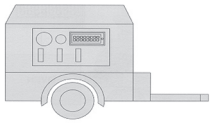
Medical Equipment

Control Panels



Test Equipment

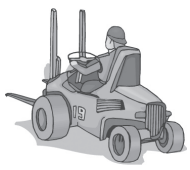
Generators



Office Equipment

Model 732 Applications

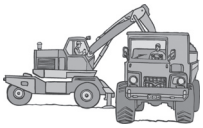
Material Handling



Farm Equipment

Outdoor Power Equipment

Construction Equipment



Utility Vehicles

Description

The Redington Model 722 provides an AC Hour Meter with an operating range of 90-264VAC 50/60 Hz. You no longer require two separate meters, one for 115VAC and one for 230VAC. Models are available in the standard industry housings, 2-Hole Rectangular, Flush-Rectangular, Flush-Round and 3-Hole Round. Its quartz time base insures accurate long-term time keeping. The Totally Sealed case protects against the environment and provides years of reliable service. All models are NEMA 4X,12 rated when mounted with optional gasket.

Features

- Operating voltage 90-264VAC 50/60Hz
- Totally Sealed
- UL/cUL Recognized, CE & RoHS Compliant
- 6 Figure, 99999.9
- Quartz accuracy

Options

- Wire leads
- Gasket kit (for NEMA 4X, 12 rating)
- Custom lens
- Terminals up, down, straight

Specifications

Figures:	6 - digits, 0.14" [3.6mm] 99999.9 Hours and idicator - white on black Decimal - black on white
Reset:	Non-reset
Voltage:	90-264VAC
Frequency:	50/60Hz
Power:	1 watt max.
Mounting:	Clip or mounting holes
Termination:	¼" [6.3mm] spade terminals
Weight:	~2 oz [57 g]
Accuracy:	± 0.02% over entire range

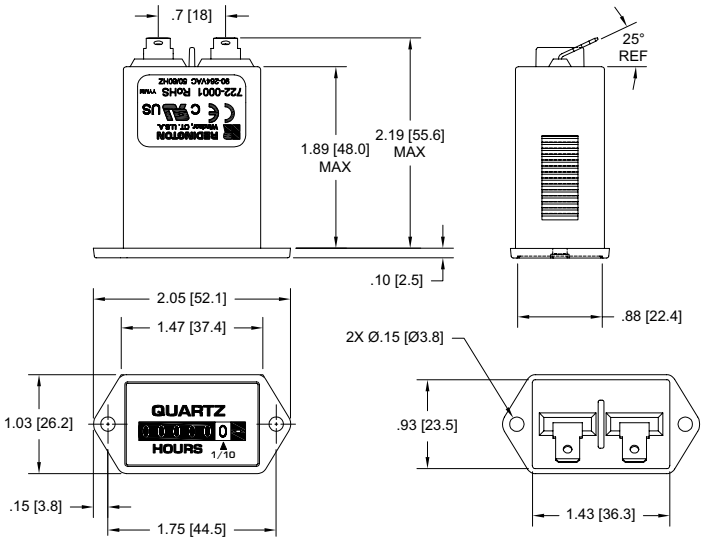
Case Material:	Black polymer
Lens Material:	Polymer
Agency Approvals:	UL/cUL Recognized, CE & RoHS Compliant, SAE & NEMA 4X, 12 Compliant
Environmental:	Totally Sealed
Front Panel:	NEMA 4X, 12 rated with optional gasket
Temperature:	-40°F to +185°F [-40°C to + 85°C]
Humidity:	95% (SAE J1378)
Vibration:	10-80 Hz. 20g max. (SAE J1378)
Shock:	55g @ 9 - 13msec (SAE J1378)

Models	Description
722-0001	2-Hole Rectangular, 90-264VAC 50/60Hz, ¼" [6.3mm] spade terminals, hours & 1/10's
722-0002	Flush-Rectangular, 90-264VAC 50/60Hz, ¼" [6.3mm] spade terminals, hours & 1/10's
722-0003	Flush-Round, 90-264VAC 50/60Hz, ¼" [6.3mm] spade terminals, hours & 1/10's
722-0004	3-Hole Round, 90-264VAC 50/60Hz, ¼" [6.3mm] spade terminals, hours & 1/10's
5003-009	NEMA 4X, 12 Gasket for Model 722-0002
5003-010	NEMA 4X, 12 Gasket for Model 722-0001
5003-011	NEMA 4X, 12 Gasket for Model 722-0004
5003-012	NEMA 4X, 12 Gasket for Model 722-0003

* All items are normally in factory stock

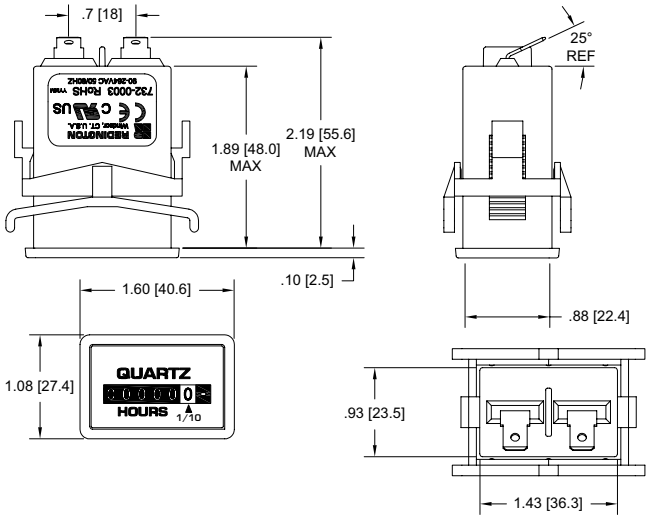
Dimensions

2-Hole



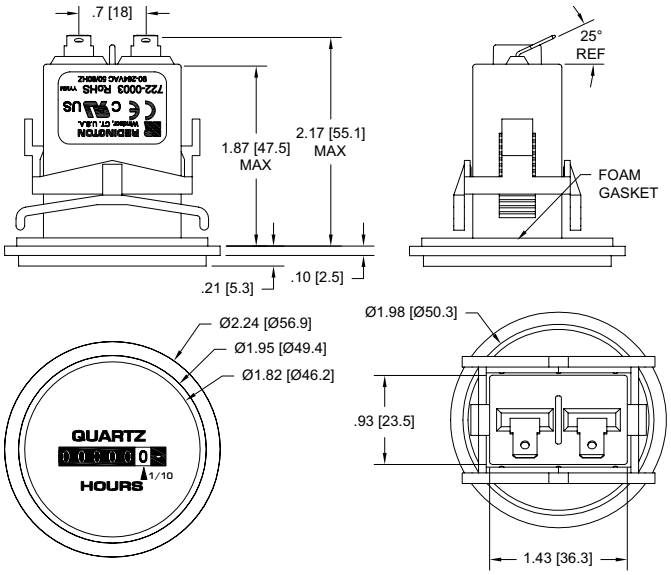
Panel Opening: 1.45” X 0.95” [36.8 X 24.1]

Flush-Rectangular



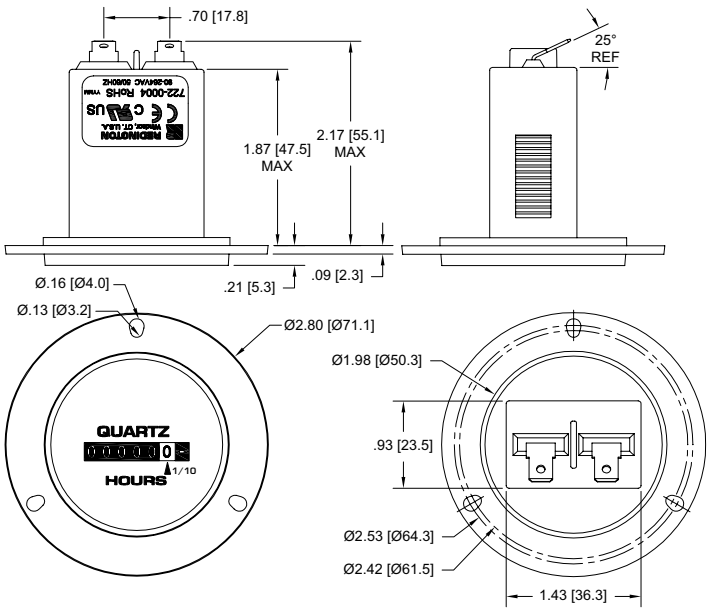
Panel Opening: 1.45” X 0.95” [36.8 X 24.1]
Panel Thickness: 0.03 to 0.63 [0.76 to 16.00]

Flush-Round



Panel Opening: 2.0” [50.6]
Panel Thickness: 0.40 [10.2] Max.

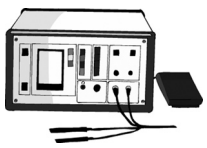
3-Hole Round



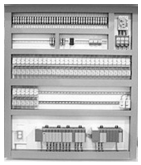
Panel Opening: 2.0” [50.6]

Applications

Medical Equipment

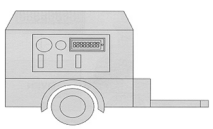


Control Panels



Test Equipment

Generators



Office Equipment

Description

The Redington Model 731 has quartz controlled timing assuring accurate time indication. This Hour Meter features a sealed case, stirrup mounting and a wide operating voltage range. The Hour Meter is protected against short circuit, reverse polarity and has an operation indicator.

Features

- SAE case
- Totally sealed
- Quartz accuracy
- 7 figures, 99999.99
- Operating voltage 10-80VDC
- Stirrup mount

Options

- Vibration dampening ring
- Special voltages; 2-20VDC and 80-220VDC

Specifications

Figures:	7-digits, 0.138" [3.5] 99999.99 Hours-white on black Decimals-black on white
Operation indication:	Yes
Reset:	Non-reset
Voltage:	10-80VDC
Mounting:	Stirrup
Power:	1.4 to 15mA
Termination:	¼" [6.3mm] quick connect

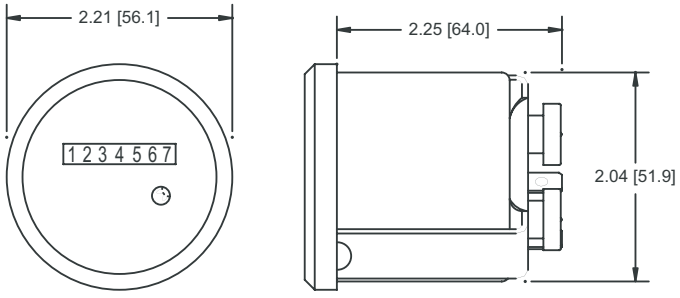
Weight:	3.5 oz [100g]
Accuracy:	± 0.01 over entire range
Case material:	Black polymer
Agency approvals:	CE compliant
Environmental:	Totally sealed (all models)
Front panel:	IP 65 - front
Rear terminals:	IP 00 - rear
Temperature:	-40˚F to +176˚F [-40˚C to 80˚˚C]
Vibration:	+/- 0.5mm amplitude @ 45Hz

Models	Description
731-0002	Flush Round, 10-80VDC, ¼" [6.3mm] quick connect, 99999.99h, chrome bezel
731-0004	Flush-Round, 10-80VDC, ¼" [6.3mm] quick connect, 99999.99h, black plastic bezel

* All items are normally in factory stock.

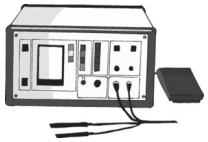
Dimensions

Model 731-0002



Applications

Medical Equipment



Outdoor power equipment

Utility Vehicles

Description

The Redington Model 732 provides a DC Hour Meter with an operating range of 10-80VDC. Models are protected for 2 times battery voltage and/or reverse polarity. Models are available in the standard industry housings, 3-Hole Round, Flush-Rectangular, Flush-Round and 2-Hole Rectangular. A Stirrup and Cup mount are available for applications where high shock and vibration exist. Its quartz time base insures accurate long-term time keeping. The Totally Sealed case protects against the environment and provides years of reliable service. Most models are NEMA 4X, 12 rated when mounted with optional gasket.

Features

- Operating voltage 10-80VDC
- Totally Sealed
- UL/cUL Recognized, CE & RoHS Compliant
- 6 Figure, 99999.9
- Quartz accuracy
- 6 mounting variations

Options

- Wire leads
- Gasket kit (for NEMA 4X, 12 rating)
- Custom Lens
- Terminals up, down, straight

Specifications

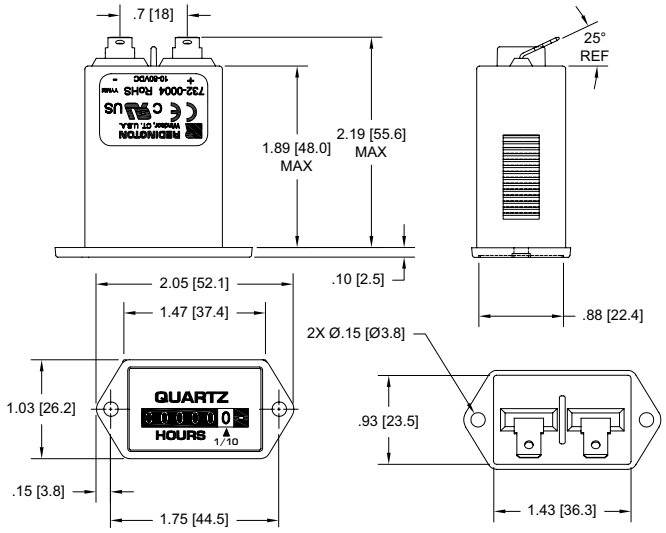
Figures:	6 - digits, 0.14" [3.6mm] 99999.9 Hours and running indicator - white on black Decimal - black on white
Reset:	Non-reset
Voltage:	10-80VDC
Power:	1 watt max.
Mounting:	Clip, mounting holes, Cup, or Stirrup
Termination:	¼" [6.3mm] spade terminals
Weight:	~2.0 oz [57 g]
Accuracy:	± 0.02% over entire range
Bezel:	Stirrup and Cup mount have metallic bezels
Case Material:	Black polymer
Lens Material:	Cup & Stirrup - glass All other models - polymer
Transient Protection:	± 6 times normal for 300msec
Agency Approvals:	UL/cUL Recognized, CE, SAE, & RoHS Compliant. All models are NEMA 4X, 12 Compliant except the Cup and Stirrup mount
Overvoltage & Reverse Polarity:	Protected for 2 times battery voltage and/or reverse polarity
Environmental:	Totally Sealed
Front Panel:	NEMA 4X, 12 rated with optional gasket
Temperature:	-40°F to +185°F [-40°C to + 85°C]
Humidity:	95% (SAE J1378)
Shock:	55g @ 9 - 13msec (SAE J1378)
Vibration:	10-80Hz. 20g max. (SAE J1378)

Models	Description
732-0001	3-Hole Round, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0002	Flush-Rectangular, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0003	Flush-Round, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0004	2-Hole Rectangular, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0013	Panel mt, Round, Cup, stainless steel bezel, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0014	Panel mt, Round, Cup, black metallic bezel, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0023	Panel mt, Round, Stirrup, stainless steel bezel, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
732-0024	Panel mt, Round, Stirrup, black metallic bezel, 10-80VDC, ¼" [6.3mm] spade terminals, hours & 1/10's
5003-008	NEMA 4X, 12 Gasket for Models 732-0013, 732-0014, 732-0023, & 732-0024
5003-009	NEMA 4X, 12 Gasket for Model 732-0002
5003-010	NEMA 4X, 12 Gasket for Model 732-0004
5003-011	NEMA 4X, 12 Gasket for Model 732-0001
5003-012	NEMA 4X, 12 Gasket for Model 732-0003

* All items are normally in factory stock.

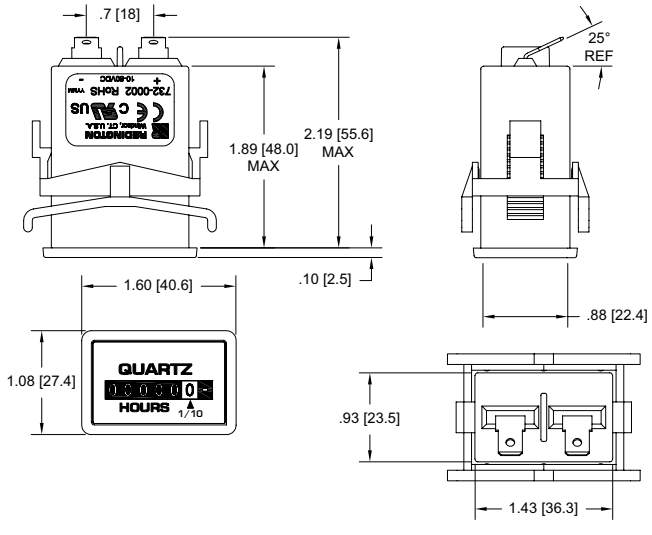
Dimensions

2-Hole



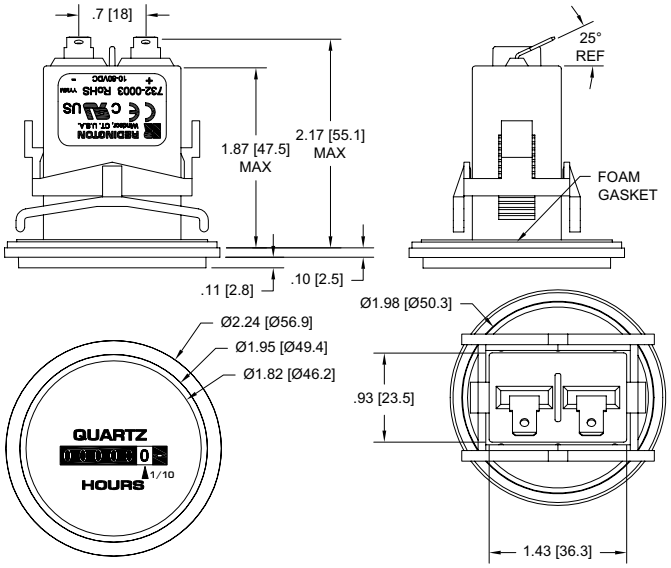
Panel Opening: 1.45" X 0.95" [36.8 X 24.1]

Flush-Rectangular



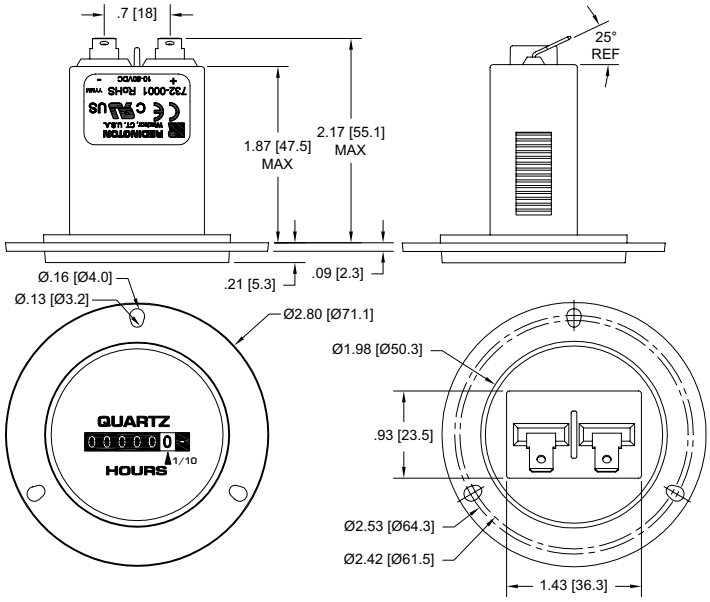
Panel Opening: 1.45" X 0.95" [36.8 X 24.1]
Maximum Panel Thickness: 0.03 to 0.63 [0.76 to 16.00]

Flush-Round



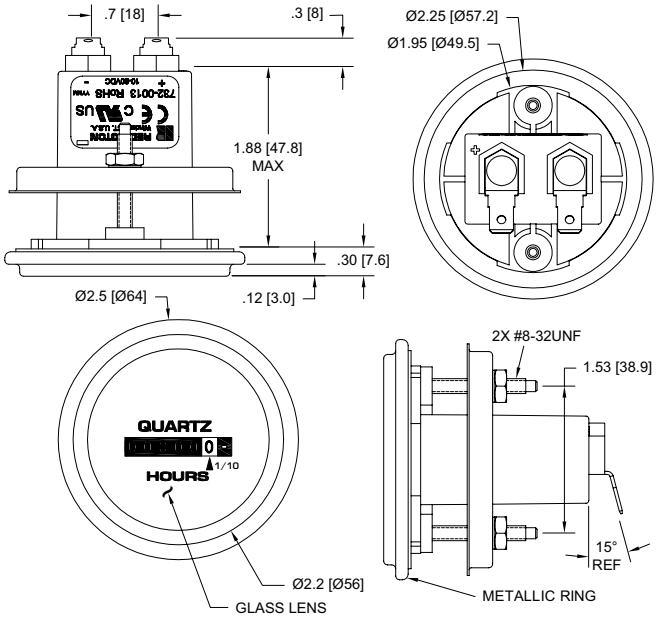
Panel Opening: 2.0” [50.6]
Maximum Panel Thickness: 0.40 [10.2]

3-Hole Round



Panel Opening: 2.0” [50.6]

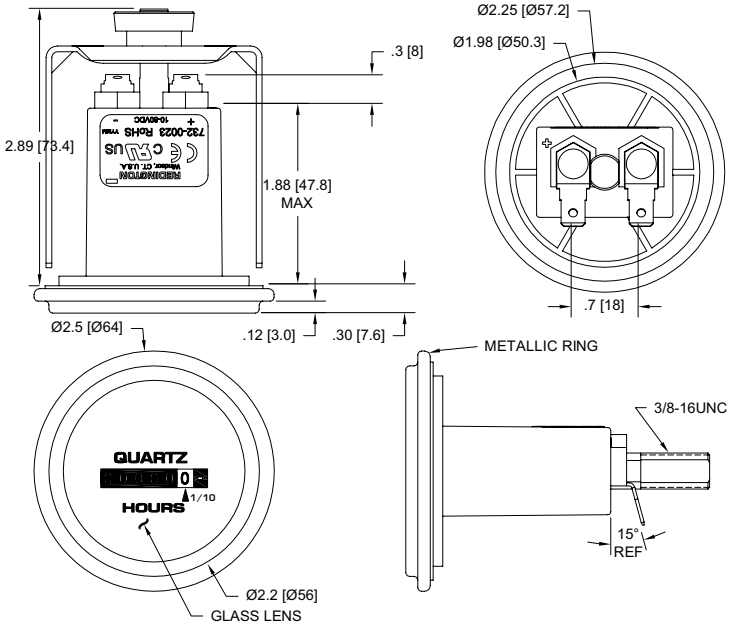
Cup



NOTE: SUPPLIED WITH MOUNTING HARDWARE

Panel Opening: 2.0” [50.6]

Stirrup

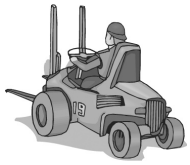


NOTE: SUPPLIED WITH MOUNTING HARDWARE

Panel Opening: 2.0” [50.6]

Applications

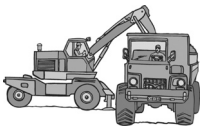
Material Handling



Farm Equipment

Outdoor Power Equipment

Construction Equipment



Utility Vehicles

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Linear Measuring Wheels

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Features

These medium-duty linear measuring wheels are used for estimating distances on smooth surfaces indoors and out. They feature a 5-figure display with bold .20" high numerals, and are capable of counting to 10000 feet or 1000 meters, depending on the model chosen. Their lightweight design eases handling, and the reset button is protected by a raised collar. The bright orange color increases visibility. Single and dual wheel models are available, as are multi-position straight or curved handles. Component parts are sold separately for quick field repairs. These wheels are widely used by contractors, utilities, accident investigators, real estate agents, and landscapers.

Single Wheel

Specifications

Figures	5 figures, .20" high
Reset	Push-button
Warranty	Lifetime
Weight	1.2 lbs.
Extended Size	44"(curved handle), 39"(straight handle)
Storage Size	28"(curved handle), 17"(straight handle)
Wheel Size	Wheels are identified by their circumference 1 ft. wheel has a diameter of ~3.8 in. 30 cm. wheel has a diameter of ~9.5 cm.

Models	Description
11-0735	1 ft., 9999 ft.11 in., straight handle
13-0735	1 ft., 9999 ft.11 in., curved handle
15-0735	1 ft., 9999.9 ft., straight handle
17-0735	1 ft., 9999.9 ft., curved handle
11-0725	30 cm., 999.99 m, straight handle
13-0725	30 cm., 999.99 m, curved handle

Dual Wheel

Specifications

Figures	5 figures, .20" high
Reset	Push-button
Warranty	Lifetime
Weight	1.4 lbs.
Extended Size	44" (curved handle), 39" (straight handle)
Storage Size	28" (curved handle), 17" (straight handle)
Wheel Size	Wheels are identified by their circumference. 1 ft. wheel has a diameter of ~3.8 in. 30 cm. wheel has a diameter of ~9.5 cm.

Models	Description
12-0735	1 ft., 9999 ft.11 in., straight handle
14-0735	1 ft., 9999 ft.11 in., curved handle
16-0735	1 ft., 9999.9 ft., straight handle
18-0735	1 ft., 9999.9 ft., curved handle
12-0725	30 cm., 999.99 m, straight handle
14-0725	30 cm., 999.99 m, curved handle

Phone: (860) 688-6205 **www.redingtoncounters.com** **Fax: (860) 688-1591**

Features

These sturdy multi-purpose measuring wheels are best suited for quick and easy measuring over a variety of surfaces. They feature a 5-figure display with bold .20" high numerals and are capable of counting to 10,000 feet or meters, depending on the model chosen. Their lightweight design eases handling, and the reset button is protected by a raised collar. These models are available with multi-position straight or curved handles. Component parts are sold separately for quick field repairs. These units are widely used for estimating by contractors, accident investigators, landscapers, surveyors, real estate agents, and farmers.

Specifications

Figures	5 figures, .20" high
Reset	Push-button
Warranty	Lifetime
Weight	1.9 lbs.
Extended Size	48" (curved handle), 43" (straight handle)
Storage Size	32" (curved handle), 21" (straight handle)
Wheel Size	Wheels are identified by their circumference. 3 ft. wheel has a diameter of ~11.5 in. 1 m. wheel has a diameter of ~32 cm.

Models	Description
11-0765	3 ft., 9999 ft.11 in., curved handle
12-0765	3 ft., 9999 ft.11 in., straight handle
13-0765	3 ft., 9999.9 ft., curved handle
14-0765	3 ft., 9999.9 ft., straight handle
11-0755	1 m., 9999.9 m., curved handle
12-0755	1 m., 9999.9 m., straight handle
200700-065s	Metal Stand & Hardware Kit (for 0755 & 0765)

Features

These heavy-duty measuring wheels are best suited for outdoor use, recording long distances over a variety of surfaces, including rough terrain. Their lightweight design eases handling and reduces fatigue. They are capable of counting to 100,000 feet or meters depending on the model chosen. These "In-line" models are available with 3 ft.,4 ft., and 1 meter circumference wheels. Component parts are sold separately for quick field repairs. The bright orange wheel enhances visibility, and the fold down handle reduces storage space. These models are widely used for estimating by contractors, agriculturalists, surveyors and landscapers.

Specifications

Figures	5 figures, .19" high
Reset	Rotary knob
Warranty	Lifetime
Weight	3.6 lbs. with stand 3.0 lbs. without stand (3 ft. or 1 m. models only)
Extended Size	40"
Storage Size	3 ft. & 1 m: 26"; 4 ft: 24"
Wheel Size	Wheels are identified by their circumference. 4 ft. wheel has a diameter of ~15.3 in. 3 ft. wheel has a diameter of ~11.5 in. 1 m. wheel has a diameter of ~32 cm.

Models	Description
11-0795	4 ft., 99999 ft., curved handle, with stand
12-0795	4 ft., 99999 ft., curved handle, dual counter, with stand
15-0795	3 ft., 99999 ft., curved handle, without stand
17-0795	3 ft., 99999 ft., curved handle, with stand
14-0795	1 m., 99999 m., curved handle, without stand
16-0795	1 m., 99999 m., curved handle, with stand

Get Started Package

Our "Getting Started Package" is an easy way to get set up as an authorized re-seller of our Measuring Wheels. The package comes with a variety of Measuring Wheels (tailored to meet your specific requirements), a display rack, and product literature. Call your sales representative for more information

- Features 5 of the Most Popular Redi-Measure Wheels
- Free Display and Literature
- Lifetime Warranty
- Free Freight

Call your sales representative for more details on getting set up as a Measuring Wheel Distributor.

Carrying Cases

Protect your measuring wheel with a handy carrying case. Carrying Cases are available for all models of the Redi-Measure measuring wheels. Durable black measuring wheel carrying cases with shoulder strap.

Models	Description
1886-003s	For 3 ft or 1 meter with curved handle
1886-004s	For 3 ft or 1 meter with straight handle and 3 ft or 1 meter inline without stand
1886-005s	For 4 ft curved handle with stand and, 3 ft or 1 meter inline with stand

Hand Tallys

A 4 figure, hand-held, desk mounted, or electronic reset counter with push-button actuator. Electronic Model E6 is completely sealed and suitable for outdoor use. These Tallys are a convenient way to count inventory, attendance, or traffic..

Models	Description
12-1804	Mechanical Hand Tally
13-1804	Mechanical Desk Tally
E6-1804	Electronic Ring Tally

Spare Parts

All of the component parts for our Measuring Wheels are sold separately to replace damaged parts or to keep on hand for quick field repairs. Contact your sales representative for the correct part number for the part you are looking for.

LIFETIME WARRANTY

REDINGTON COUNTERS, INC. WARRANTS THAT ITS REDI-MEASURE WHEELS WILL BE FREE FROM DEFECTS RELATED TO MATERIALS AND/OR WORKMANSHIP FOR THE LIFE OF THE PRODUCT.

WITHIN THIS WARRANTY PERIOD, REDINGTON COUNTERS, INC. WILL REPAIR OR REPLACE SUCH PRODUCTS RETURNED TO REDINGTON COUNTERS, INC., FREIGHT PREPAID, THAT ARE DETERMINED BY REDINGTON COUNTERS, INC. TO BE DEFECTIVE. NO PRODUCTS SHALL BE RETURNED TO REDINGTON COUNTERS, INC. WITHOUT REDINGTON COUNTERS, INC. PRIOR CONSENT.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND SHALL NOT APPLY TO ANY PRODUCT WHICH HAS BEEN SUBJECT TO ALTERATION, MISUSE, ABUSE, NEGLIGENCE, OR ACCIDENT; IN NO EVENT SHALL REDINGTON COUNTERS, INC. BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES.

REDINGTON
Counters, Hour Meters, Controllers, Indicators
PO Box 608, 130 Addison Rd., Windsor, CT 06095
Phone: (860) 688-6205 Fax: (860) 688-1591

Description

The Redington Model 9300-HTK hand tachometer kit utilizes state of the art technology at an affordable cost. Simple to use… push the measurement button to record the speed. The tachometer can be used for contact or non-contact measurement on rotating machinery or surface speed. The 9300-HTK can indicate RPM or rotational speed, length measurement, meters, yards, or feet per minute. The photoelectric probe is used with reflective tape to detect rotating objects. The accessory adaptor with pointed tip can be added for contact measurement or wheels can be used for surface speed measurement.

Features

- Combination unit - photo and contact
- Laser sighting operating range up to 40.0" [1000mm]
- Auto ranging - fixed decimal
- Tripod mounting bushing
- Low battery indicator
- Max / min / avg
- 40 points of memory
- Carrying case included
- 9V battery
- Instruction manual
- Certificate of calibration
- Cone adapter
- Funnel adapter
- Contact adapter
- Master wheel 3.94" [100mm]
- Reflective tape 0.59" x 20.67" [15mm x 525mm]

Specifications

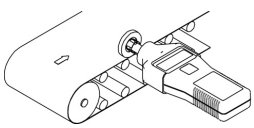
Rotation speed (non-contact):	6.0 to 99999 RPM (rev/min)
Rotation speed (contact):	6.0 to 25000 (rev/min)
Surface speed (contact):	0.6 to 2500.0 M/M (m/min) 0.7 to 2734.0 Y/M (yard/min) 23.6 to 98425 I/M (inch/min) 2.0 to 8202.1 F/M (feet/min)
Length (contact):	0.1 to 9999.9 m (meter) 0.1 to 10936 YD (yard) 0.3 32808 FT (feet)
Accuracy:	6.0 to 5999.9 RPM: ± 0.01% and ± 1 digit 5999.9 to 99999 RPM: ± 0.05% & ± 1 digit Surface speed, length 0.5% and ± 1 digit
Detection:	Laser diode
Resolution:	6.0 to 9999.9 RPM : 0.1 RPM 10000 to 99999 RPM : 1 RPM
Response time:	1 second
Operating temperature:	32°F to +122°F [+0°C to +50°C]
Auto power off:	Automatically after approx. 30 second
Battery type:	9V (006P, IEC6F22, NEDA1604)
Dimensions:	5.79" H x 1.93" W x 1.14" D [147mm x 49mm x 29mm]
Weight:	3.4oz [95g] (without battery) Contact adaptor: 1.8oz [50g]
Total number of revolutions:	1 to 99999 REV (rev)
Measuring distance:	40" [100 cm]
Warranty:	1 year
Agency approvals:	RoHS, CE Compliant

Models	Description
9300-HTK	Hand Tachometer Kit: includes Hand Tachometer, 9V battery, instruction manual, certificate of calibration, cone adapter, funnel adapter, contact adapter, master wheel, reflective tape, and carrying case

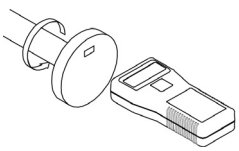
* Item in bold is normally in factory stock.

Applications

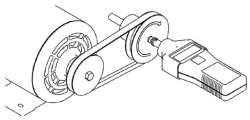
Conveyor line speed



Speed of rotating objects



Check motor speeds



(Images are 50% actual size)

9930-IRT

9952-IRT

9975-IRT

Description

The Redington Model 99 line of non-contact thermometers use the latest infrared measuring technologies housed in rugged and ergonomic designs. These high performance measuring instruments feature laser sighting, backlight LCD displays, and are available with some of the highest distance to spot ratios in the industry. With ultra low power consumption and available data storage, the Model 99 line provides extended measuring reliability for a variety of applications.

Features

- Rugged and ergonomic design
- Ultra low power consumption mode
- Backlit LCD display
- °C or °F selectable
- Laser sighting ON/OFF
- 9V battery included
- CE & RoHS Compliant

Options

- Adjustable emissivity from 0.1 to 1.00 in 0.01 steps
- High distance to spot ratios
- Electronic trigger lock
- Temperature data storage
- Available alarms

Models	Description
9930-IRT	Standard non-contact IRT kit - includes 9V battery, instruction manual, and certificate of calibration
9952-IRT	Professional non-contact IRT kit - includes 9V battery, instruction manual, certificate of calibration, and reinforced holster case
9975-IRT	High Performance HDS non-contact IRT kit - includes 9V battery, instruction manual, certificate of calibration, & heavy-duty carrying case

* All Items in bold are normally in factory stock.

Applications

Semiconductor Manufacturing

Circuit Terminal Testing

Electrical Troubleshooting

HVAC Inspection

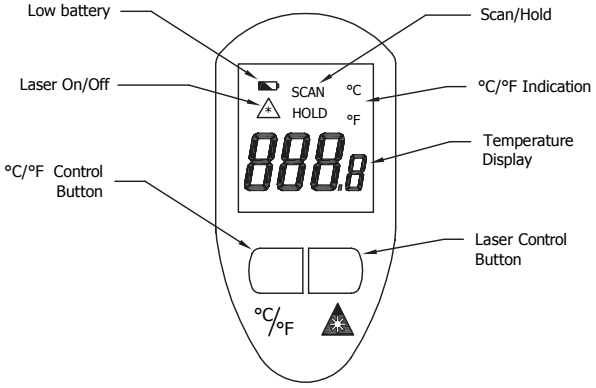
Auto Repair & Maintenance

Specifications

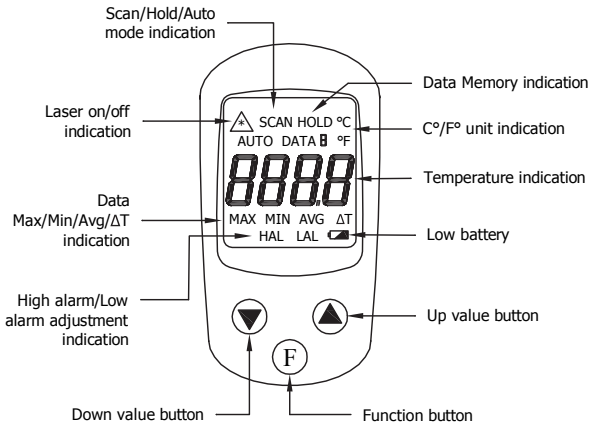
SPECIFICATIONS	9930-IRT	9952-IRT	9975-IRT
Distance/Spot Ratio	8:1	12:1	50:1
Temperature Range	-4 ~ 605°F (-20 ~ 320°C)	-25 ~ 999°F (-32 ~ 535°C)	-25.6 ~ 2373°F (-32~ 1300°C)
Accuracy (Assumes Operation Ambient Temperature of 25°C/77°F)	±2% of reading or ±3°F whichever is greater	±5°F (±3℃) From -25 ~ -4°F (-32 ~ -20℃) ±3°F (±2℃) From -4 ~ 212°F (-20 ~ -100℃) ±2% From 212 ~ 999°F (100 ~ 535℃)	±5°F (±3℃) -25.6 ~ -4°F (-32 ~ -20℃) ±3°F (±2℃) -4 ~ 212°F (-20 ~ 100℃) Above 212°F (100 ℃): ±2%
Thermopile	5~14μm	5~14μm	8~14μm
Repeatability	±2°F (±1℃)	±2°F (±1℃)	±2°F (±1℃)
Resolution	0.5°F (0.5℃)	0.1°F (0.1℃)	0.1°F OR 0.1℃ (Above 2000°F: 1°F)
Response Time	500ms	500ms	500ms
Operation Temp	0~50℃ (32~122°F),10~90%RH	0~50℃ (32~122°F),10~90%RH	0~50℃ (32~122°F),10~90%RH
Auto Power Off	Automatically after approx. 6sec	Automatically after approx. 6sec	Automatically after approx. 6sec
Emissivity	Fixed at 0.95	0.95	Adjustable 0.1~1.0
Dimensions	5.9" x 5.2" x 1.8" (150x133x45mm)	6.7" x 5.2" x 1.8" (170mm x 133mm x 45mm)	7.9" x 6.5" x 2.0" (200 x 166 x 51mm)
Weight (with Battery)	5.44 oz (169g)	7.12 oz (222g)	9.02 oz (281g)
°F/°C Switchable	YES	YES	YES
Backlight	YES	YES	YES
Laser Sight Switchable	YES	YES	YES
Max/Min/Avg./ΔT	NO	YES	YES
Auto-measuring	NO	YES	YES
10 Point Memory	NO	YES	YES
Audio Alarm	NO	YES	YES
Tripod Mount	NO	NO	YES
Dual Display	NO	NO	YES

LCD Display

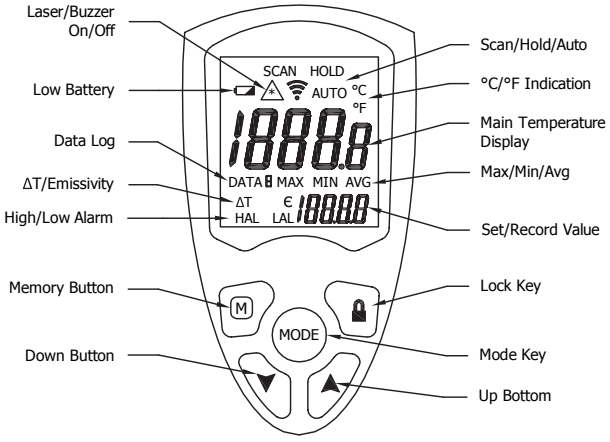
9930-IRT



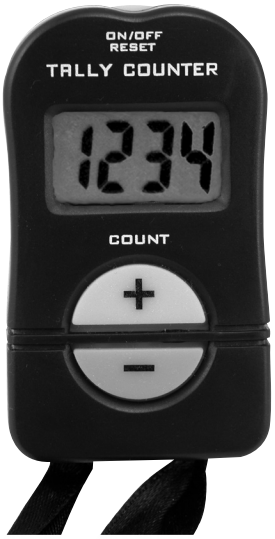
9952-IRT



9975-IRT



Add Model



Add/Subtract Model

Description

The Redington Models E2 & E3 offer an electronic version of the popular Hand Tally counter and are available with a choice of Add only or Add/Subtract models. Counts are input using large positive action buttons. The Add model has a single count button and the Add/Subtract model has two separate count buttons. The "+" button (green) will add a count to the total and the "-" button (red) will subtract a count from the total. When activated, an audible "beeper" sounds every count to verify that a count has been registered. All electronic components provides a long life counter with no moving parts to wear out. The counter is manufactured from impact-resistant plastic, combining lightweight with outstanding durability.

Features

- Add or Add/Subtract models
- Beep at every count with the option of switching the sound off for silent operation
- Cannot accidentally reset or turn off; On/Off/Reset button must be held down for 3 seconds to reset
- Long life battery (replaceable) - typically 250 days without sound
- Large LCD display
- No mechanical parts to wear out
- Large rubber buttons for comfort of use
- Ergonomically designed for ease of use
- Carrying cord - 9.0" [229mm]
- Light weight

Specifications

Display:	4 digit LCD 0.35" [9mm] high	**Operating Temperature:**	+32°F to +122°F [0°C to +50°C]
Battery Operating Life:	250 days (without sound)	**Weight:**	0.7 oz (20g)
Reset:	Push button	**Color:**	Black case with blue buttons (Add Only) or green and red buttons (Add/Subtract)

Models Description

E2-1804 Electronic Hand Tally (Add only)
E3-1804 Electronic Hand Tally (Add/Subtract)

* All Items are normally in factory stock.

Dimensions

2.4" L x 1.4" W x 0.6" D [60mm x 35mm x 15mm]

Operating Instructions

- Press On/Off/Reset button to power ON the unit
- Add model - Press count button to increment count
- Add/Subtract model - Press the "+" button to Add, Press the "-" button to Subtract
- To reset counter press the On/Off/Reset button for 3 seconds
- To switch the sound Off/On at any time, hold the count button down for 3 seconds
- To turn Off, press the On/Off/Reset for 3 seconds when counter display is at "0"

Battery Replacement

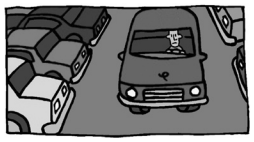
When the display gets dim, replace the battery.
Use 1 type AG10 1.5 V or equivalent
Observe polarity (±) during replacement

Applications

Inventory

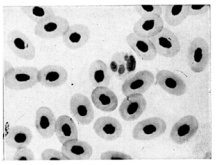
Attendance

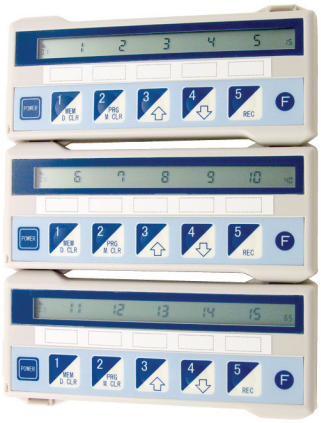
Traffic



Food portions

Blood cells





Description

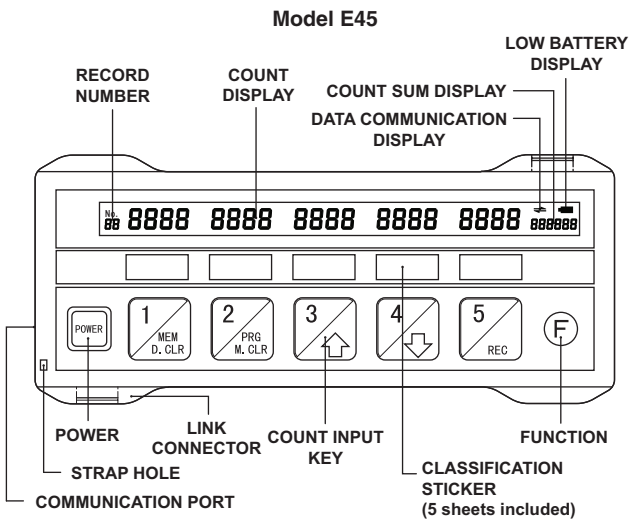
The Redington Model E45-1804 provides the user with an economical upgrade from the traditional mechanical modular tally counters and at a lower cost. A single module displays five 4-digit LCD's counters, internal 5-digits (99999), total counter is 6-digits (999999), and provides RS-232C serial communications. All of the stored data, maximum of 99 records, (count data, sum data) on the E45-1804 can be read and viewed on a PC through serial communications. The 4 least significant digits of the counter can be viewed on the display. To view all 5 digits, please use the communications feature of the unit to recall the complete internal counter data. Free software is available from our web site, redingtoncounters.com. The Model E45-1804 is self powered by 4 AAA batteries, which makes it ideal for field use. It has non-volatile memory. During battery replacement the memory of stored data will be retained. After the batteries are replaced the original data will be displayed.

Features

- Communications functions to PC; convenient for totalizing and analyzing
- Battery life - 200 hours (low battery indicator)
- 7 segment LCD (digit size: 0.2" [5mm] height)
- Memory storage for 99 data records
- Internal 5-digit counter and 6-digit total counter
- Strap hole for lanyard
- Classification sticker
- Light weight (1/3 of a traditional metal type)
- Excellent tactile feel buttons
- Modular construction allows connecting multiple counters

Specifications

Display: LCD 4 digits height 0.2" [5mm] counters (x5)
6 digits total counter & record number
Reset: Push button
Memory: Maximum of 99 records
Dimensions: 2.44" (H) x 5.5" (W) x 0.83" (D)
[62 (H) x 140 (W) x 21 (D) mm]
Accessories: Instruction manual, batteries (4), stickers (5)
Approvals: CE compliant
Weight: 5oz [130g] (batteries included)
Data Output: RS-232 PC Serial Interface
Battery Operating Life: 200 hours, power off when not in use (4) AAA (1.5) alkaline type batteries
Software/Operating Instructions: Download from Redington web site
Communications Cable: Use any market available RS 232 cable (straight) to connect to the PC and a D-SUB 9 pin (female) connector for connection to the E45-1804
Data Output: RS-232 PC Serial Interface
Operating Temperature: 14°F to 122°F [-10°C to 50°C] 85% RH max.



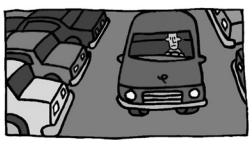
Models Description

E45-1804 Electronic Multi Tally (x5 LCD) with serial communications

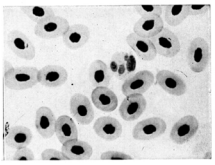
* Item is normally in factory stock.

Applications

Traffic



Lab Counter



Inventory

Attendance

Description

The Redington Model E5 is an electronic hand tally with a 4.5-digit main display and two 4-digit sub-displays. The tally has 4 selectable modes that are user settable by internal DIP switch position. Depending on the DIP switch setting specific modes of operation can be chosen. The unit has a built in buzzer that can be enabled or disabled by pressing and holding the Reset button.

Operating Modes:

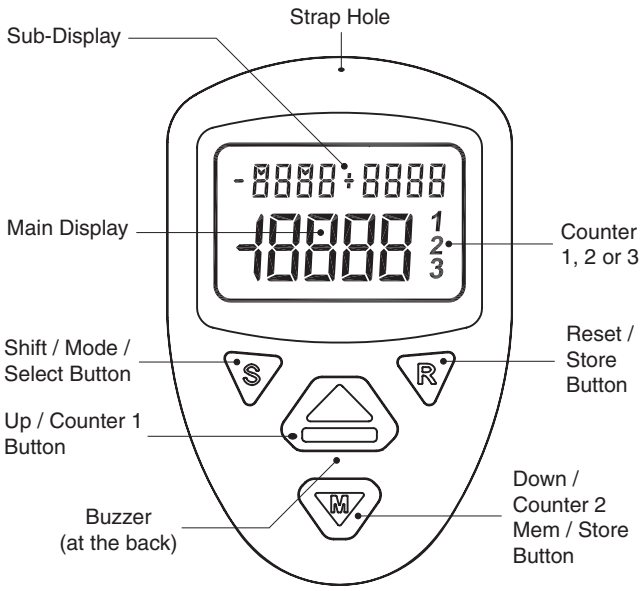
1). Simple Hand Tally- Add & subtract count, reset and memory storage.

2). Two counter Tally- Two tally's, reset and selectable add or subtract count with either tally.

3). Three rotating Tally counters- Three independent tally counters. These counters can be rotated or shifted in a clockwise manner.

4). Multiple memory Tally- This is an add tally with a multiple number of memories for storing count value. It has two operating modes, count mode and memory mode. The user can transfer the displayed count to a memory. Each time the user stores count values the memory number increments.

Model E5-1804



Physical Nomenclature:

- 4 function buttons
- Large LCD display
- Button type battery operated; use type CR2032 or equivilent. Observe polarity (+/-) during replacement.

Mode Selection:

An internal DIP Switch is available to select four different modes. Depending on the setting of a 2-bit DIP Switch a specific mode can be selected. The E5-1804 is shipped from the factory in Mode 1. The table below shows the corresponding DIP Switch configuration:

To change the mode:

1. First remove the internal battery
2. Set the internal DIP switches to the new mode
3. Reinstall the battery

MODE	SWITCH 1	SWITCH 2
Mode 1	ON	ON
Mode 2	ON	OFF
Mode 3	OFF	ON
Mode 4	OFF	OFF

The buttons assigned to each function per specific mode is given below:

MODE	▲	M	R	S
Mode 1 Simple Tally	Up	Down	Reset / Store	No Function
Mode 2 2 Counter Tally	Count UP (Counter 1)	Count UP (Counter 2)	Reset	Select (+/-)
Mode 3 3 Rotating Counters	Up	Down	Reset	Shift
Mode 4 Multiple Memory	Up	Mem / Store	Reset	Mode

Features

- User friendly four programmable modes
- Add, add/subtract, store memory, and rotate or shift display
- 1 main and 2 sub displays
- Lightweight
- No mechanical parts to wear out
- Replaceable battery
- Beep at every count that can be enabled or disabled by pressing and holding the reset button
- Includes 22.4" 570mm] carrying cord
- Large LCD screen; display is always on

Specifications

Display:
Main display: LCD 4.5 digits (19999)*; 0.39" [10mm]
Sub displays: 4 digits (9999); 0.19" [5mm]
Reset: Push button
Color: Black
Weight: 1.4 oz [40g] including battery
Dimensions: 3.1" H x 2.0" W x 0.7" D [78 H x 51 W x 17 D mm]
Battery operating life: 3V CR2032; approx. 1.5 years
Operating temperature: 41°F to 108°F [5°C to 40°C]
Storage temperature: 13°F to 146°F [-10°C to 60°C]
Humidity: 85% RH (non-condensing)
Default mode: Mode 1: simple tally

* Take note that 4.5 digits (-9999 ~ 19999) is only applicable in Mode 4. Up to 4 digits are applicable in Modes 1, 2, & 3.

Models Description

E5-1804 Electronic Hand Tally; 3 displays; add/subtract; store count and memory

* Item is normally in factory stock.

Operating Instructions

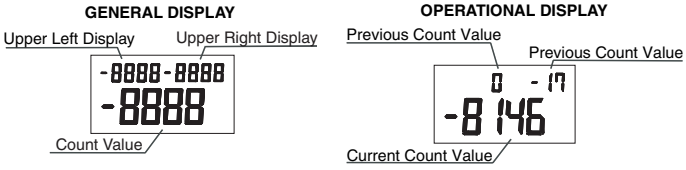
MODE 1

Mode 1 is a simple add/subtract counter with two temporary memory displays.

Buttons Active:

TYPE				
Type 1 Up/Down Counter	Up	Down	Reset	No Function

Display Area:



Count Operation:
In this mode you can count up from 0 to 9999 by pressing the button. You can also count down to -9999 by pressing the button. Each actuation of the button will increment the count values by 1, likewise, pressing button will decrement the count value by 1. If the count value reaches the maximum and minimum limit the next display will be an error message (**Err**). Pressing the button will display the current count value to the upper left display and reset the count value on the main display.

Reset Operation:
This mode has 2 temporary memories that store the last 2 count values on the upper right and upper left display. When you press the button the main display will be rest to 0 and the value prior to reset will be displayed on the upper left display, while the value on the upper left display will be shifted to the upper right display. Every time the button is pressed the last count values will be shifted again from the main display, to the upper left display, and the upper left display to the upper right.

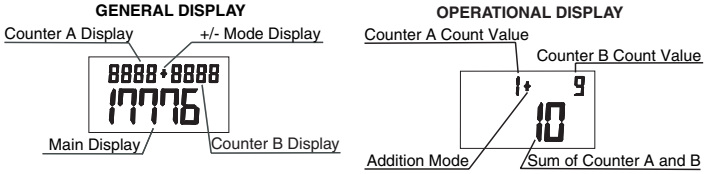
MODE 2

Mode 2 is a two counter tally with selectable add/subtract feature.

Buttons Active:

TYPE				
Type 2 2 Counter Tally	UP (Counter A)	UP (Counter B)	Reset	Select (+/-)

Display Area:



Count Operation:
In this program the user has two counters **A** and **B** available at any time. These counters can only count in an additive direction by pressing the button for counter **A** and button for counter **B**. The count value of counter **A** is located on the upper left display and the count value of counter **B** is located on the upper right.

Reset Operation:
When the maximum value of any counter is reached, an error (**Err**) message will be displayed. When the button is pressed both counters **A** and **B** will be reset to 0.

Sum and Difference Operation:
This mode also performs a sum or difference of counter **A** and **B**. The sign between the upper left and upper right display determines whether the main display is a sum or difference of both counters. If a **–** sign is displayed, the main display is the difference of counter **A** and **B**. If a **+** sign is displayed the main display is the sum of both counters. To change from addition to subtraction or vice versa, press the button.

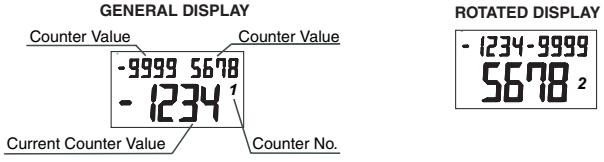
MODE 3

Mode 3 is an add/subtract counter with three independent counters. These counters can be rotated or shifted in a clockwise manner.

Buttons Active:

TYPE				
Type 3 3 Up/Down Counter	Up	Down	Reset	Shift

Display Area:



Count Operation:
In this mode you can program to count up/add from 0 to 19999 by pressing the button. You can also count down/subtract to -9999 by pressing the button. Each press of the button will increment the count value by 1, likewise, pressing the button will decrement the count value by 1. If the count value reaches the maximum and minimum limit the next display will be an error (**Err**) message. Pressing the button will reset the current count value to 0. To identify which counter is the current display a counter number is display on the right side of the main display.

Rotate/Shift Operation:
This program has 3 independent counters. To rotate/shift these counter press the button. The counter number of the current display is shown on the right side of the main display. Its corresponding count value is also displayed on the main display. The values of the other two counters are also shown on the upper right and upper left portion of the display. These values cannot be changed unless they are selected. Pressing the button will only reset the current counter value. To reset the other counters you must rotate/shift and reset every single counter until all three of them are reset to 0.

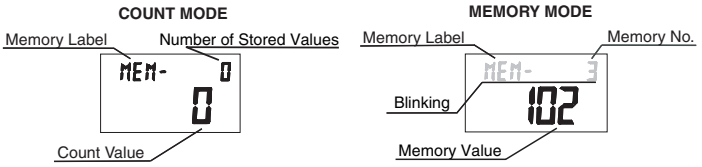
MODE 4

Mode 4 is an add counter with 59 memory locations for storing count values. It has two operating modes, count and memory mode.

Buttons Active:

TYPE				
Type 4 Counter with Memory	Up / Scroll Up	MEM / Scroll Down	Reset	Shift

Display Area:



Count Mode:
In the count mode you can count from 0 to 19999 by pressing the button. You can store count values by pressing the button. Every time you store count values the memory number increments. This memory number is located on the upper right portion of the display. Pressing the button will reset the count value to 0 but the memory will be retained. To go to the memory press the button. The count value, before changing to memory mode, will be retained and displayed again when you go back to the count mode.

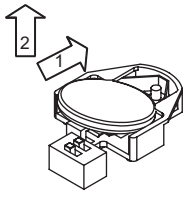
Memory Mode:
In the memory mode, you can view the stored values in the memory. Pressing the button in the count mode will change the operation to memory mode. The blinking memory message (**MEM**) and number signifies that you are in the memory mode. The last value stored in memory will be the first data shown in the display. While in this mode, you can browse the stored values by pressing the button. The value stored in memory will be displayed on the main display and its corresponding memory number will be shown on the upper right area. To delete the memory, press both the and buttons at the same time. Upon deleting the memory, the main display will show dashes (**- - - -**) and the memory number must be reset to 0. To go back to count mode press the button.

Battery Replacement

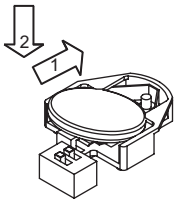
When the display becomes faint or disappears, it indicates a low battery condition. Replace the battery when this occurs.

1. Remove the screw at the lower back of the unit and remove the back cover by lifting it.
2. Slide the battery from the left side to the right (1) and lift the battery from the battery holder (2). (See “removing” diagram below)
3. To install a new battery, insert the battery from left to right (1) and push down the battery until it locks on the battery holder (2). (See “installing” diagram below)
   Make sure that the battery is installed properly according to the indicated polarity on the battery holder.

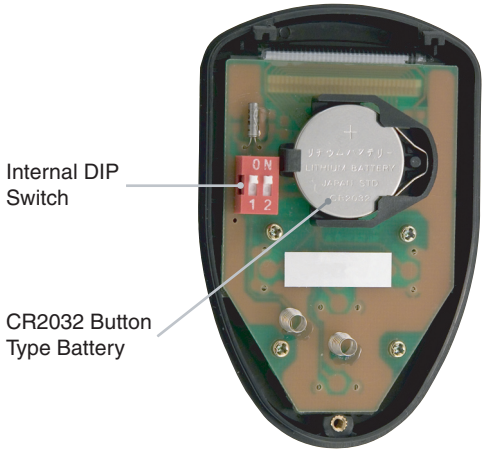
REMOVING



INSTALLING



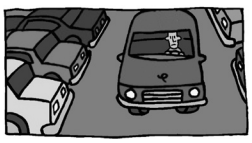
Back View (Internal)



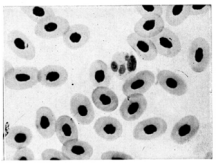
-Take note that this counter does not have a memory. All stored data will be erased when battery becomes low or changed.
-The unit is shipped with a battery installed and battery life may be shorter than the indicated specification. However, if a new battery is installed, battery life will be according to indicated specification.
-Remove the battery when the device will not be used for a long period of time.

Applications

Traffic



Lab Counter



Inventory

Attendance

Description

A 5 figure medium duty counter designed for applications where a rotary counter with a quick reset is desirable. When a 1' circumference measuring wheel is used with our standard counter, the counter will display feet and inches. Consult the factory if you have custom applications.

Features

- Counter will add and subtract
- Push button reset
- Versatile mounting
- **1**,000 revolutions per minute (100 feet per minute)

Options

- Double shaft
- Wheel color
- Figure color
- Ratios
- Mounting
- Case color
- 98WF - Measuring Wheel - 12" circumference

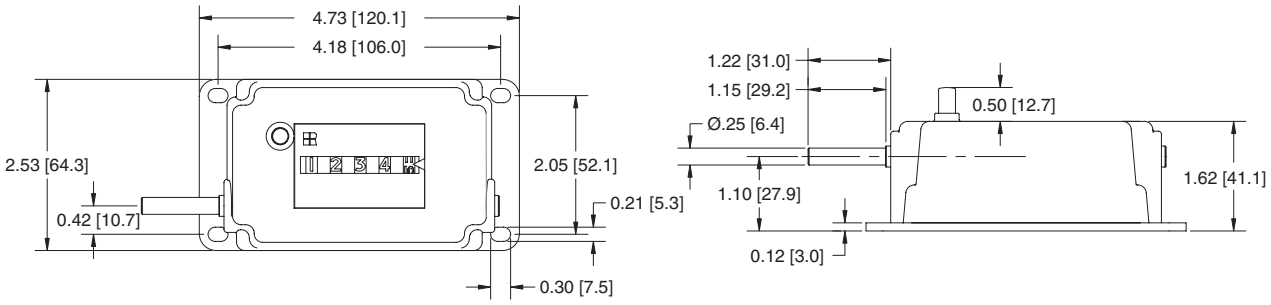
Specifications

Figures:	5 figures, 0.20" [5mm] high	**Speed:**	1,000 revolutions/minute (100 feet/minute)
Reset:	Push-button	**Operation Life:**	Beyond 50 million
Rotation:	Top going	**Temp. Range:**	-15°F to 140°F [-26°C to +60°C]
Shaft Extension:	0.250" diameter, left hand or right hand	**Weight:**	10 oz. [283g]

Models	Description	Models	Description
11-0825	Left-hand, top-going, add & subtract	11-0845	Right-hand, top-going, add & subtract

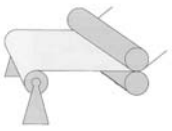
Dimensions

Left - Hand Shaft

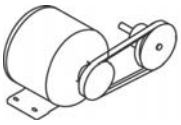


Applications

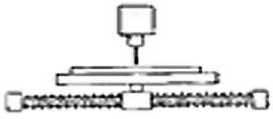
Linear measuring



Machine revolutions



Positioning



Description

A highly versatile, 5 figure stroke counter. Numbers are large and distinctive for easy viewing even when above or below eye level. Ruggedly built for years of trouble-free use. An excellent choice for counting parts produced.

Features

- Durable
- Large figures
- Reliable

Options

- Non-reset
- Large reset knob

Specifications

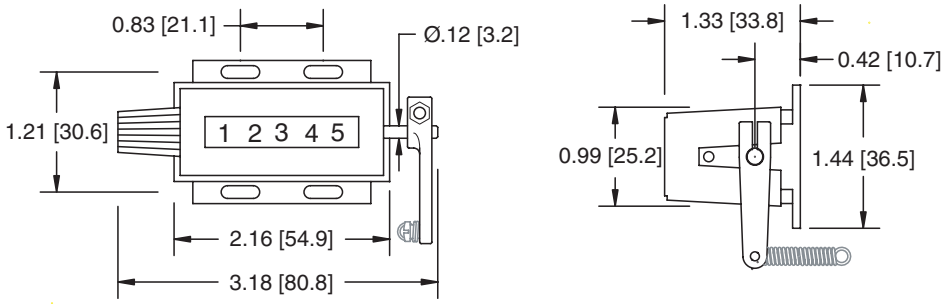
Figures:	5 figures, white on black, 0.19" [5mm] high	**Shaft Extension:**	Right-hand or left-hand
Reset:	Knob	**Shaft Diameter:**	0.125" [3.2mm]
Speed:	500 counts/minute	**Operating Life:**	Beyond 10 million counts
Rotation:	Top-coming or top-going	**Temp. Range:**	-15°F to +140°F [-26°C to +60°C]
Count Stroke:	49° Min. - 60° Max.	**Weight:**	1.5 oz. [43g]

Models	Description	Models	Description
1-2015	Left-hand, top-coming, standard reset knob	**1-2035**	Right-hand, top-coming, standard reset knob
1-2025	Left-hand, top-going, standard reset knob	1-2045	Right-hand, top-going, standard reset knob

* Items in bold are normally in factory stock.

Dimensions

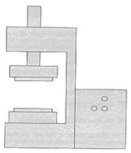
Right-Hand Shaft



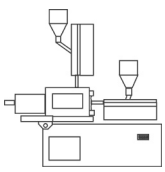
Mounting holes: 0.13" x 0.38" [3.3 x 9.7mm] slots

Applications

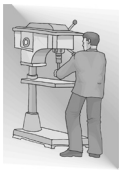
Punch press



Machine cycles



Secondary machines



Description

A compact, 5 figure, rotary counter, indicating 10 counts/revolution. Design and compact size make it ideally suited for office and test equipment, coin counting and other direct reading instruments.

Features

- Compact size
- 5 figures
- Long life

Options

- Large reset knob
- Special shaft

Specifications

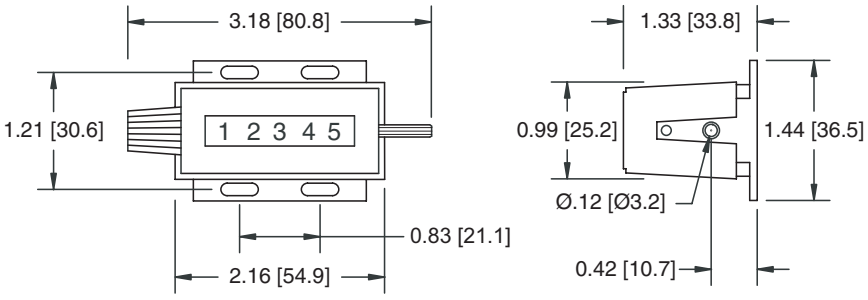
Figures:	5 figures, white on black, 0.19" [5mm] high	**Shaft Diameter**:	0.125" [3.2mm]
Reset:	Knob	**Ratio:**	10 counts/revolution
Speed:	500 revolutions/minute	**Operating Life:**	Beyond 10 million counts
Rotation:	Top-coming or top-going	**Temp. Range:**	-15°F to +140°F [-26°C to +60°C]
Shaft Extension:	Right-hand or left-hand	**Weight:**	1.3 oz. [37g]

Models	Description	Models	Description
1-2215	Left-hand, top-coming, add only	7-2225	Left-hand, top-going, add and subtract
1-2225	Left-hand, top-going, add only	**7-2235**	Right-hand, top-coming, add and subtract
1-2235	Right-hand, top-coming, add only	7-2245	Right-hand, top-going, add and subtract
1-2245	Right-hand, top-going, add only	1-2315	Left-hand, top-coming, add and subtract, non-reset
7-2215	Left-hand, top-coming, add and subtract	1-2325	Left-hand, top-going, add and subtract, non-reset

* Items in bold are normally in factory stock.

Dimensions

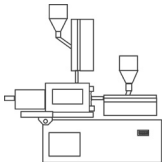
Right-Hand Shaft



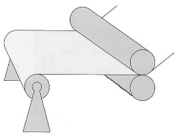
Mounting holes: 0.13" x 0.38" [3.3 x 9.7] slots

Applications

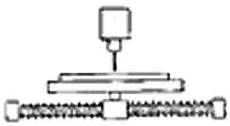
Production equipment



Spooling



Positioning



Description

A heavy-duty, 5 figure, internal reset, stroke counter. Available in either right-hand or left-hand shaft extension.

Features

- Heavy-duty
- Internal reset

Options

- Right or left-hand shaft extension
- 1022-006S - additional spring

Specifications

Figures: 5 figures, white on black, 0.31" [8mm] high
Reset: Internal - lift cover, reset wheels
Speed: 750 counts/minute
Rotation: Top-coming
Count Stroke: 36° Min. - 45° Max.

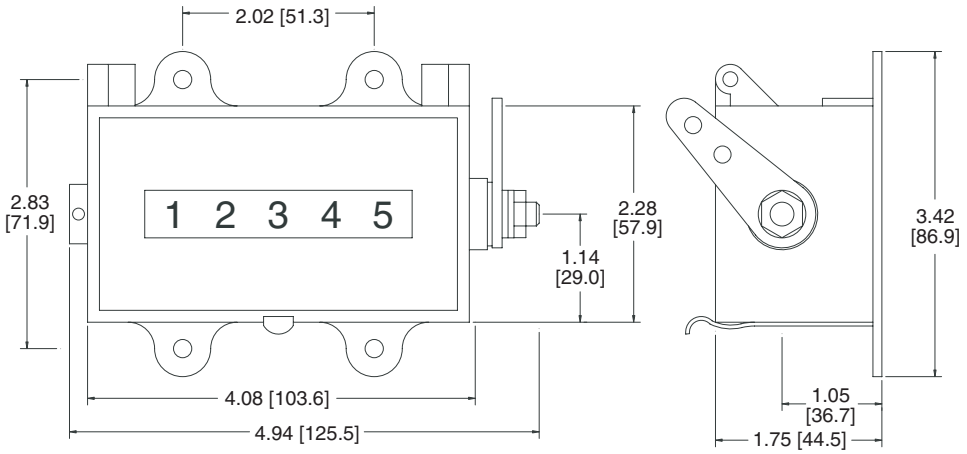
Shaft Extension: Right-hand or left-hand
Operating Life: Beyond 200 million counts
Temp. Range: -15°F to +140°F [-26°C to +60°C]
Weight: 24 oz. [680g]

Models	Description	Models	Description
1-2715	Left-hand, top-coming	**1-2735**	Right-hand, top-coming

* Items in bold are normally in factory stock.

Dimensions

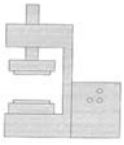
Right-Hand Shaft



Mounting holes: 0.19" [4.8mm] Dia.

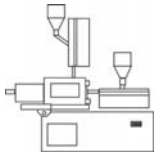
Applications

Punch press



Secondary Machines

Machine cycles



Description

A 5 figure, rugged stroke counter, with right-hand shaft extension, operating lever and attached spring. Rated at 600 counts per minute, this heavy-duty model is well suited for most industrial applications.

Features

- Heavy-duty
- 600 CPM
- 5 Figures

Options

- Lever modifications
- 1022-006S - additional spring

Specifications

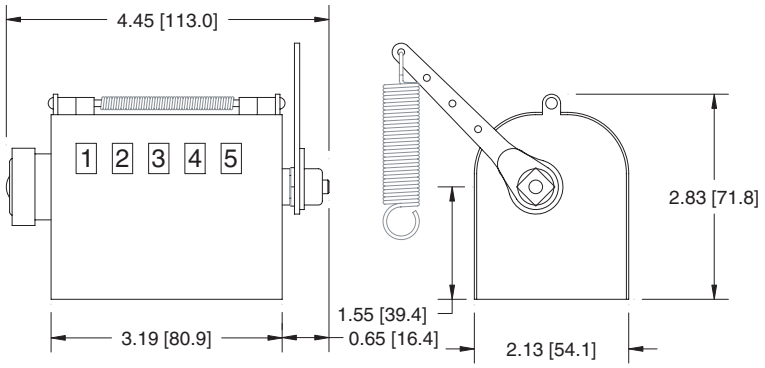
Figures:	5 figures, white on black, 0.27" [7mm] high	**Shaft Extension:**	Right-hand
Reset:	Knob, internal, or lock and key	**Operating Life:**	Beyond 200 million counts
Speed:	600 counts/minute	**Temp. Range:**	-15°F to +140°F [-26°C to +60°C]
Rotation:	Top-coming	**Weight:**	20 oz. [567g]
Count Stroke:	36° Min. - 45° Max.		

Models	Description	Models	Description
3-2835	Right-hand, top-coming, internal reset	5-2835	Right-hand, top-coming, lock and key reset
4-2835	Right-hand, top-coming, knob reset		

* Items in bold are normally in factory stock.

Dimensions

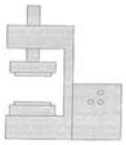
Right - Hand Shaft



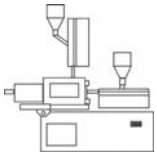
Mounting holes: 0.18" [4.6mm] Dia.

Applications

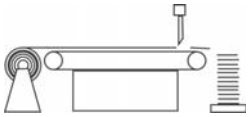
Punch press



Machine cycles



Shears



Description

A 6 figure, general purpose heavy duty industrial stroke counter designed for high count rates and continuous operation even under the most adverse operating conditions. Corrosion resistant material and finishes. Large, easy-to-read numbers.

Features

- Heavy duty
- High count rates
- Corrosion resistant

Options

- Non-reset
- Double shaft extensions
- Special mounting bases
- Weatherized versions
- 1022-006S - additional spring
- 1255-004S - additional lever

Specifications

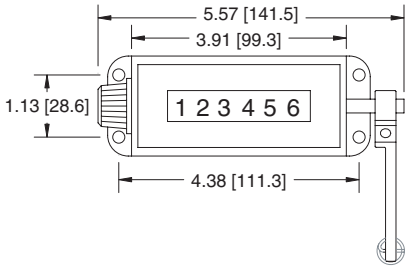
Figures:	6 figures, white on black, 0.30" [7.6mm] high	**Shaft Extension:**	Right-hand or left-hand
Reset:	Knob or lock and key	**Shaft Diameter:**	0.25" [6.4mm]
Speed:	1,000 counts/minute	**Operating Life:**	Beyond 100 million counts
Rotation:	Top-coming or top-going	**Temp. Range:**	-15°F to +140°F [-26°C to +60°C]
Count Stroke:	40° Min. - 70° Max.	**Weight:**	18 oz. [510g]

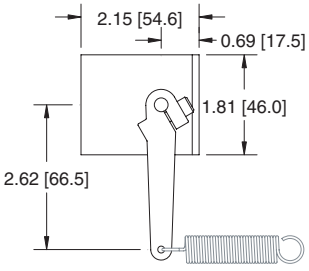
Models	Description	Models	Description
1-2916	Left-hand, top-coming, standard reset knob	1-2946	Right-hand, top-going, standard reset knob
1-2926	Left-hand, top-going, standard reset knob	2-2936	Right-hand, top-coming, lock and key reset
1-2936	Right-hand, top-coming, standard reset knob	**V1-2936**	Right-hand, top-coming, standard reset knob, V-base

* Items in bold are normally in factory stock.

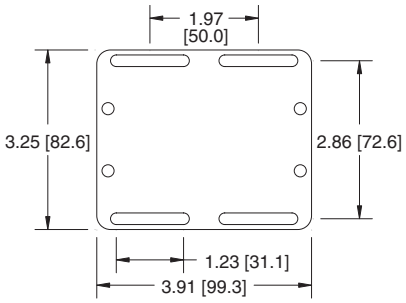
Dimensions

Right - Hand Shaft





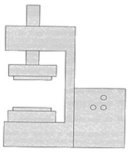
V - Mount



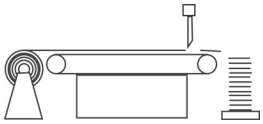
Mounting holes: 0.22" [5.6mm] Dia.

Applications

Punch presses



Shears



Cement trucks

Description

A 6 figure, general purpose, industrial rotary counter designed for use on equipment where environmental conditions are far from ideal. Various count ratios make it suitable for winding equipment, measuring devices and direct reading instruments.

Features

- Heavy duty
- High count rates
- Corrosion resistant

Options

- Non-reset
- Subtractive
- Double shaft extensions
- Special mounting bases
- Weatherized versions
- 98WF - Measuring Wheel - 12” circumference

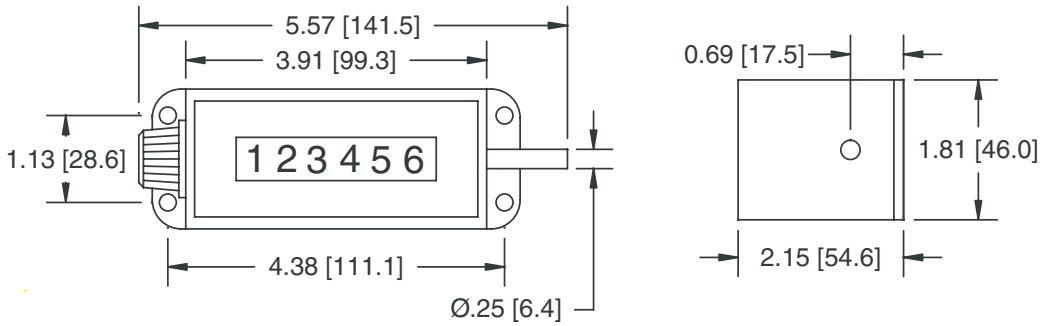
Specifications

Figures: 6 figures, white on black, 0.30” [7.6mm] high
Reset: Knob or lock and key
Speed: 2,500 counts/minute or revolutions/minute, whichever is lower
Rotation: Top-coming or top-going, to add. Will not subtract if rotation is reversed
Shaft Extension: Right-hand or left-hand
Shaft Diameter: 0.25” [6.4mm]
Ratio: 1 count/revolution or 10 counts/revolution
Operating Life: Beyond 100 million counts
Temp. Range: -15°F to +140°F [-26°C to +60°C]
Weight: 18 oz. [510g]

Models	Description
11-2916	Left-hand, top-coming, 10 counts/revolution
11-2936	Right-hand, top-coming, 10 counts/revolution
21-2916	Left-hand, top-coming, 1 count/revolution
21-2926	Left-hand, top-going, 1 count/revolution
21-2936	Right-hand, top-coming, 1 count/revolution
21-2946	Right-hand, top-going, 1 count/revolution
22-2936	Right-hand, top-coming, 1 count/revolution, lock & key reset,

Dimensions

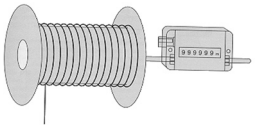
Right - Hand Shaft



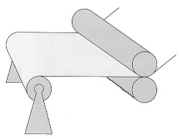
Mounting holes: 0.22” [5.6mm] Dia.

Applications

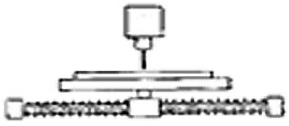
Winding equipment

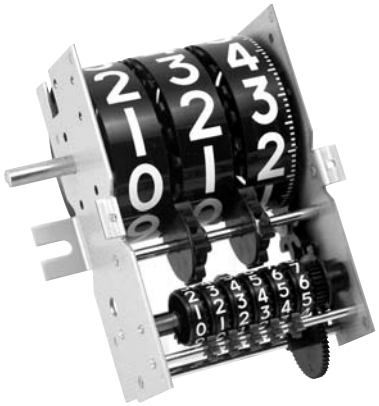


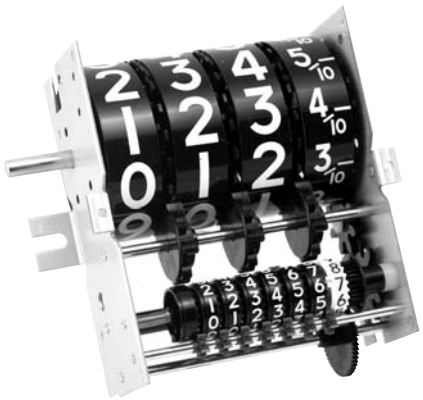
Spooling



Positioning







Description

The Model 41 is a 3-figure or 4-figure mechanical register and is used to display gallons or liters output from a dispenser or pump. The large figure display can be reset with the rotary reset shaft. A smaller, non-reset, mechanical totalizer is also included to record total product dispensed.

Features

- Large easy to read figures
- Time tested, reliable and durable
- Wide operating temperature range
- All non-corrosive parts
- Spring loaded totalizer is pre-settable
- No lubrication required

Options

- Gallons or liters
- Reset shaft configuration
- Reset shaft: right hand, left hand, or both

Specifications

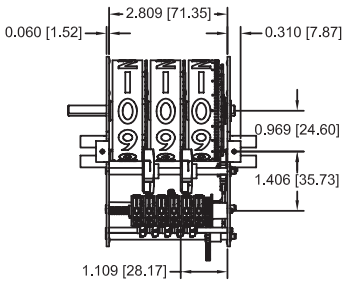
Figures:
Main Display: 3 or 4 figures, white on black, 0.65" [16.5mm] high
Totalizer: 0.19" [5mm] white on black
Reset: Rotary reset. Reset knob supplied by customer
Reset Shaft: 0.25" [6.4mm] diameter

Speed: 40 gallons per/minute, 400 liters per/minute
Operation Life: 1 million gallons, 10 million liters
Temp. Range: -40°F to +150°F [-40°C to +65°C]
Weight: 3-figure - 9oz [255g], 4-figure - 11oz [312g]

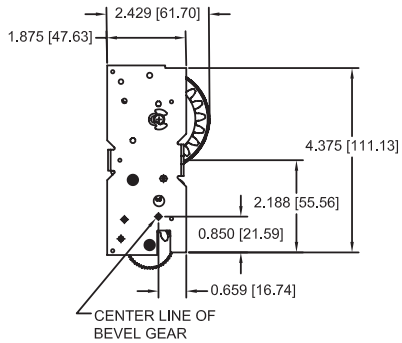
Models	Description	Models	Description
1-4103	3-figures, gallon display	2-4103	3-figures, liter display
2-4104	4-figures, gallon display	3-4104	4-figures, liter display

Dimensions

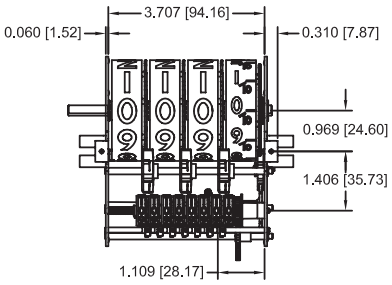
3-Figure



Side View

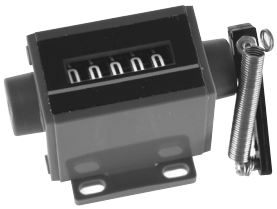


4-Figure



Applications

Pumps and Flow Meters



Non-reset

With Lever & Spring

With Thumb Lever

Description

These 5 figure stroke counters are especially designed for limited space and high count life applications. The advanced drive system translates into exceptionally high operating speeds, extended operating life, for fast and accurate readings. Ideal for copiers, printing presses, cut-off machines, and piece-part counting applications. Also available with a thumb lever for use as a tally counter.

Features

- Compact size
- Reliability
- Low cost

Options

- Special levers
- 10011-001S - additional spring
- 10007-009S - lever and spring
- Non-reset - consult factory

Specifications

Figures: 5 figures, white on black, 0.19" [5mm] high
Reset: Standard or large knob, non-reset
Speed: 500 counts/minute
Rotation: Top-coming or top-going
Count Stroke: 40° Min. - 45° Max.

Shaft Extension: Right-hand or left-hand
Shaft Diameter: 0.156" [4.0mm]
Operating Life: Beyond 5 million counts
Temp. Range: -15°F to +140°F [-25°C to +60°C]
Weight: 2 oz. [57g]

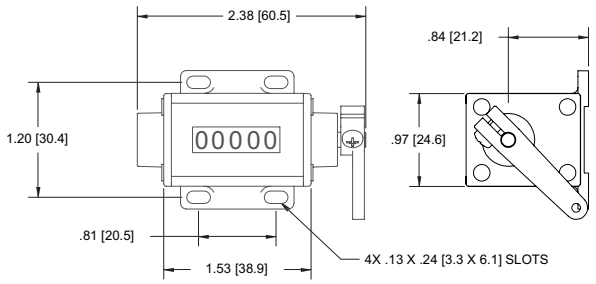
Models	Description
1-4615	Left-hand, top-coming, standard reset knob
1-4625	Left-hand, top-going, standard reset knob
1-4635	Right-hand, top-coming, standard reset knob
1-4645	Right-hand, top-going, standard reset knob
1-4635T	Right-hand, top-coming, std. reset knob, with thumb lever

Models	Description
2-4615	Left-hand, top-coming, large reset knob
2-4625	Left-hand, top-going, large reset knob
2-4635	Right-hand, top-coming, large reset knob
2-4645	Right-hand, top-going, large reset knob

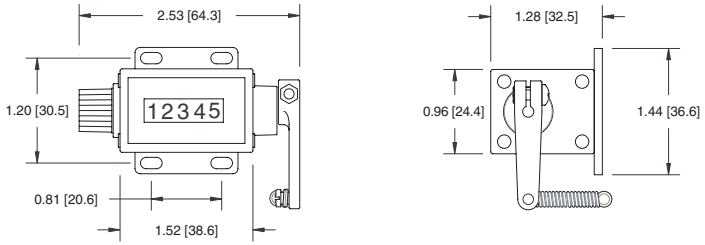
* Items in bold are normally in factory stock.

Dimensions

Non-reset



Reset

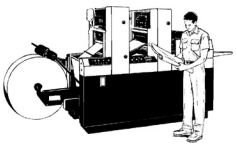


Mounting holes: 0.13" x 0.24" [3.3 x 6.1mm] slots

Applications

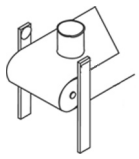
Copiers

Printing presses

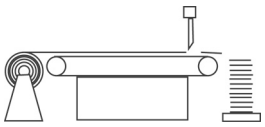


Farm equipment

Piece-part counting



Cut-off machines



Description

These rugged revolution counters are completely sealed, tamper resistant, and maintenance-free. They can be mounted on a rotating shaft or wheel. Adds in either direction, and records revolutions, miles, kilometers, or acres. They are used on material handling equipment, farm machinery, rapid transit vehicles, street sweepers, golf carts, and construction equipment.

Features

- Sealed
- Tamper resistant
- Bi-directional

Options

- Face plate
- Custom calibrations

Specifications

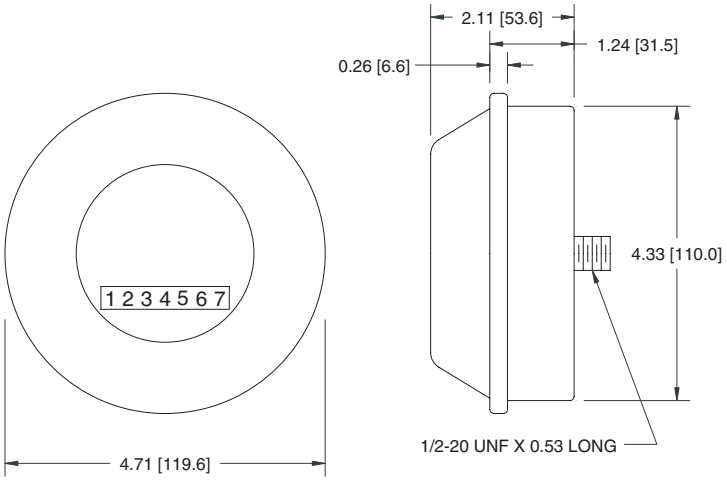
Figures: 7 figures, 0.19" [5mm] high
Temp. Range: -50°F to +180°F [-45°C to +82°C]
Weight: 1.5 Lbs. [0.7kg]

Models	Description	Models	Description
750-0002	Reading x 10 = Total Revolutions (Revolutions)	750-0114	Reading x 100 = Revolutions (Revolutions)
750-0007	(9.5L - 15) x 15' (Acres)	750-0156	798 Revolutions per Acre (Acres)
750-0016	364 Revolutions per Acre (Acres)		

Consult factory for a counter to meet your specific needs.

Dimensions

Hubodometer



Applications

Rapid transit vehicles

Farm machinery

Golf carts

Construction equipment

Description

The Redington Model 34 LCD Totalizer/Preset Counter provides a large display, with 0.28" [7mm] high characters, in industry size housings. The Model 34 counts and displays the number of pulses that appear at its input terminal at a rate of 40 pulses per second (Hz). The input interface handles AC or DC inputs. The Totalizers are available in 7 different housings. All models are totally sealed and are capable of submersion in 6' [2 meters] of water. A wide operating voltage, 10-300VDC and 20-300VAC, makes the model 34 versatile for all indoor and outdoor applications. All models are NEMA 4/4X, 12, & IP66 rated when used with the optional gasket and have a polarized lens which assures high visibility in an outdoor environment.

Maintenance Meters are offered with a maximum of 3 preset "Redi-Alert's" icons to alert users when service intervals are due or other periodic timed events are due. Models are available with front panel field or factory programmable alerts. Not only does the display flash to get attention, but it displays a choice of 7 different .08" [2mm] maintenance icons. Models are available with an Open Drain MOSFET output for the actuation of external alarms or indicator lamps. Users can program or specify the count/service interval and flash duration for each Redi-Alert. Flash duration is the amount of time in hours that the specific icon flashes before and after the specified total count. If a front panel manual reset of the Redi-Alert is required, the front panel models with switches must be specified.

Features

- Totally sealed from moisture and dirt
- AC or DC voltage input in the same unit
- Compact depth
- Programmable output thresholds
- Preset count value
- Up to 3 Redi-Alerts/7 icons
- Fits in existing panel openings
- Always on display
- A choice of 7 housings
- A choice of reset modes
- Front panel programmable
- Preset Counter with output
- 15+ Year Battery Life

Specifications

Display: LCD with large 0.28" [7mm] high figures black on light background

Annunciators: LCD 0.08" [2mm]

Reset: Remote, manual and non-reset

Accuracy: 100% [provided signal meets stated parameters]

Displays: 8 digits (99999999)

Maximum pulse rate: 40 pulses per second (Hz)

Inputs: 10-300VDC and 20-300VAC - 50/60Hz
VIH 20VAC or 10VDC minimum
VIL 3VAC or 3VDC maximum

Power: Self powered - battery life 15+ years

Terminations: Standard 0.250" [6.4mm] spades

Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

Environmental:
Temperature: (Storage and Operating) -40 to +185˚F [-40 to +85˚C]
Humidity: 95% RH per SAE J1378
Vibration: 20g @ 10 to 80 Hz per SAE J1378
Shock: 44 to 55g's per SAE J1378
Dielectric: 1000VAC 50/60 Hz for 1 minute
Compliance: Compliant to the European WEEE and RoHS Directives

Sealing: Totally sealed

EMC Compliance: EN61326:1997 with A1:1998 and A2:2001 for industrial environments

Enclosure: Totally sealed from moisture and dirt, NEMA 4/4X, 12, & IP66 compliant from the front when properly mounted using the optional gasket. (Not applicable to Snap-In Model)

Approvals: UL and cUL Recognized (file # ELIY2.E36690), CE, SAE, NEMA 4/4X/IP66 compliant

Weight: 1oz [28g]

Functions

Preset Counter: The preset function is centered on the output signal. When the count reaches the preset value, the output signal is turned “on”. The Preset function is count “up”. In addition to the preset function, models are also available with 3 Redi-Alert set points. Upon reaching the preset value the preset can be automatically reset, or it can await an external reset.

Front Panel Switch Functions: Front panel switches can be used for reset, display selection and programming. The two front switches are used as follows:

SEL: During programming this switch is used to select options and to move horizontally in the programming chart.

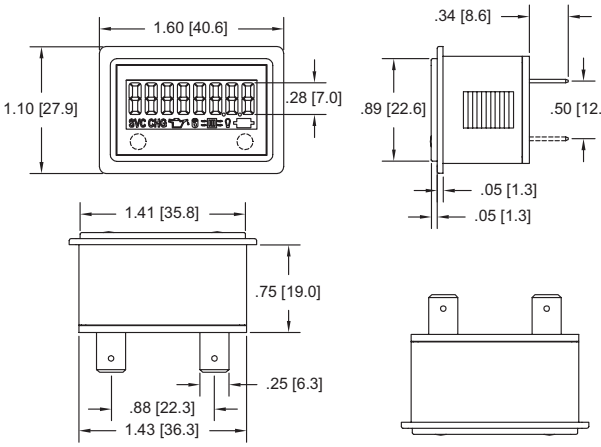
RST: This is the reset switch during normal operation. During programming this switch is used to select options and to move vertically in the programming chart.

Available Icons

SVC	SERVICE		OIL		AIR FILTER		MUFFLER
CHG	CHANGE		OIL FILTER		LAMP		

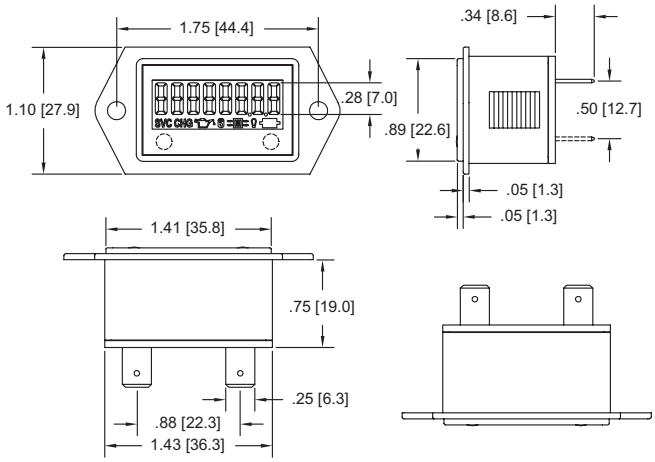
Dimensions

Rectangular Flush Mount



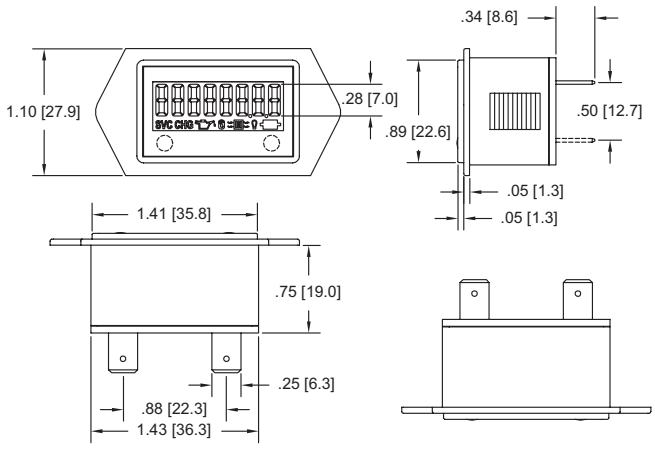
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

2-Hole Mount



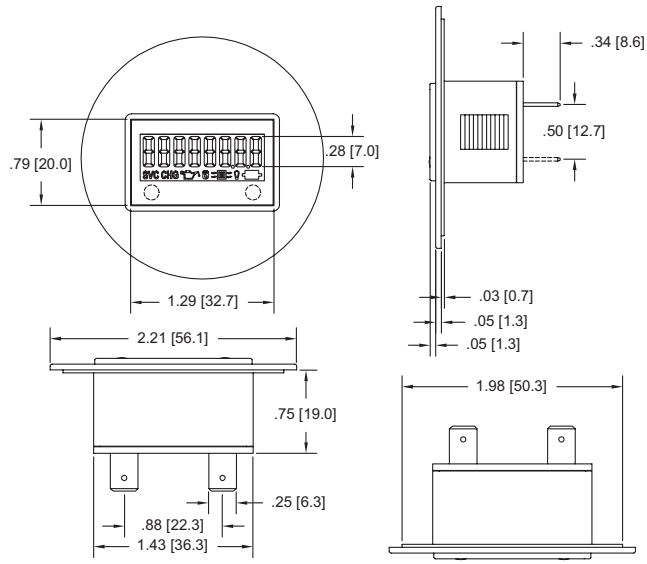
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]

2-Hole No-Hole Mount



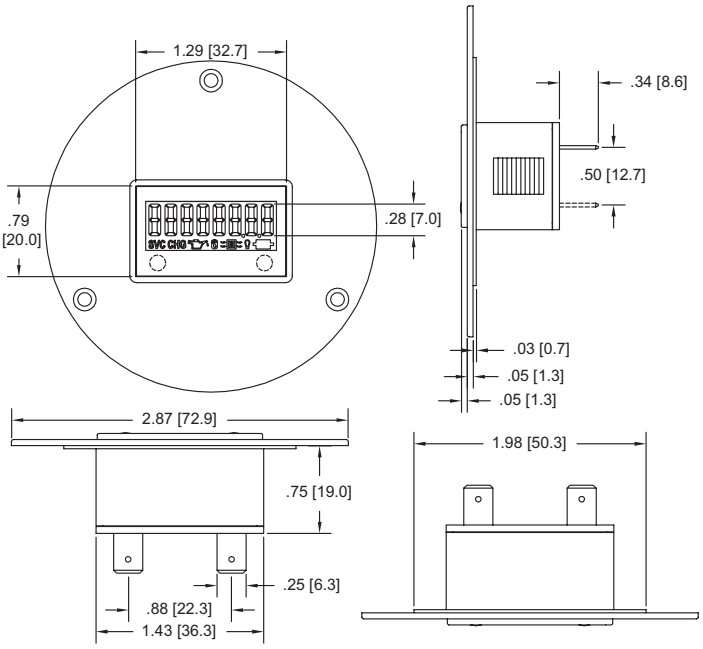
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

Round Flush Mount



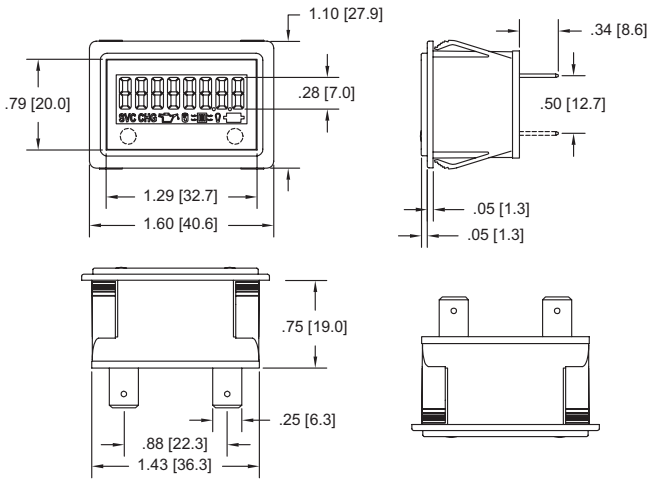
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

3-Hole Mount



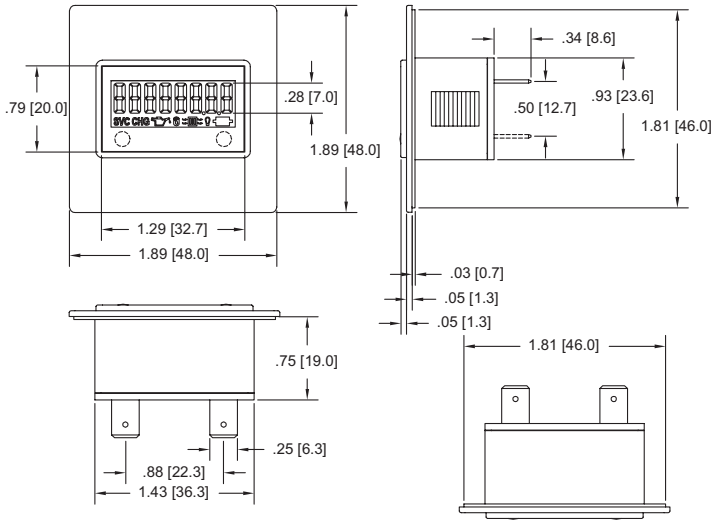
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]

Snap-In Mount



Panel Cutout: 1.46” [37mm] x 0.95” [24.1mm]
Minimum Panel Thickness: 0.04” [1.0mm]
Maximum Panel Thickness: 0.125” [3.18mm]

Square Flush Mount



Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

Notes

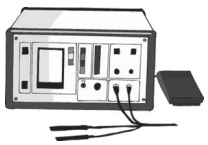
1. When interfacing the Model 34 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com

2. Exceeding the Absolute Voltage Range and the Absolute Maximum Limits may result in damage to the unit.

3. The open-drain MOSFET acts like an open-collector NPN trasistor. Care should be taken since there is no current limiting protection in the unit.

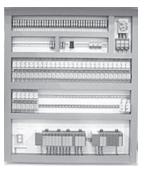
Applications

Medical Devices

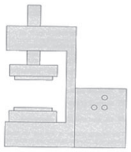


Test Equipment

Control Panels

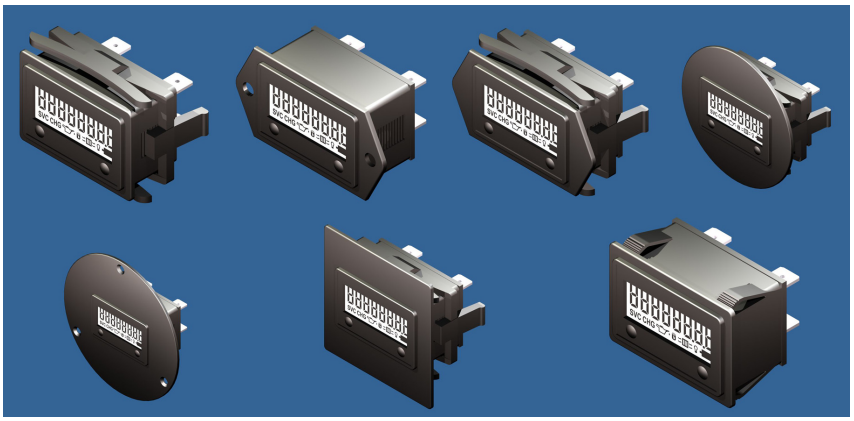


Production Equipment



Office Equipment

Secondary Equipment



Description

The Redington Model 34 LCD Frequency/Hour Meter provides a large display, with 0.28" [7mm] high characters, in industry size housings. The Model 34 keeps track of operational hours accumulated on equipment when a frequency input is applied. The unit counts the number of pulses per second. As long as pulsing continues the unit accumulates hours. The input interface handles AC or DC inputs. The Frequency/Hour Meters are available in 7 different housings. All models are totally sealed and are capable of submersion in 6' [2 meters] of water. A wide operating voltage,10-300VDC and 20-300VAC, makes the model 34 versatile for all indoor and outdoor applications. All models are NEMA 4/4X, 12, & IP66 rated when used with the optional gasket and have a polarized lens which assures high visibility in an outdoor environment.

Maintenance Meters are offered with a maximum of 3 "Redi-Alert's" icons 0.08" [2mm] to alert users when service intervals are due or other periodic timed events are due. Models are available with front panel field or factory programmable alerts. Not only does the display flash to get attention, but it displays a choice of 7 different maintenance icons. Models are available as a Preset Timer with a MOSFET output for the actuation of external alarms or indicator lamps. Users can program or specify the service interval and flash duration for each Redi-Alert. Flash duration is the amount of time in hours that the specific icon flashes before and after the service interval. If a front panel manual reset of the Redi-Alert is required the front panel models with switches must be specified.

Features

- Totally sealed from moisture and dirt
- AC or DC voltage input in the same unit
- Frequency/Hour Meter versions
- Compact depth
- Programmable output thresholds
- Preset Hour Meter/time up or down
- Up to 3 Redi-Alerts/7 icons
- Fits in existing panel openings (1.45 x 0.95" [36.8 x 24.1mm])
- Always on display
- A choice of 7 housings
- A choice of reset modes
- Front panel programmable
- Preset Timer with output

Specifications

Display: LCD with large 0.28" [7mm] high figures black on light background

Run indicator: Blinking decimal point

Reset: Remote, manual and non-reset

Hour Meter Resolution: 0.01 or 0.1 Hour, displayed;
1 second, internal

Accuracy: ± 0.1% @ room temperature
± 0.2% over the specified temperature range

Records & Displays: 9999999.9 - hours & 1/10's or
999999.99 - hours & 1/100's

Maximum pulse rate: 500 pulses per second
Accuracy is Resolution Dependent, better than 1% for inputs greater than 12 Hz

Inputs: 10-300VDC and 20-300VAC-50/60Hz
VIH 20VAC or 10VDC minimum
VIL 3VAC or 3VDC maximum

Power: Self powered - battery life 15+ years

Terminations: Standard 0.250" [6.4mm] spades

Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

Environmental:
Temperature: (Storage and Operating) -40 to +185˚F [-40 to +85˚C]
Humidity: 95% RH per SAE J1378
Vibration: 20g @ 10 to 80 Hz per SAE J1378
Shock: 44 to 55g's per SAE J1378
Dielectric: 1000VAC 50/60 Hz for 1 minute
Compliance: Compliant to the European WEEE and RoHS Directives

Sealing: Totally sealed, use panel gaskets for NEMA 4/4X, 12, & IP66 compliance

EMC Compliance: EN61326:1997 with A1:1998 and A2:2001 for industrial environments

Protection Against: Alternator load dump: 150V EMI (Electromagnetic Interface): +400V @ 500Hz inductive switching and reverse polarity

Enclosure: Totally sealed from moisture and dirt, NEMA 4/4X/IP66 compliant from the front when properly mounted using the optional gasket

Approvals: UL and cUL Recognized (file # ELIY2.E36690), CE, SAE, NEMA 4/4X, &, IP66 compliant

Weight: 1oz [28g]

Functions

Preset Hour Meter: The preset function is centered on the output signal. When the time reaches the preset value, the output signal is turned "on". The Preset function can be either a time "up" or time "down". In addition to the preset function models are also avail able with 3 Redi-Alert set points. Upon reaching the preset value the preset can be automatically reset, or it can await on an external reset.

Front Panel Switch Functions: Front panel switches can be used for reset, display selection and programming. The two front Panel switches are used as follows:

SEL: During programming this switch is used to select options. The SEL switch is used during programming to move horizontally in the programming flow chart.

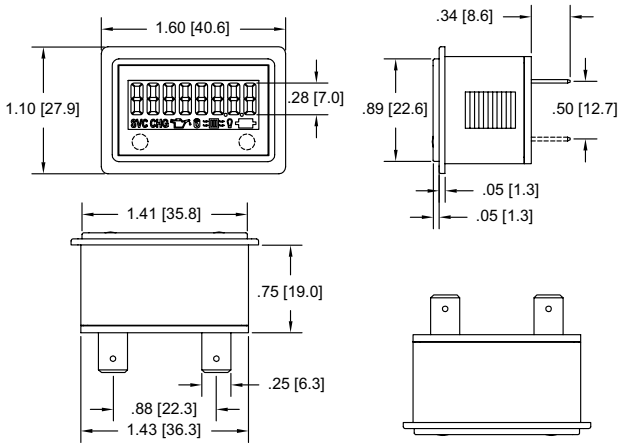
RST: This is the reset switch during normal operation. During programming the RST switch is used to enter an option. The RST switch is used during programming to move vertically in the programming flow chart.

Available Icons

SVC	SERVICE		OIL		AIR FILTER		MUFFLER
CHG	CHANGE		OIL FILTER		LAMP		

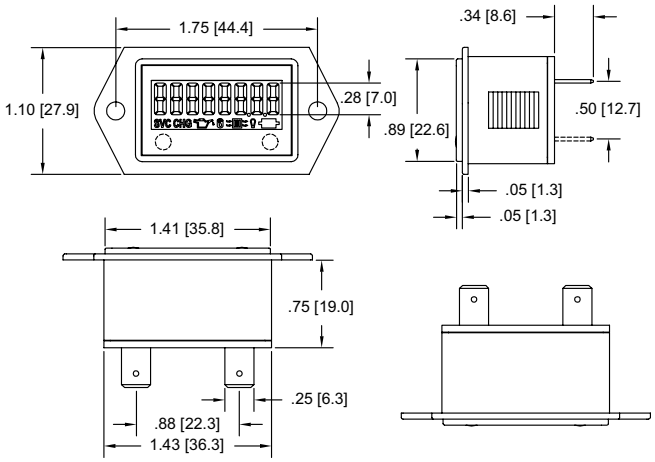
Dimensions

Rectangular Flush Mount



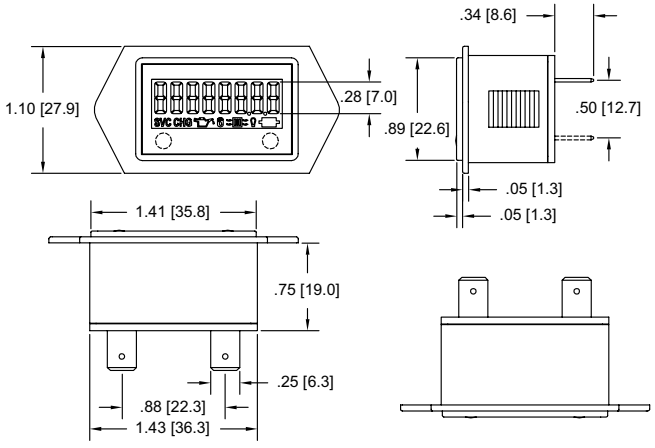
Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Maximum Panel Thickness: 0.375" [9.5mm]

2-Hole Mount



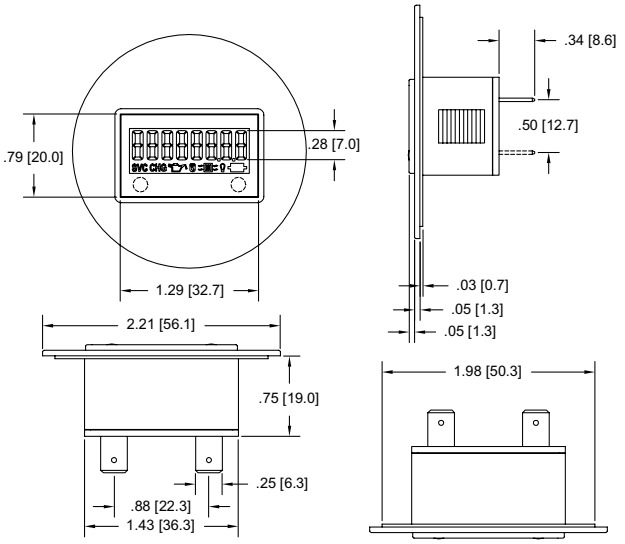
Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Maximum Panel Thickness: 0.375" [9.5mm]

2-Hole No-Hole Mount



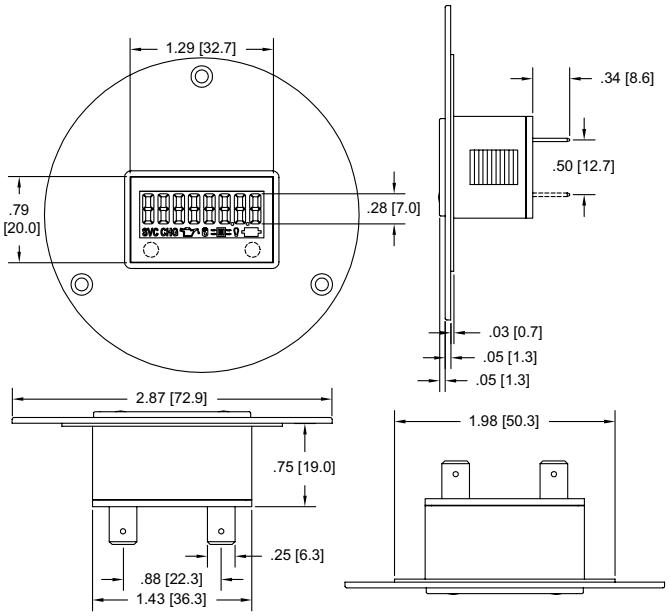
Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Maximum Panel Thickness: 0.375" [9.5mm]

Flush Rectangular Mount



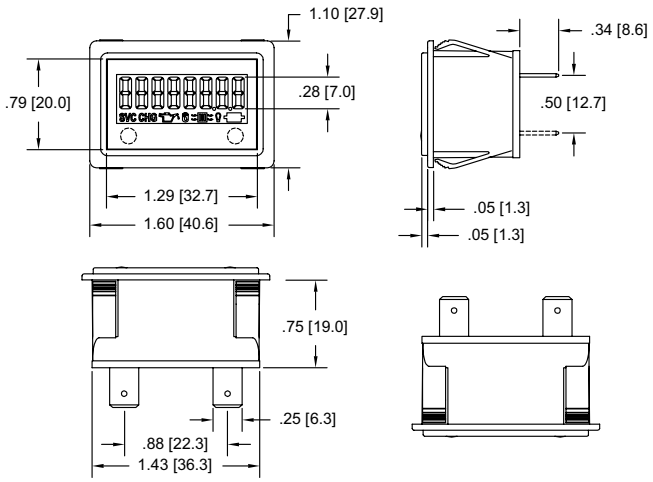
Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Maximum Panel Thickness: 0.375" [9.5mm]

3-Hole Mount



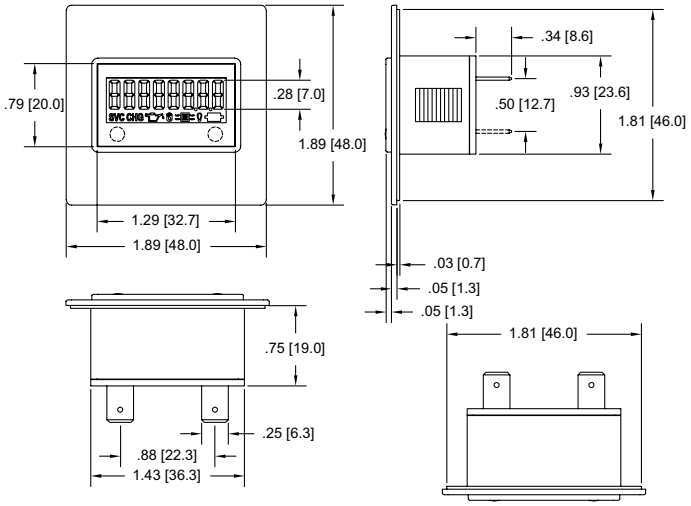
Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Maximum Panel Thickness: 0.375" [9.5mm]

Snap-In Mount



Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Minimum Panel Thickness: 0.04" [1.0mm]
Maximum Panel Thickness: 0.125" [3.18mm]

Square Flush Mount



Panel Cutout: 1.45" [36.8mm] x 0.95" [24.1mm]
Maximum Panel Thickness: 0.375" [9.5mm]

Notes

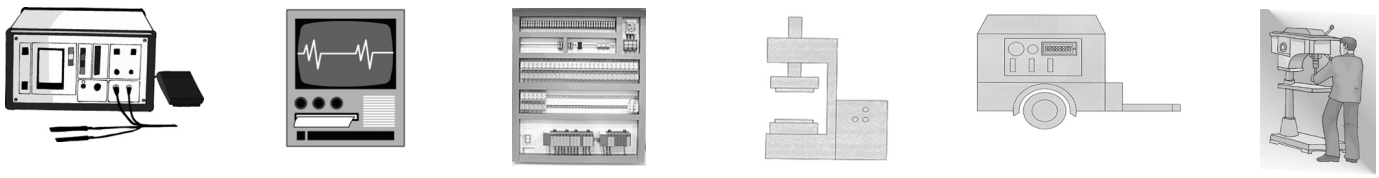
1. When interfacing the Model 34 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com

2. Exceeding the Absolute Voltage Range and the Absolute Maximum Limits may result in damage to the unit.

3. The open-drain MOSFET acts like an open-collector NPN trasistor. Care should be taken since there is no current limiting protection in the unit.

Applications

Medical Devices | Test Equipment | Control Panels | Production Equipment | Generator | Secondary Equipment



Description

The Redington Model 34 LCD Hour Meter provides a large display, with 0.28" [7mm] high characters, in the industry size housings. The Hour Meters are available in 8 different housings, including a surface mount inductive input model. All models are totally sealed and are capable of submersion in 6' [2 meters] of water. A wide operating voltage, 10-300VDC and 20-300VAC, and inductive input make the Model 34 versatile for all indoor and outdoor applications. All models are NEMA 4/4X, 12, & IP66 rated when used with the optional gasket and have a polarized lens which assures high visability in an outdoor environment.

Maintenance Meters are offered with a maximum of 3 "Redi-Alerts" to alert users when service is due. Models are available with front panel field or factory programmable alerts. Not only does the display flash to get attention, but it displays a choice of 7 different .08"[2mm] maintenance icons. Models are available as a Preset Timer with a MOSFET output for the actuation of external alarms or indicator lamps. Users can program or specify the service interval and flash duration for each Redi-Alert. Flash duration is the amount of time in hours that the specific icon flashes before and after the service interval. If a front panel manual reset of the Redi-Alert is required the front panel models with switches must be specified.

Features

- Totally sealed from moisture and dirt
- AC or DC voltage input in the same unit
- Tachometer/Hour Meter versions
- Compact depth
- Programmable output thresholds
- Preset Hour Meter/time up or down
- Up to 3 Redi-Alerts/7 icons
- Fits in existing panel openings
- Always on display
- A choice of 8 housings
- A choice of reset modes
- Front panel programmable
- Preset Timer with output
- Can be programmed with starting time
- 15+ Year Battery Life

Specifications

Display: LCD with large 0.28" [7mm] high figures black on light background

Run indicator: Blinking decimal point

Reset: Remote, manual and non-reset (remote reset not available on surface mount housing)

Hour Meter Resolution: 0.01 or 0.1 Hour, displayed;
1 second, internal

Accuracy: ± 0.1% @ room temperature
± 0.2% over the specified temperature range

Records & Displays: 9999999.9 - hours & 1/10's or
999999.99 - hours & 1/100's

Inputs: 10-300VDC and 20-300VAC-50/60Hz
VIH 20VAC or 10VDC minimum
VIL 3VAC or 3VDC maximum

Power: Self powered - battery life 15+ years

Terminations: Standard 0.250" [6.4mm] spades
1 meter wire (inductive)

Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

Environmental:
Temperature: (Storage and Operating) -40 to +185˚F [-40 to +85˚C]
Humidity: 95% RH per SAE J1378
Vibration: 20g @ 10 to 80 Hz per SAE J1378
Shock: 44 to 55g's per SAE J1378
Dielectric: 1000VAC 50/60 Hz for 1 minute
Compliance: Compliant to the European WEEE and RoHS Directives

Sealing: Totally sealed

EMC Compliance: EN61326:1997 with A1:1998 and A2:2001 for industrial environments

Protection Against: Alternator load dump: 150V EMI (Electromagnetic Interface): +400V @ 500Hz inductive switching and reverse polarity

Enclosure: Totally sealed from moisture and dirt, NEMA 4/4X, 12, & IP66 compliant from the front when properly mounted using the optional gasket. (Not applicable to Snap-In Model)

Approvals: UL and cUL Recognized (file # ELIY2.E36690), CE, SAE, NEMA 4/4X compliant

Weight: 1oz [28g]

Functions

Preset Hour Meter: The preset function is centered on the output signal. When the time reaches the preset value, the output signal is turned “on”. The Preset function is time “up”.Upon reaching the preset value the preset can be automatically reset, or it can await an external reset.

Inductive Models: The surface mount Inductive unit is designed with an inductive interface. The unit will sense the firing of a spark plug on most small gasoline powered internal combustion engines. The wire lead from the unit is wrapped around the spark plug wire. Inductive models are available with and without tachometers. Most small engines provide 1 spark per RPM, in which case the maximum RPM is 30,000. Some small engines provide 2 sparks per RPM, the maximum RPM is then 15,000. Models are available that can be field (front panel switches) or factory programmed for 1.0, 2.0, or 0.5 sparks/pulses per RPM.

Front Panel Switch Functions: Front panel switches can be used for reset, display selection and programming. The two front Panel switches are used as follows:

SEL: During programming this switch is used to select options. The SEL switch is used during programming to move horizontally in the programming flow chart.

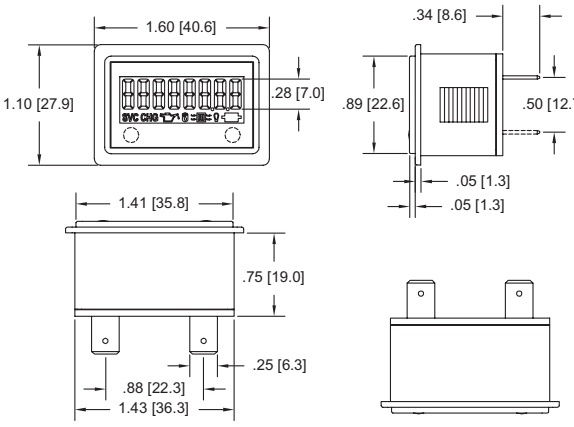
RST: This is the reset switch during normal operation. During programming the RST switch is used to enter an option. The RST switch is used during programming to move vertically in the programming flow chart.

Available Icons

SVC	SERVICE		OIL		AIR FILTER		MUFFLER
CHG	CHANGE		OIL FILTER		LAMP		

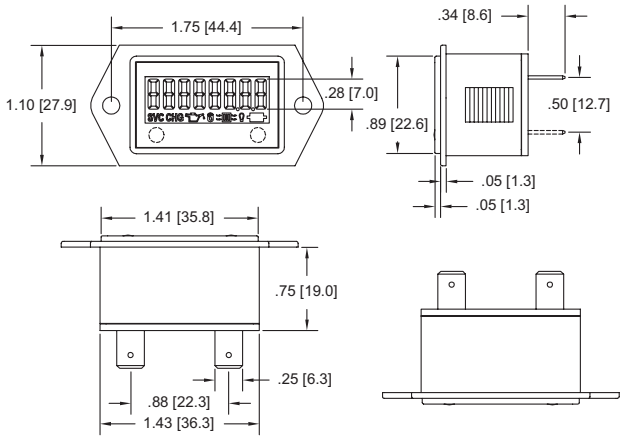
Dimensions

Rectangular Flush Mount



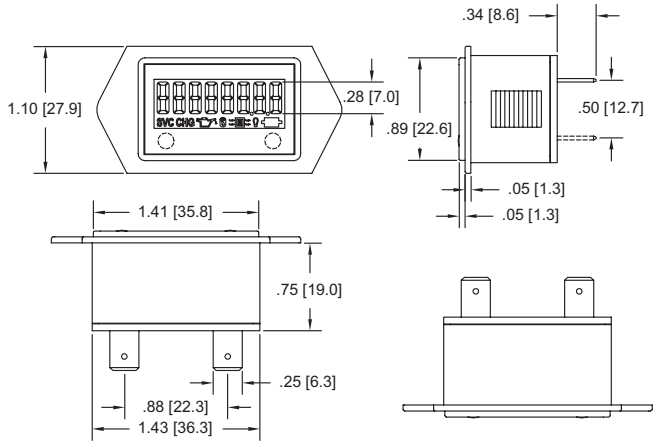
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

2-Hole Mount



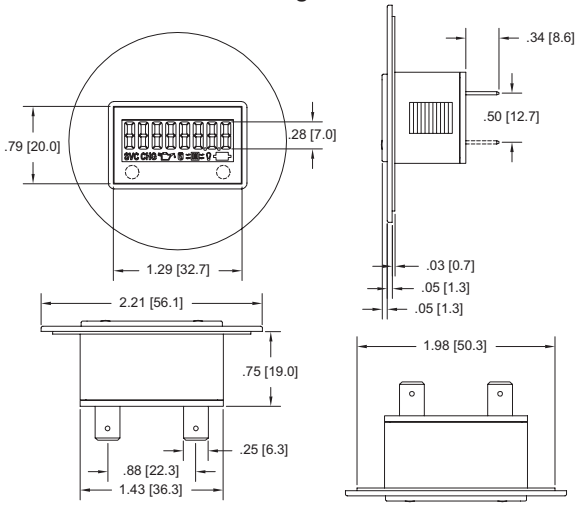
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]

2-Hole No-Hole Mount



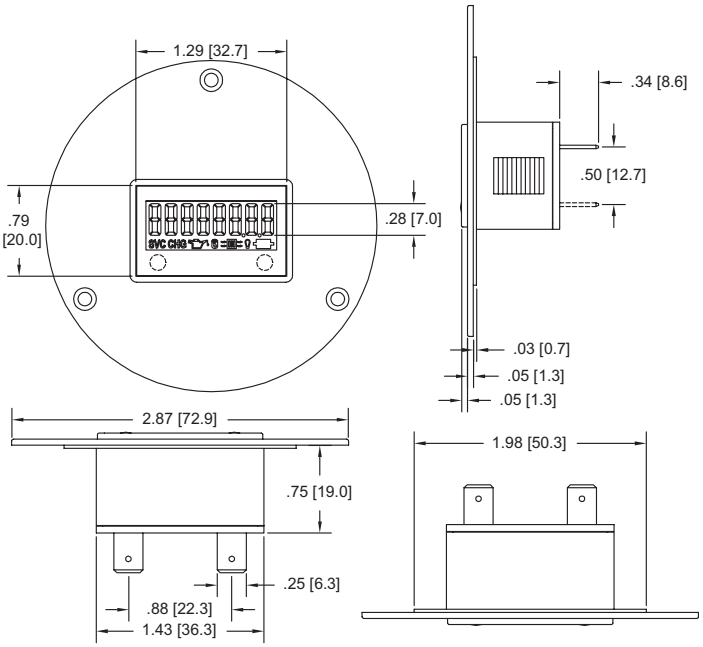
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

Flush Rectangular Mount



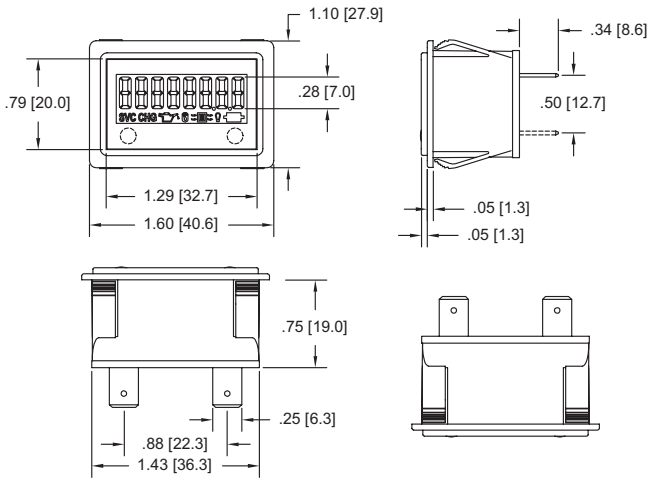
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

3-Hole Mount



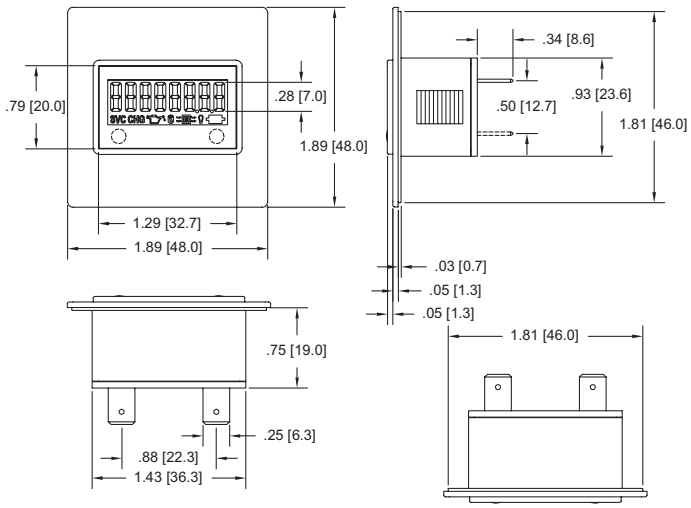
Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]

Snap-In Mount



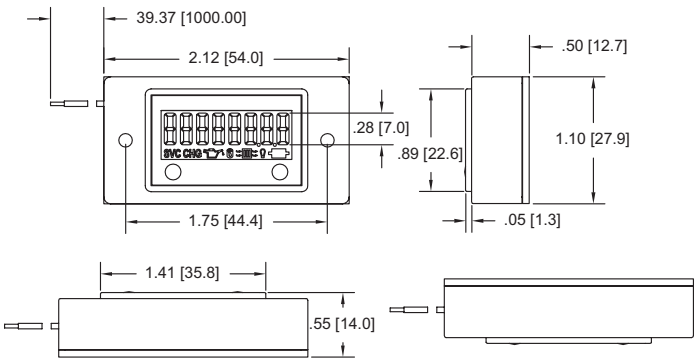
Panel Cutout: 1.46” [37mm] x 0.95” [24.1mm]
Minimum Panel Thickness: 0.04” [1.0mm]
Maximum Panel Thickness: 0.125” [3.18mm]

Square Flush Mount



Panel Cutout: 1.45” [36.8mm] x 0.95” [24.1mm]
Maximum Panel Thickness: 0.375” [9.5mm]

Surface Mount



Notes

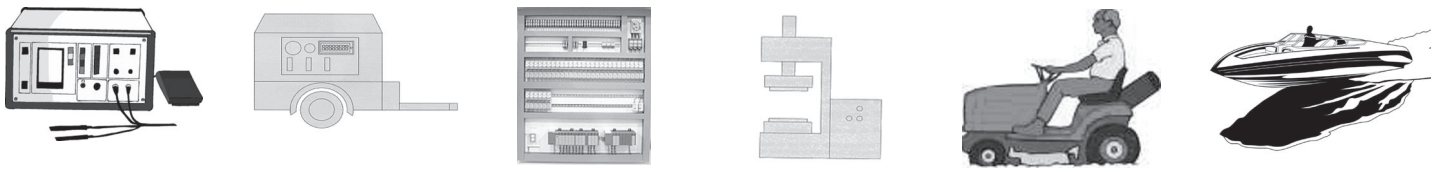
1. When interfacing the Model 34 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com

2. Exceeding the Absolute Voltage Range and the Absolute Maximum Limits may result in damage to the unit.

3. The open-drain MOSFET acts like an open-collector NPN trasistor. Care should be taken since there is no current limiting protection in the unit.

Applications

Medical Devices | Generators | Control Panels | Production Equipment | Garden Tractor | Marine Equipment



Model 51 Electronic LCD Hour Meter/Maintenance Meter

Description

The Redington Model 51 line of 5 figure LCD meters provides a large display in the industry size package. A choice of mountings, Round, 2 Hole Dual, Mini Rectangular or Surface Mount. A custom microprocessor, capable of being programmed to create an almost infinite matrix of models is ideally suited for OEM applications. Available in 3 inputs, DC, AC or Inductive. Maintenance Meters are offered with a "Redi-Alert" to alert users when service is due. Not only does the display flash to get attention, but it displays specific maintenance service needs to be done. Units have Polarized LCD for high visibility in sunlight. Servicing equipment on time is critical to efficient operation and long equipment life. That is why you should consider Redington's "Redi-Alert" meters. Redi- Alert offers two independent alarms (both fully programmable) to alert users when service is due. Alarms are fully automatic; coming on and shutting off at times determined by the OEM.

Features

- Totally sealed from moisture and dirt
- Fits in existing panel openings
- "Redi-Alert" for preventive maintenance
- Icons for specific maintenance needs
- Tachometer/Hour Meter versions
- Automatic rollover
- Hour glass symbol appears & flashes on/off to indicate running time
- Various voltage inputs
- Short depth
- Always on display

Options

- Various voltage inputs
- Alarm outputs: audible or visual (external voltage required)
- Custom logos & bezels
- Terminations: stud, wire, screw, or blade
- Alternator and filtered versions
- Key Kancel (alarm reset via external key or wand)

Specifications

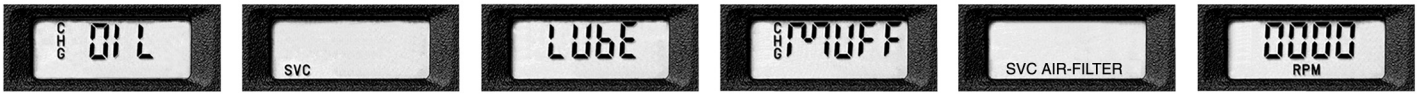
Display:	Large 0.20" [5mm] LCD, black on light background
Records & Displays:	5 digits (9999.9)
Resolution:	0.1 hours
Quartz Accuracy:	0.02% over entire voltage & temp. range
Inputs:	8-32 VDC, 32-277 VAC-50/60HZ
Operating Temperature:	-40°F to +160°F [-40°C to +71°C]
Battery Life:	15 years
Current Consumption:	1 mA (for multi-range voltages 1 mA applies to lower voltage)
Approvals:	AC-UL/cUL Recognized, CE Compliant
Protection Against:	Transient voltage, inductive switching, reverse polarity, frequency variations
Alternator Load Dump:	150 V
Shock:	SAE J1378 55g
Vibration:	SAE J1378 20g
Humidity:	SAE J1378 95% RH
Termination:	Panel mount standard terminals, 0.250 male blade (s), surface mount- wire lead
Case Material:	ABS, black, 100% epoxy filled
Weight:	1 oz. [28g]

Models	Description	
DC Models		
5120-1000	Panel Mount, Round,	8-32 VDC, Hours & 1/10's
5120-1100	Panel Mount, Mini,	8-32 VDC, Hours & 1/10's
5120-1200	Panel Mount, 2 Hole,	8-32 VDC, Hours & 1/10's
AC Models		
5120-2000	Panel Mount, Round,	32-277VAC, 50/60 Hz, Hours & 1/10's
5120-2100	Panel Mount, Mini,	32-277 VAC, 50/60 Hz, Hours & 1/10's
5120-2200	Panel Mount, 2 Hole,	32-277 VAC, 50/60 Hz, Hours & 1/10's

Models	Description	
Inductive Models		
5120-0000	Panel Mount, Round,	Inductive, Hours
5120-0100	Panel Mount, Mini,	Inductive, Hours
5120-0200	Panel Mount, 2 Hole,	Inductive, Hours
5140-0000	Panel Mount, Round,	Inductive, Hours & 1:1Tach
5140-0100	Panel Mount, Mini,	Inductive, Hours & 1:1Tach.
5140-0200	Panel Mount, 2 Hole,	Inductive, Hours & 1:1Tach.
5120-0310	Surface Mount,	Inductive, Hours
5140-0311	Surface Mount,	Inductive, Hours w/1:1Tach. Change oil Alert @ 25hr./2 hr. flash Lube Alert @ 25hr./2 hr. flash

* Items in bold are normally in factory stock.

Alarm Specifications



Alarms programmable for your applications

ALARM # 1
Programmable for a “first time” (break in service) or a normal recurring service interval.

ALARM # 2
Same as alarm # 1, but without the “first time” interval.

ALARM/ FLASH DURATION
OEM’s specify the service interval and flash duration for each alarm. Flash duration is the amount of time in hours that the specified icon flashes before and after the service interval.

ALARM RESET
The standard alarm alert is fully automatic with no operator interface necessary. The alarm simply flashes the specified icon for the duration called out by the OEM. Controlled reset options are available for a higher level of security. *Contact factory for additional information.*

MAINTENANCE METER ALARM SPECIFICATIONS

ALARM #1
1st time service interval range (2 to 99 hrs. occurs only once)

Normal service interval range: 2 to 999 hrs. (Recurring)

Flash duration: 1 to 99 hrs. (Time flashing before & after service interval)

Available icons: CHG OIL, LUBE, CHG MUFF, SVC-AIR FILTER, SVC-Lower left/right side of display

ALARM # 2
Normal service interval range: 2 to 999 hrs. (Recurring)

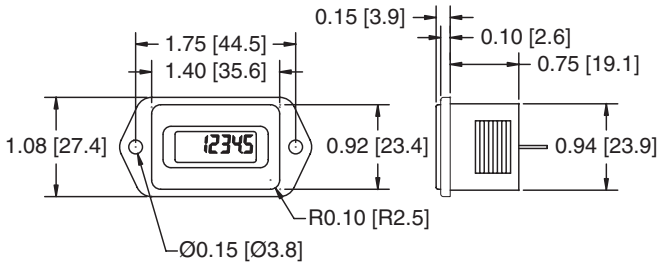
Flash duration: 1 to 99 hrs. (Time flashing before & after service interval)

Available icons: CHG OIL, LUBE, CHG MUFF, SVC-AIR FILTER, SVC-Lower left/right side of display

Alarms flash specified icon 4 seconds then flash hour 4 seconds throughout alarm duration.

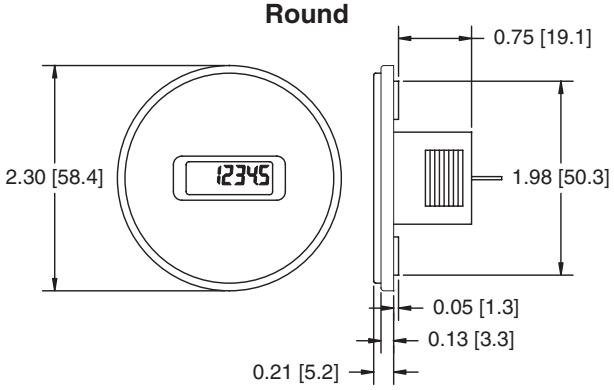
Dimensions

2 Hole Dual Mount



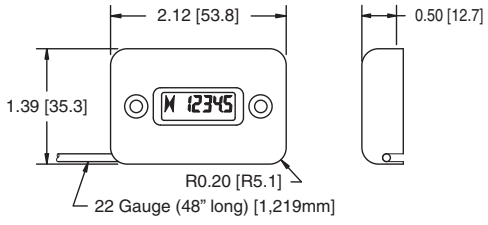
Above panel cutout 1.46 x 0.95 [37.1 x 24.1] opening
Behind panel cutout 1.41 x 0.93 [35.8 x 23.6] opening

Round



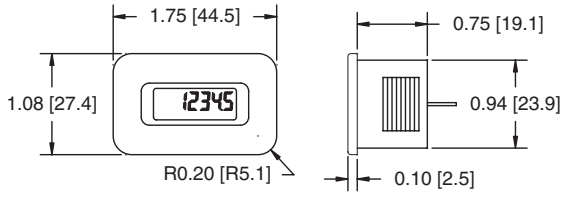
Spring clip retainer, Fast installation
Panel cutout 2.0 [50.8] diameter

Surface Mount



Mounting holes are 1 1/2” [38.1] spacing
Hole Diameter is 1/8” [3.2]

Mini Rectangular

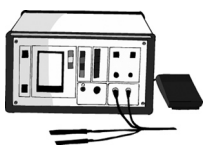


Compact Bezel Design, Spring clip retainer, Fast installation, Panel cutout 1.46 x 0.95 [37.1 x 24.1] opening.

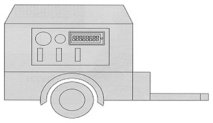
Applications

Construction Equipment

Medical Devices



Generators



Marine Applications

Garden Tractors



Description

The Redington Model 56 family of LCD indicators offers a variety of options to fulfill your count/hour meter requirements. This indicator can display hours, counts or both with a single-line shared display. You decide which value should be displayed permanently and which one will be in the background. The background indication will appear for approximately 10 seconds every time you apply power to the meter.

The Model 56 family offers you many features that are set at the factory at your request. These features include, input voltages, maximum count speeds or minimum hour meter indication times, connector terminations, reset configurations, a Redi-Alert Service Interval feature, and prewarn.

The Model 56 family can be ordered to accommodate any of a number of AC or DC input voltages and reset configurations. The counter can be ordered for maximum input count speeds of 10 Hz for AC or AC/DC voltages and 30 Hz or 200 Hz for DC voltages. The hour meter can be ordered to display time intervals of 1/100th or 1/10th of hours. When using a counter and an hour meter in combination, the counter will count the number of input pulses while the hour meter will record the total duration of the input pulses.

The Redi-Alert Service Interval feature notifies operators of service requirements when service intervals are a function of the number of events or time. If a Redi-Alert Service Interval is specified, the display will show the count (or time) remaining until the service interval is reached. The Redi-Alert Service Interval feature can be considered to be a down-counter (or down-timer) since the count (or time) that is displayed shows what remains until service is required. When the Redi-Alert Service Interval gets to zero, the indicator will flash the display. If the Redi-Alert Service Interval is not reset, the indicator will continue to operate, and the display will show negative counts (or time) indicating how far the system has gone past the service interval. If the prewarn feature is included, the display will begin flashing when the prewarn count (or time) is reached. When the Service Interval is in the background, it will come to the foreground when it reaches the service interval or the prewarn. Resetting the indicator resets the Service Interval to its specified setting and returns the Service Interval to the background.

You can configure your Model 56 meter using the Ordering Information sheet.

Features

- Display hours or hours and counts
- “Redi-Alert” for service hours or counts
- Manual, remote or non-reset
- EEPROM for memory (no battery)
- Divider/multiplier on inputs
- AC or DC input voltage
- 3 housing configurations
- Choice of 1/100th or 1/10th hours (specify)

Options

- Input frequency
- Reset type
- Indication of time/count
- Wide selection of input voltage
- Service “Redi-Alert”

Specifications

Display:	7 digit, 0.28 [7mm], LCD, 1 display	
Quartz Accuracy:	0.01%	
Input Voltage:	12/24 VDC/ ±25%	
	115-240 VAC 50/60 Hz/±10%	
Special Voltages:	24-48 VDC/±25%	
	24 VAC 50/60 Hz/VDC/±10%	
Current Consumption:	12-24 VDC & 24-48 VDC/2-4 mA	
	24 VAC/VDC/2 mA	
	115-240 VAC/7-15 mA	
Protection:	Without reset button-IP 65, gasket supplied, with reset button-IP54	
EMC:	EN 55011, EN 50082-2	
Vibration:	1 g (10-500)	IEC 68-2-34
Shock:	30 g (18 msec.)	IEC 68-2-27
	25 g (6 msec.)	IEC 68-2-29

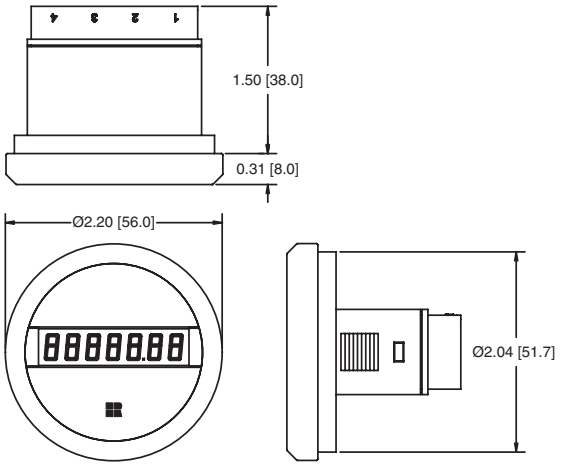
Max. Count Speed:	30, 200Hz DC or (10 Hz AC or AC/DC) (specify)
Memory:	EEPROM (no battery)
Approvals:	UL Recognized, CE Compliant
Mounting:	Retaining clip
Electrical Connection:	1/4” [6.4mm] spade or screw terminals
Case Material:	Black, ABS plastic with glass lens on round model only
Reset:	Manual and remote, non-reset and remote only No manual reset for round model
Operating Temperature:	-22°F to +158°F [-30°C to +70°C]
Weight:	2 oz [57g]
Service Alert:	Factory set - one “Redi-Alert”, 4 digits
Prewarn Signal:	Factory set, 4 digits

Models Description

For Details on Models and Descriptions, see the Ordering Information section.

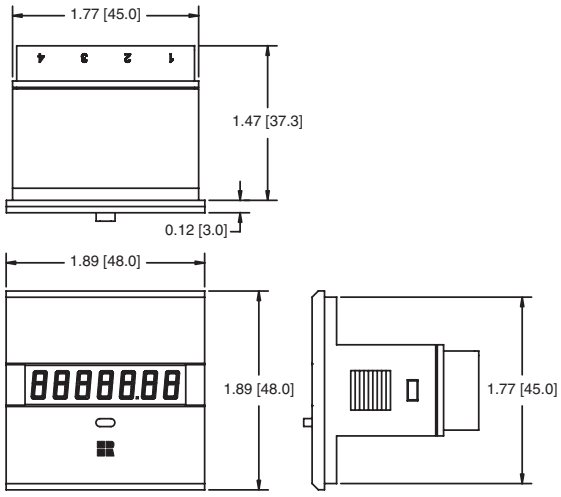
Dimensions

Round



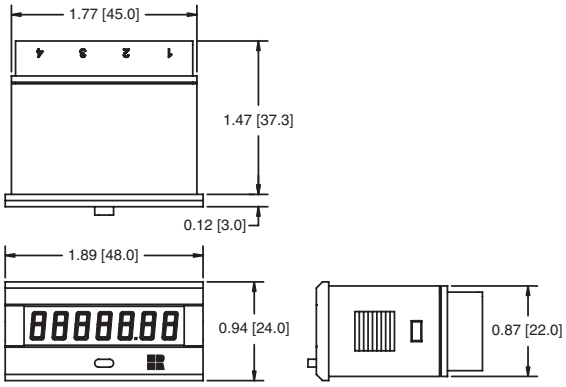
PANEL CUT OUT: Ø2.055 [52.2]

Square



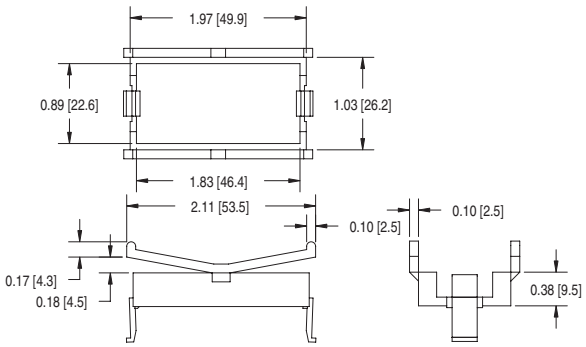
PANEL CUT OUT: 1.78 [45.2] SQUARE

Rectangular



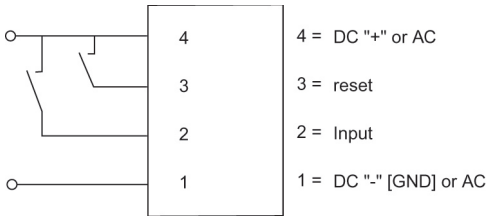
PANEL CUT OUT: .876 [22.2] X 1.772 [45]

Mounting Clip



Maximum Panel Thickness for all units: 0.15” [6.4mm]

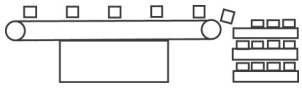
Wiring Diagram



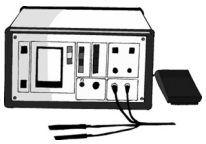
Applications

Test Equipment

Packaging Machinery



Medical Devices



Ordering Information

FUNCTION	HOUSING DIMENSIONS			NOTES
	1 X 2 INCH	2 X 2 INCH	ROUND 2.2 INCH	
HM WITH HM (bg)*	5600	5601	5602	Only HM is resettable
C WITH C (bg)*	5610	5611	5612	Only C is resettable
HM WITH C (bg)*	5620	5621	5622	Both are resettable
C WITH HM (bg)*	5630	5631	5632	Both are resettable
HM WITH SHM (bg)*	5640	5641	5642	Only SHM (bg) is resettable
C WITH SC (bg)*	5650	5651	5652	Only SC (bg) is resettable
SHM WITH HM (bg)*	5660	5661	5662	Only SHM is resettable
SC WITH C (bg*)	5670	5671	5672	Only SC is resettable

**HM= Hour Meter *C= Counter *bg= Background *SHM= Service Hour Meter *SC= Service Counter*

Note: The *counter display is updated on the trailing edge of the input signal*

Model 56
Specification Sheet

Company: _____ Phone: _____
Address: _____ Fax: _____
_____ Email: _____
Contact: _____ Date: _____

Model No._____ (4 digits) *SELECTED FROM ABOVE TABLE .*

Input Voltage: *(check only 1)*

☐ 12-24 VDC ☐ 115-240 VAC 50/60 Hz Special voltages available, consult factory.

Indication of time for Hour Meter: *(check only 1)*

☐ 1/100th ☐ 1/10th

Max. counting frequency for Counter: *(check only 1)*

☐ 30 Hz (DC) ☐ 200 Hz (DC) ☐ 10 Hz @ (AC) or (AC/DC)

Termination : *(check only 1)*

☐ 1/4" spade ☐ screw terminals

Reset Types: *(check only 1)*

☐ non-reset ☐ remote reset ☐ remote and manual reset (No manual reset for 2.2 " Round Model)

Service Interval: *(optional)*

☐ "Redi-Alert" : _____ (4 digits max) ☐ Prewarn : _____ (4 digits max)

Description

The Redington Model 57 family of LCD indicators offers a variety of options to fulfill your count/hour meter requirements. This indicator can display hours, counts or both with a single-line shared display. This model is available with an LED indication for service and relay or transistor output. You decide which value should be displayed permanently and which one will be in the background. The background indication will appear for approximately 10 seconds every time you apply power to the meter.

When using a counter and an hour meter in combination, the counter will count the number of input pulses while the hour meter will record the total duration of the input pulses.

The Redi-Alert Service Interval feature notifies operators of service requirements when service intervals are a function of the number of events or time. If a Redi-Alert Service Interval is specified, the display will show the count (or time) remaining until the service interval is reached. The Redi-Alert Service Interval feature can be considered to be a down-counter (or down-timer) since the count (or time) that is displayed shows what remains until service is required. When the Redi-Alert Service Interval gets to zero, the indicator will flash the display. If the Redi-Alert Service Interval is not reset, the indicator will continue to operate, and the display will show negative counts (or time) indicating how far the system has gone past the service interval. If the prewarn feature is included, the display will begin flashing when the prewarn count (or time) is reached. When the Service Interval is in the background, it will come to the foreground when it reaches the service interval or the prewarn. Resetting the indicator resets the Service Interval to its specified setting and returns the Service Interval to the background.

The LED indicator and output will come on once the Redi-Alert is reached and stay on until reset.

The Model 57 family also offers the option of an additional display for those applications that require dual indications.

Features

- Choice of single or dual displays
- Display counts/hours or both
- Factory programmed service alert
- Divide/multiply on inputs (factory set)
- With or without reset
- Output signal: none, relay or transistor
- Service indicator available
- DC input voltages
- IP 65 sealed front panel
- EEPROM for memory (no battery)

Options

- Count speed
- Reset type
- Indication of time/count
- Type of output
- One or two displays
- LED indication for service
- Maintenance Redi-Alert output

Specifications

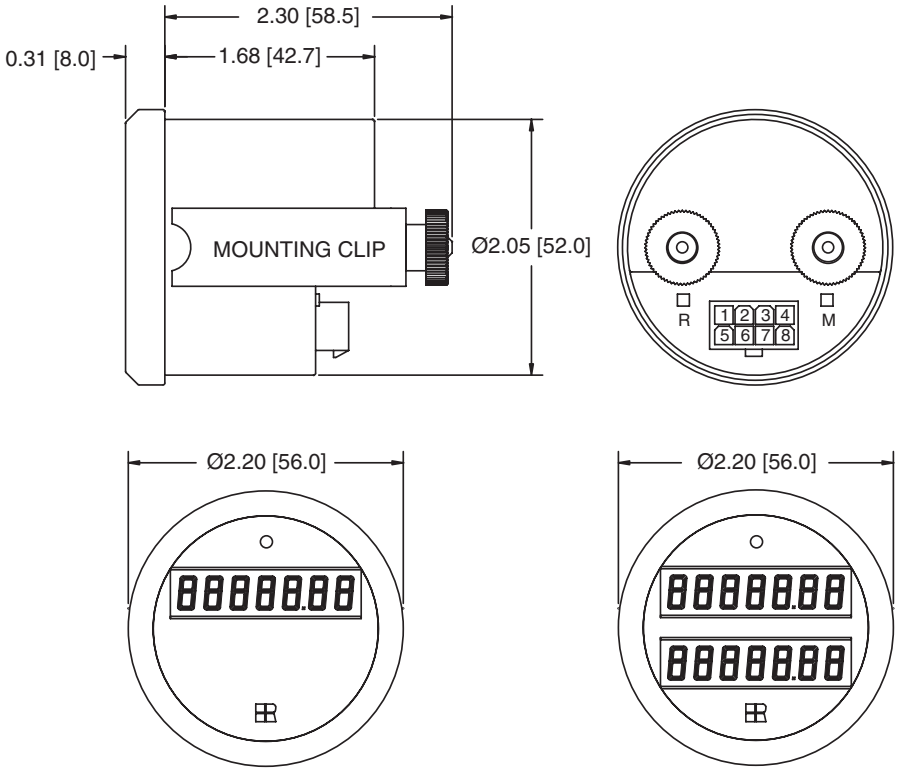
Display:	Large 7 digit, 0.28 [7mm], LCD 1 or 2 displays
Quartz Accuracy:	0.01% over entire voltage & temp. range
Input Voltage:	12-24 VDC/ ±25% 24 VDC/ ±25% - with relay output
Special Voltages:	24-48 VDC/ ±25% 12,36,48 VDC/ ±25%-with relay output
Current Consumption:	12-24 VDC/<10 mA, 24-48 VDC/<10 mA (12 V/< 35 mA, 24 V/< 25 mA, 36 V/<25 mA, 48 V/< 20 mA) with relay
Relay Contact:	1 dry contact / breaking capacity 12 V/2 A, 24 V/2 A, 36 V/1.5 A, 48 V/1 A
Transistor Output:	V_{OH} 4.5 VDC, minimum through 30 KW V_{OL} 0.4 VDC, maximum through 20 KW I_{SINK} 1.0 mA, maximum
Operating Temperature :	-22 °F to +158 °F [-30 °C to +70 °C]

Approvals:	CE Compliant
Protection:	IP 65 front panel/gasket supplied
EMC:	EN 55011,EN 50082-2
Vibration:	1g (10…500 Hz) IEC 68-2-34
Shock:	30 g(18 msec.) IEC 68-2-27 25 g(6 msec) IEC 68-2-29
Max Count Speed:	30 or 200 Hz (specify)
Memory:	EEPROM (no battery)
Mounting:	Metal clamp
Electrical Connection:	8 pole compact plug with lock
Case Material:	Black, ABS plastic w/glass lens
Reset:	Manual & remote (manual button on the rear of housing), non-reset, remote
Service Alert:	Factory set - one Redi-Alert, 4 digits
Prewarn Signal:	Factory set, 4 digits
Weight:	3.5 oz [99g]

Models Description

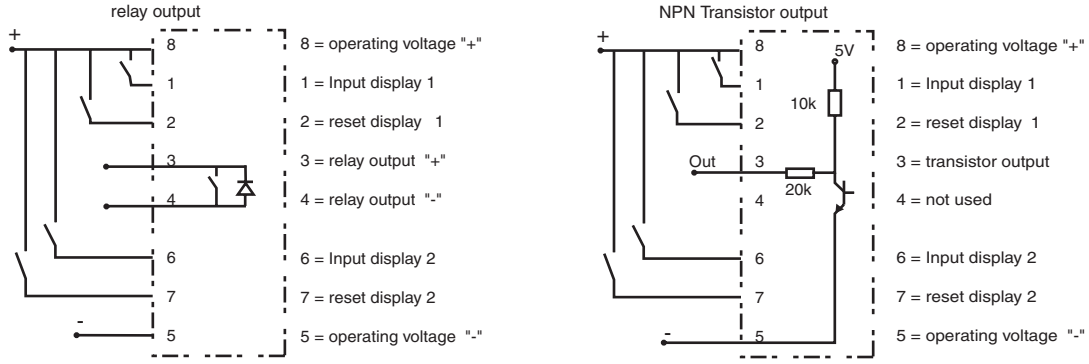
For Details on Models and Descriptions, see the Ordering Information section.

Dimensions



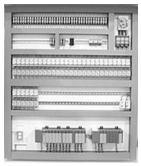
Maximum Panel Thickness: 0.20" [5.1mm]
Panel Cutout: 2.06" [52.2mm]

Wiring Diagram

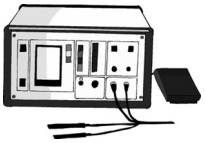


Applications

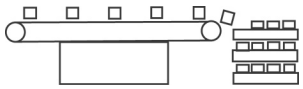
Panel Builders



Medical Devices



Packaging Machinery



Test Equipment

Ordering Information

Model No.	Voltage	Function	Reset	Notes
5700	12 - 24 VDC	HM*	HM	without output or LED
5701	12 - 24 VDC	C*	C	without output or LED
5702	12 - 24 VDC	HM with HM (bg)*	HM	without output or LED
5703	12 - 24 VDC	C with C (bg)*	C	without output or LED
5704	12 - 24 VDC	HM with C (bg)*	BOTH	without output or LED
5705	12 - 24 VDC	C with HM (bg)*	BOTH	without output or LED
5706	24 VDC	HM with SHM (bg)*	SHM	with relay output and LED
5707	12 - 24 VDC	HM with SHM (bg)*	SHM	with transistor output and LED
5708	24 VDC	C with SC (bg)*	SC	with relay output and LED
5709	12 - 24 VDC	C with SC (bg)*	SC	with transistor output and LED
5710	24 VDC	SHM with HM (bg)*	SHM	with relay output and LED
5711	12 - 24 VDC	SHM with HM (bg)*	SHM	with transistor output and LED
5712	24 VDC	SC with C (bg)*	SC	with relay output and LED
5713	12 - 24 VDC	SC with C (bg)*	SC	with transistor output and LED

**HM= Hour Meter *C= Counter *bg= Background *SHM= Service Hour Meter *SC= Service Counter*

Model 57
Specification Sheet

Company: _____ Phone: _____
Address: _____ Fax: _____
_____ Email: _____
Contact: _____ Date: _____

Model No. _____ (4 digits) *SELECTED FROM ABOVE TABLE*

Display 1

Indication of time for Hour Meter: *(check only ☐)*
1/100☐ 1/10th

Max. counting frequency for Counter: (*check only ☐)*
30 H☐ 200 Hz

Reset types: *(check only ☐)*
non-r☐set remote reset ☐
remote & manual (manual reset on rear of housing)

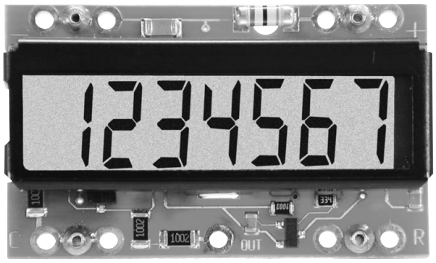
Service interval *(optiona☐)*
"Redi-Alert": _____ (4 digits ma☐)
Prewarn: _____ (4 digits max.)

Display 2 (Optional) ☐ Yes ☐ No

Indication of time for Hour Meter: (*check only 1)*
☐ 1/100th ☐ 1/10th

Max. counting frequency for Counter: *(check only 1)*
☐ 30 Hz ☐ 200 Hz

Reset types: *(check only 1)*
☐ non-reset ☐ remote reset
☐ remote & manual (manual reset on rear of housing)



Description

The Redington Model 59 line of LCD modules can easily be integrated into your equipment or machinery. These functions are also available in cased versions, ask for more information, or see Model 55, 56 & 57.

Single Indicator:
Can be used to display hours or count.

Twin Indicator:
These models can supply two indications in one display. You can decide which function should be indicated permanently and which one in the background. The background function displays for approximately 10 seconds every time you power-up the display. When using a counter and an hour meter in combination, the counter will count the number of input pulses while the hour meter will record the total duration of the input pulses. Presettable "prewarn" signals can also be programmed into the modules. If you specify a prewarn the display will flash when it reaches its specified value. A wide range of reset functions are also available to provide you with the exact configuration for your application. Model 57 is available with an output function to "alert" when service or preventive maintenance should occur.

Redi-Alert:
The Redington Model 59 LCD Maintenance Meter modules can easily be integrated into your equipment or machinery. This module can display hours, counts or both with a single-line, shared display. You can decide which function should be indicated permanently and which one is in the background. The background function, value, appears for approximately 10 seconds every time you power-up the display. When using a hour meter and counter in combination, the counter will count the number of input pulses while the hour meter will record the total duration of the input pulses. A wide range of reset functions are available to provide you with the exact configuration for your application.

The Redi-Alert Service Interval feature notifies operators of service requirements when service intervals are a function of the number of events or time. If a Redi-Alert Service Interval is specified, the display will show the count (or time) remaining until the service interval is reached. The Redi-Alert Service Interval feature can be considered to be a down-counter (or down-timer) since the count (or time) that is displayed shows what remains until service is required. When the Redi-Alert Service Interval gets to zero, the indicator will flash the display. If the Redi-Alert Service Interval is not reset, the indicator will continue to operate, and the display will show negative counts (or time) indicating how far the system has gone past the service interval. If the prewarn feature is included, the display will begin flashing when the prewarn count (or time) is reached. When the Service Interval is in the background, it will come to the foreground when it reaches the service interval or the prewarn. Resetting the indicator resets the Service Interval to its specified setting and returns the Service Interval to the background. The LED indicator and output will come on once the Redi-Alert is reached and stay on until reset.

Features

- Display time/count or both
- "Redi-Alert" function for service
- Choice of non-reset or remote reset
- EEPROM for memory (no battery)
- Divider/multiplier
- 30 or 200 Hz, max input frequency
- 1/10th or 1/100th hour indication
- 12 to 24 VDC power range

Options

- Input frequency
- Remote reset
- Service "Redi-Alert"
- Display functions

Specifications

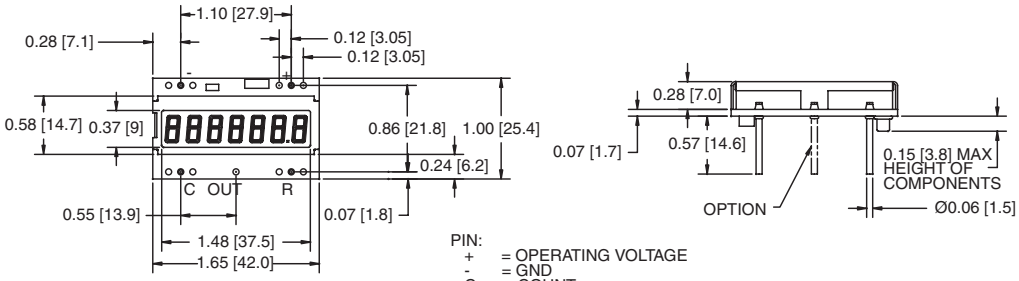
Display: 7 digit, 0.28 [7mm], LCD
Quartz Accuracy: 0.01%
Input Voltage: 12-24 VDC/ ±25%
Current Consumption: 2-4 mA
Transistor Output: V_{OH} 4.5 VDC, minimum through 30 KW
V_{OL} 0.4 VDC, maximum through 20 KW
I_{SINK} 1.0 mA, maximum
Operating Temperature: -22°F/+158°F [-30°C to +70°C]
Max Count Speed: 30 or 200 Hz
Memory: EEPROM (no battery)
Approvals: UL/cUL Recognized

Mounting: Electrical connection pins for soldering
Electrical Connection: Pins for soldering
Reset: Non-reset, remote
Protection:
EMC: EN 55011, EN 50082-2
Vibration: 1 g (10 to 500 Hz) IEC 68-2-34
Shock: 30 g (18 msec.) IEC 68-2-27
25 g (6 msec.) IEC 68-2-29
Weight: 0.5 oz [14g]
Service Alert: 1 "Redi-Alert", 4 digits, factory set
Prewarn Signal: Factory set, 4 digits

Models Description

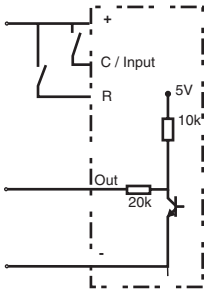
For Details on Models and Descriptions, see the Ordering Information section.

Dimensions



PIN:
+ = OPERATING VOLTAGE
- = GND
C = COUNT
OUT = SERVICE COUNTER OUTPUT (OPTION)
ALTERNATINE POSITIONS OF THE CONNECTION PINS ARE OPTIONALLY POSSIBLE.

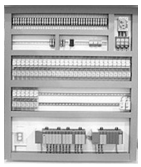
Wiring Diagram
NPN Transistor Output



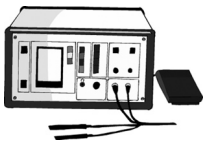
Applications

Test Equipment

Panel Builders

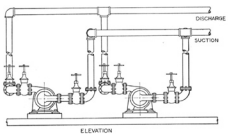


Medical Devices



Office Equipment

Flow Meters



Ordering Information

Model#	Function	Output Signal	Notes
	SINGLE FUNCTION		
5902	HM*	-	HM is resettable
5912	C*	-	C is resettable
	TWO FUNCTION		
5922	HM with HM (bg)*	-	Only HM is resettable
5932	C with C (bg)*	-	Only C is resettable
5942	HM with C (bg)*	-	Both are resettable
5952	C with HM (bg)*	-	Both are resettable
5962	HM with SHM (bg)*	included	Only SHM (bg) is resettable
5972	C with SC (bg)*	included	Only SC (bg) is resettable
5982	SHM with HM (bg)*	included	Only SHM is resettable
5992	SC with C (bg)*	included	Only SC is resettable

*HM=HOUR METER *C= COUNTER *bg=BACKGROUND *SC= SERVICE COUNTER *SHM= SERVICE HOUR METER

Model 59
Specification Sheet

Company: _____ Phone: _____
Address: _____ Fax: _____
_____ Email: _____
Contact: _____ Date: _____

Model No. _____ (4 digits) *SELECTED FROM ABOVE TABLE .*

Input voltage: *(check only 1)*
☐ 12-24 VDC Special voltages available, consult factory.

Indication of time for Hour Meter: *(check only 1)*
☐ 1/100th ☐ 1/10th

Max. counting frequency for Counter: *(check only 1)*
☐ 30 Hz (DC) ☐ 200 Hz DC

Reset type: *(check only 1)*
☐ non-reset ☐ remote reset

Service interval: *(optional)*
☐ "Redi-Alert" : _____ (4 digits max) ☐ Prewarn : _____ (4 digits max)

Description

The Model 63 Electronic Counter with 8 LCD digits brings more features to the user than ever before. Models are available that are simple 8-digit totalizers, while other models can bring together enough features to control a significant process.

A long list of features includes a programmable output, an external electronic reset, a front panel reset enable, and programmable alert or preset capability. In addition, the unit can be configured to operate from an external DC power supply or an internal 15+ year lithium battery. An EEPROM is available with the externally powered units to retain last data when power goes down. The front end of the Model 63 Counter utilizes a high-contrast, reflective, 8-digit LCD with 0.32 inch [8mm] digits and seven icons, while at the back end Dry Contact, Low Voltage DC, and High Voltage DC and AC Inputs are available.

The Model 63 family is designed with a rugged plastic housing that is qualified to NEMA 4/4X when properly installed in a panel using a gasket that is supplied. In addition, the unit is compliant with CE EMC standards to EN61326:2001 for industrial applications, the unit is recognized by UL for U.S. and Canadian safety standards, and it is compliant to European RoHS and WEEE standards.

Features

- Reflective LCD Display with 8 large (8mm) digits
- Choice of four counter types
  - Dual Range
  - Dual Counter
  - Up/Down Counter
  - Twin Counter
- Choice of I/O compliment that includes
  - One or two inputs
    - Switch Input (No voltage)
    - Low DC Voltage (3-30VDC)
    - High Voltage (20-300VAC or 10-300VDC)
  - Control Inputs
    - External Electronic Reset
    - Front Panel Reset Enable
  - Discrete Output
    - Open-Drain MOSFET
- Choice of external power (with EEPROM) or internal 15+ year battery
- Optional Front Panel Programming for flexible Redi-Alert or Preset Counter functionality
- Optional Redi-Alert Functions
  - 3 Redi-Alerts are available with Front Panel Programming option
  - 4 Redi-Alerts are available with Factory Programming
- Optional Preset Counter Mode
  - Available with Front Panel Programming option or with Factory Programming
- NEMA 4/4X, 12, and IP66 rated
- EMC Compliant to EN61326:2001 for industrial environments
- CE compliant, UL and cUL recognized
- European WEEE & RoHS Compliant

Capabilities

Counter Operation
Any of four different counting methods may be specified in each unit. These counting methods are factory set.

Dual Range:
In the Dual Range Mode, the counter waits for a pulse on either Input A or Input B. The first input to have a pulse is recognized and its pulses are counted. The other input is ignored until the counter is reset. The rated speed for one of the inputs is 40 Hz and for the other input it is 500 Hz. This mode is best for single up-counter operation.

Dual Counter:
In the Dual Counter Mode, the pulses on Input A are counted in twocounters, Counter A and Counter B. Counter A is resettable and Counter B is not. Pressing and releasing the SEL switch swaps the counters on the display. This mode is good for maintenance applications where a total counts accumulated during operation is desired. The Dual Counter is only available with front panel programming.

Up/Down Counter:
In the Up/Down Counter Mode, the pulses on Input A are added to the accumulated count and the pulses on Input B are subtracted from the accumulated count. The Up/Down Counter is capable of displaying negative numbers.

Twin Counter:
The Twin Counter behaves as two counters in one package. The pulses on Input A are accumulated in Counter A and the pulses on Input B are accumulated in Counter B. Both counters are reset at the same time. The displayed counters can be swapped by pressing and releasing the SEL switch. The Twin Counter is only available with front panel programming.

I/O Functions
The I/O functions can be mixed and matched to maximize the functionality of the counter. There are three types of inputs that the counter can accept. The interfaces for each are factory set. The inputs can be

- Switch – open circuit or switch closure
- Low Voltage DC – Low input is less than 1VDC and High Input is 3 – 30VDC.
- High Voltage DC or AC – Low is less than 3VDC or 3VAC. A High Input is either 10 – 300VDC or 20-300VAC.

For the Switch and Low Voltage DC Counters, there are six screw terminals for all of the I/O. For the High Voltage Counters, there are four screw terminals for the I/O. The combinations of the I/O and power supply are factory set.

Pulse Inputs: The pulse inputs are those inputs that are counted.
Remote Reset: When the remote reset is at a high level, the counter will reset.
Front Panel Reset Enable: The counter will reset when the Front Panel Reset Enable is at a high level, and the Front Panel Reset Switch is pressed. The counter will not reset when the Front Panel Reset Enable is at a low level and the Front Panel Reset Switch is pressed.
Output: The output is an open-drain MOSFET. The output is used when operating in the Preset Counter Mode, and it can be option ally used when using Redi-Alerts.

Preset Function
Each counter may be placed in a preset operating mode. This mode can be programmed through the front panel for those units that have the front panel programming option. It may also be factory programmed. IT IS NOT RECOMMENDED THAT THE PRESET FUNCTION BE USED AT THE SAME TIME THAT ALERTS ARE ENABLED.

Basically, a preset counter is a counter that counts to a preset value and then turns on an output device. At some point, the output device is turned off, the counter is reset, and the process begins again. There are two things to determine. One is when and how to turn off the output device, and the second is when and how to reset the counter.

The preset counters can be set up for either automatic reset or external (front panel or remote) reset. The outputs can be turned off by either time out or external reset. In addition to the output, an icon can be turned on when the output is turned on for a visual indication of the preset condition.

Alert Functions
The Model 63 Counter can be programmed to operate as a maintenance device in which alerts notify the user of certain maintenance actions to be taken after accumulation of a predefined number of counts. When the accumulated count equals the predefined alert value, an icon is illuminated on the display. When the alert is reset, the icon is turned off, but the count value is not reset.

There are two types of alerts. The first is a break-in alert. A break-in alert only occurs once at the start of unit operation. The second type of alert is recurring. A recurring alert occurs continuously at a predefined period. When tied to a break-in alert, the recurring alert will not begin its count until the break-in alert has occurred.

The intervals for the recurring alert can be performed as start-to start or end-to-start. A start-to-start interval count starts when the last alert is turn on. The end-to-start interval count starts when the last alert is turned off.

The Model 63 Counter can support three alerts using front panel programming and four alerts when factory programmed. IT IS NOT RECOMMEDED THAT THE PRESET FUNCTION BE USED AT THE SAME TIME THAT ALERTS ARE ENABLED. In both cases, Alert #1 is a break-in alert that is tied to Alert #2, which is recurring. Alert #3 is recurring, and Alert #4 can be factory set as either break-in or recurring. If Alert #4 is break-in, then it is tied to Alert #3.

The Model 63 Counter can be programmed to be latched or kept on for a predetermined number of counts. When latched, an external reset is required to turn off the alert. Each alert can also force the output on when the alert is on.

Front Panel
The liquid crystal display is reflective with dark characters on a light background. There are 8 digits on the display. The standard display contains seven icons which can be assigned as desired to either alerts or a preset.

Model 63 Counters with the front panel programming option are capable of being programmed for either alerts or the preset function. There are two front panel switches. To begin programming, the two switches are pressed simultaneously. The programming menu must be completed in its entirety to return to normal operation. The switch functions are described as follows:

SEL: During normal operation, the displayed counters will be swapped when the SEL switch is pressed and released. During programming, this switch is used to select options.

RST: During normal operation, the RST switch is used for front panel reset. During programming, the RST switch is used to enter an option.

Resets
Unless using alerts, a reset returns the display to zero. If using alerts, the reset turns an alert off. There are three different reset configurations available:

Non-Reset: The counter can never be reset. A non-reset unit also has no front panel programming option.

Remote Reset: A model with Remote reset has a dedicated terminal for performing the reset function. The unit resets when the remote reset signal is at a high level. When the reset signal is at a low level, accumulating counts can occur.

Manual Reset: Manual reset occurs when the RST switch on the front of the counter is pressed. Counting resumes upon release of the RST switch. The exception to this operation is in the Dual Counter case in which the non-resettable counter can not be reset.

Note: Some counters are equipped with a Manual Reset Enable Input. In this case, the Manual Reset Enable Input must be high for the RST switch to be functional.

Specifications

Display: Figures: 8 LCD digits 0.32" [8mm] high
Annunciators Icon: A choice of 7 Icons 0.08" [2mm] high
Reset: Remote, manual & non-reset. Manual reset enable is available on some models
Speed: Low speed: 0-40 counts per second (min. 12.5ms-on, 12.5ms-off
High speed: 0-500 counts per second (min. 1.0 ms-on, 1.0 ms-off
Inputs: Switch (no voltage)
DC Voltage:

Absolute voltage range:	-0.5 VDC, minimum to 30.0VDC, maximum
VIH:	3.0 VDC, maximum
VIL:	1.0 VDC, minimum

High Voltage AC/DC:

Absolute Maximum voltage:	300VAC/VDC
VIH:	10VDC/20 VAC, max.
VIL:	3VDC/3 VAC, minimum

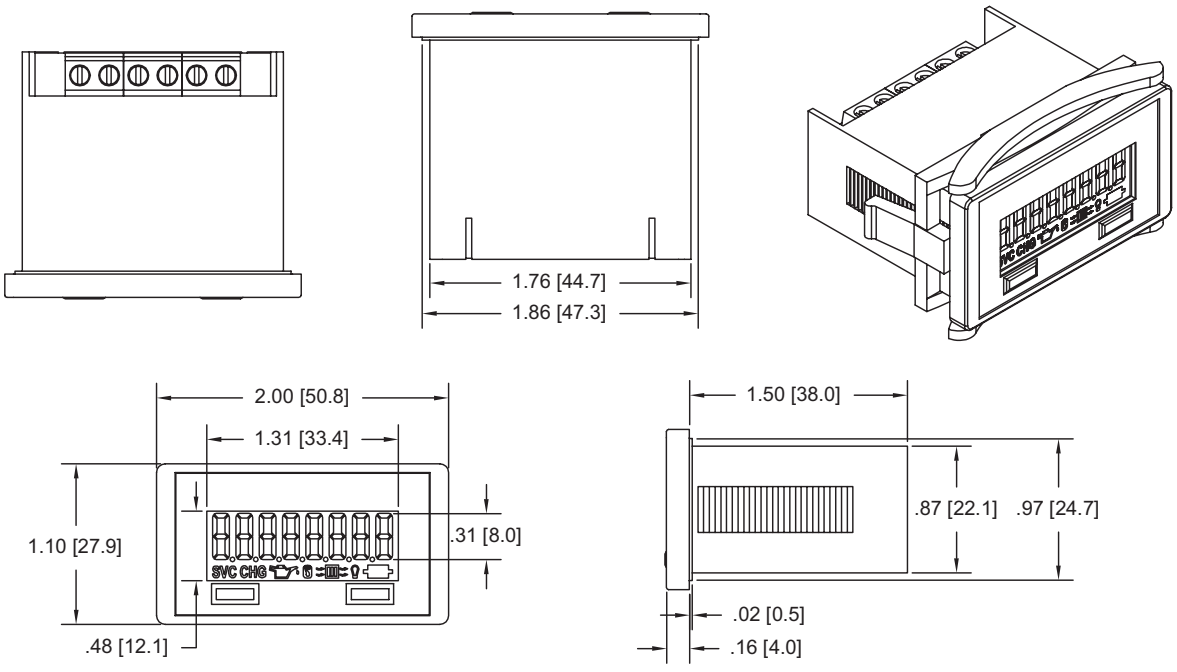
Power: Internally powered models: Self powered (+15yrs lithium battery)
Externally Powered models: 5-28 VDC , externally supplied
Absolute Maximum external power: 30.0 VDC
Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

EEPROM: (When installed) 40 years
Maximum data writes: 100,000
Battery Life: 15 years +
Mounting: Panel with clip
Terminations: Terminal block
Weight: 2 oz. [57g]
Environmental: Temp. (Storage & Operating):
-4˚F to + 140˚F [-20˚C to +60˚C]
Humidity: 0 to 95% RH, non-condensing
Vibration: Operating: 10 to 55 Hz, 0.01" [0.25mm] double amplitude
Non-operating: 10 to 55 Hz, 0.03" [0.75mm] double amplitude
Shock: Operating: 10G's
Non-operating: 30G's
Dielectric: 1000 VAC 50/60Hz for 1 minute
Accuracy: 100% (provided signal meets stated parameters)
EMC Compliance: EN61326:1997 with A1: 1998 & A2:2001 for industrial environments
Enclosure: NEMA 4/4X, 12, & IP66 compliance (from the front) when properly mounted using the optional gasket
Approvals: CE compliant, UL & cUL recognized
Environmental Compliance: Compliant to the European WEEE & RoHS

Notes

1. When interfacing the Model 63 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.
2. The Absolute Voltage Range and the Absolute Maximum Voltage are the voltages at which operation beyond the specified limits may result in damage to the unit.
3. Operates like open-collector NPN. Care should be taken when interfacing to this input since there is no current limiting protection in the counter.

Dimensions



Panel Cutout: 1.79" [45.5mm] x 0.89" [22.6mm]
Recommended Panel Thickness: 0.875" [22.2mm]

Available Icons

SVC	SERVICE		OIL		AIR FILTER		MUFFLER
CHG	CHANGE		OIL FILTER		LAMP		

Description

The Model 63 Electronic Hour Meter with 8 LCD digits brings more features to the user than ever before. Models are available that are simple Hour Meters, while other models can bring together enough features to control a significant process.

A long list of features includes a programmable output, an external electronic reset, a front panel reset enable, and programmable alert or preset capability. In addition, the unit can be configured to operate from an external DC power supply or an internal 15+ year lithium battery. An EEPROM is available with the externally powered units to retain last data when power goes down. The front end of the Model 63 Hour Meter utilizes a high-contrast, reflective, 8-digit LCD with 0.32 inch [8mm] digits and seven icons, while at the back end Dry Contact, Low Voltage DC, and High Voltage DC and AC Inputs are available.

The Model 63 family is designed with a rugged plastic housing that is qualified to NEMA 4/4X when properly installed in a panel using an optional gasket. In addition, the unit is compliant with CE EMC standards to EN61326:2001 for industrial applications, the unit is recognized by UL for U.S. and Canadian safety standards, and it is compliant to European RoHS and WEEE standards.

Features

- Reflective LCD Display with 8 large (8mm) digits
- Choice of four Hour Meter types
  - Hour Meter
  - Minute Meter
  - Seconds Meter
  - Dual hour Meter
  - Twin Hour Meter
- Choice of I/O compliment that includes
  - One or two inputs
    - Switch Input (No voltage)
    - Low DC Voltage (3-30VDC)
    - High Voltage (20-300VAC or 10-300VDC)
  - Control Inputs
    - External Electronic Reset
    - Front Panel Reset Enable
  - Discrete Output
    - Open-Drain MOSFET
- Choice of external power (with EEPROM) or internal 15+ year battery
- Optional Front Panel Programming for flexible Redi-Alert or Preset Hour Meter functionality
- Optional Redi-Alert Functions
  - 3 Redi-Alerts are available with Front Panel Programming option
  - 4 Redi-Alerts are available with Factory Programming
- Optional Preset Hour Meter Mode
  - Available with Front Panel Programming option or with Factory Programming
- NEMA 4/4X, 12, and IP66 rated
- EMC Compliant to EN61326:2001 for industrial environments
- CE compliant, UL and cUL recognized
- European WEEE & RoHS Compliant

Capabilities

Hour Meter Operation
Any of four different counting methods may be specified. These counting methods are factory set.

Hour Meter: The Hour Meter displays hours in a resolution of hours and tenths. A front panel programmable unit or a factory programmed unit can be programmed to display a resolution of 0.01 hours.

Minute Meter: The Minute Meter displays minutes to a displayed resolution of 0.1 minutes.

Seconds Meter: The Seconds Meter displays seconds to a displayed resolution of 0.1 seconds.

Dual Hour Meter: The Dual Hour Meter measures the time that Input A is at a high level in two accumulated times. One of the times can be reset, while the other cannot. The displayed times can be swapped on the display be pressing and releasing the SEL switch. The Dual Hour Meter is only available with the front panel programming option.

Twin Hour Meter: The Twin Hour Meter behaves as two Hour Meters in one package. One Hour Meter is enabled by Input A and the second is en abled by Input B. The displayed Hour Meters can be swapped by pressing and releasing the SEL switch. The Twin Hour Meter is only available with the front panel programming option.

I/O Functions
The I/O functions can be mixed and matched to maximize the functionality of the Hour Meter. There are three types of inputs that the Hour Meter can accept. The interfaces for each are factory set. The inputs can be

- Switch – open circuit or switch closure
- Low Voltage DC – Low input is less than 1VDC and High Input is 3 – 30VDC.

- High Voltage DC or AC – Low is less than 3VDC or 3VAC. A High Input is either 10 – 300VDC or 20-300VAC.

For the Switch and Low Voltage DC Hour Meters, there are six screw terminals for all of the I/O. For the High Voltage Hour Meters, there are four screw terminals for the I/O. The combinations of the I/O and power supply are factory set.

Enable Inputs: The enable inputs are those inputs that enable the accumulation of time.

Remote Reset: When the remote reset is at a high level, the Hour Meter will reset.

Front Panel Reset Enable: The Hour Meter will reset when the Front Panel Reset Enable is at a high level, and the Front Panel Reset Switch is pressed. The Hour Meter will not reset when the Front Panel Reset Enable is at a low level and the Front Panel Reset Switch is pressed.

Output: The output is an open-drain MOSFET. The output is used when operating in the Preset Mode, and it can be optionally used when using Redi-Alerts.

Preset Function
Each Hour Meter may be placed in a preset operating mode. This mode can be programmed through the front panel for those units that have the front panel programming option. It may also be factory programmed. IT IS NOT RECOMMENDED THAT THE PRESET FUNCTION BE USED AT THE SAME TIME THAT ALERTS ARE ENABLED.

Basically, a preset Hour Meter is an Hour Meter that times to a preset value and then turns on an output device. At some point, the output device is turned off, the Hour Meter is reset, and the process begins again. There are two things to determine. One is when and how to turn off the output device, and the second is when and how to reset the Hour Meter.

The preset Hour Meters can be set up for either automatic reset or external (front panel or remote) reset. The outputs can be turned off by either time out or external reset. In addition to the output, an icon can be turned on when the output is turned on for a visual indication of the preset condition.

Alert Functions
The Model 63 Hour Meter can be programmed to operate as a maintenance device in which alerts notify the user of certain maintenance actions to be taken after accumulation of a predefined time. When the accumulated time equals the predefined alert value, an icon is illuminated on the display. When the alert is reset, the icon is turned off, but the accumulated time is not reset.

There are two types of alerts. The first is a break-in alert. A break-in alert only occurs once at the start of unit operation. The second type of alert is recurring. A recurring alert occurs continuously at a predefined period. When tied to a break-in alert, the recurring alert will not begin its count until the break-in alert has occurred.

The intervals for the recurring alert can be performed as start-to-start or end-to-start. A start-to-start interval count starts when the last alert is turned on. The end-to-start interval count starts when the last alert is turned off.

The Model 63 Hour Meter can support three alerts using front panel programming and four alerts when factory programmed. IT IS NOT RECOMMEDED THAT THE PRESET FUNCTION BE USED AT THE SAME TIME THAT ALERTS ARE ENABLED. In both cases, Alert #1 is a break-in alert that is tied to Alert #2, which is recurring. Alert #3 is recurring, and Alert #4 can be factory set as either break-in or recurring. If Alert #4 is break-in, then it is tied to Alert #3.

The Model 63 Hour Meter can be programmed to be latched or kept on for a predetermined time. When latched, an external reset is required to turn off the alert. Each alert can also force the output on when the alert is on.

Front Panel
The liquid crystal display is reflective with dark characters on a light background. There are 8 digits on the display. The standard display contains seven icons which can be assigned as desired to either alerts or a preset.

Model 63 Hour Meters with the front panel programming option are capable of being programmed for either alerts or the preset function. There are two front panel switches. To begin programming, the two switches are pressed simultaneously. The programming menu must be completed in its entirety to return to normal operation. The switch functions are described as follows:

SEL: During normal operation, the displayed Hour Meters will be swapped when the SEL switch is pressed and released. During programming, this switch is used to select options.

RST: During normal operation, the RST switch is used for front panel reset. During programming, the RST switch is used to enter an option.

Resets
Unless using alerts, a reset returns the display to zero. If using alerts, the reset turns an alert off. There are three different reset configurations available:

Non-Reset: The Hour Meter can never be reset. A non-reset unit also has no front panel programming option.

Remote Reset: A model with Remote reset has a dedicated terminal for performing the reset function. The unit resets when the remote reset signal is at a high level. When the reset signal is at a low level, accumulating time can occur.

Manual Reset: Manual reset occurs when the RST switch on the front of the Hour Meter is pressed. Accumulating time resumes upon release of the RST switch. The exception to this operation is in the Dual Hour Meter case; the non-resettable Hour Meter can not be reset.

Note: Some Hour Meters are equipped with a Manual Reset Enable Input. In this case, the Manual Reset Enable Input must be high for the RST switch to be functional.

Specifications

Display: Figures: 8 LCD digits 0.32" [8mm] high
Annunciators Icon: A choice of 7 Icons 0.08" [2mm] high
Reset: Remote, manual & non-reset. Manual reset enable is available on some models
Speed: Low speed: 0-40 counts per second (min. 12.5ms-on, 12.5ms-off
High speed: 0-500 counts per second (min. 1.0 ms-on, 1.0 ms-off
Inputs: Switch (no voltage)
DC Voltage:

Absolute voltage range:	-0.5 VDC, minimum to 30.0VDC, maximum
VIH:	3.0 VDC, maximum
VIL:	1.0 VDC, minimum

High Voltage AC/DC:

Absolute Maximum voltage:	300VAC/VDC
VIH:	10VDC/20 VAC, max.
VIL:	3VDC/3 VAC, minimum

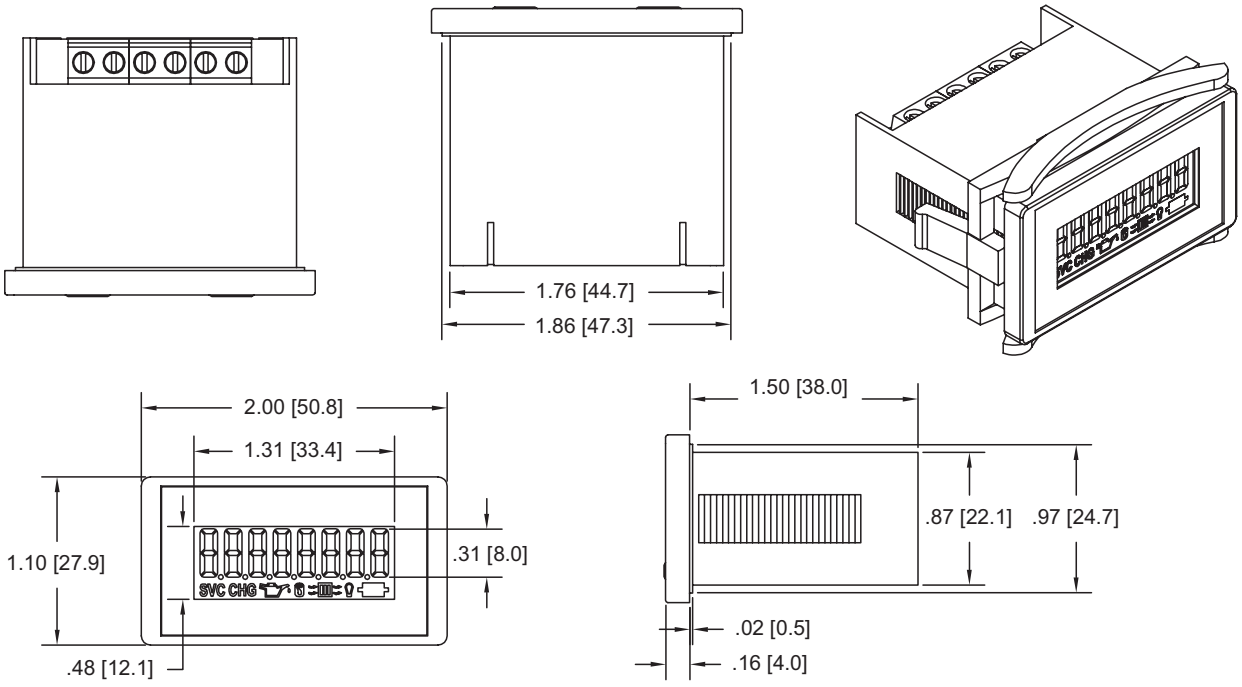
Power: Internally powered models: Self powered (+15yrs lithium battery)
Externally Powered models: 5-28 VDC , externally supplied
Absolute Maximum external power: 30.0 VDC
Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

EEPROM: (When installed) 40 years
Maximum data writes: 100,000
Battery Life: 15 years +
Mounting: Panel with clip
Terminations: Terminal block
Weight: 2 oz. [57g]
Environmental: Temp. (Storage & Operating):
-4˚F to + 140˚F [-20˚C to +60˚C]
Humidity: 0 to 95% RH, non-condensing
Vibration: Operating: 10 to 55 Hz, 0.01" [0.25mm] double amplitude
Non-operating: 10 to 55 Hz, 0.03" [0.75mm] double amplitude
Shock: Operating: 10G's
Non-operating: 30G's
Dielectric: 1000 VAC 50/60Hz for 1 minute
Accuracy: 100% (provided signal meets stated parameters)
EMC Compliance: EN61326:1997 with A1: 1998 & A2:2001 for industrial environments
Enclosure: NEMA 4/4X, 12, & IP66 compliance (from the front) when properly mounted using the optional gasket
Approvals: CE compliant, UL & cUL recognized
Environmental Compliance: Compliant to the European WEEE & RoHS

Notes

1. When interfacing the Model 63 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.
2. The Absolute Voltage Range and the Absolute Maximum Voltage are the voltages at which operation beyond the specified limits may result in damage to the unit.
3. Operates like open-collector NPN. Care should be taken when interfacing to this input since there is no current limiting protection.

Dimensions



Panel Cutout: 1.79" [45.5mm] x 0.89" [22.6mm]
Recommended Panel Thickness: 0.875" [22.2mm]

Available Icons

SVC	SERVICE		OIL		AIR FILTER		MUFFLER
CHG	CHANGE		OIL FILTER		LAMP		

Description

For those requiring either tachometer (RPM) functions or frequency measurement in Hz, the Model 63 LCD Rate Indicators offer the user the solution. With a 5-digit LCD display, and front panel programmability, the Model 63 is flexible for use in many applications, and it is capable of interfacing to Dry Contact, Low Voltage DC, and High Voltage AC/DC inputs.

Capable of measuring up to 30,000 RPM the Tachometer is capable of being programmed for use with one- or two- cycle engines. The Frequency indicator is capable of measurements up to 500 Hz, making it perfect for 50, 60, and 400 Hz applications.

Features

- Tachometer measures up to 30,000 RPM
- Frequency measurements for 50, 60, and 400 Hz applications
- Choice of external power or 15+ year internal lithium battery
- Choice of Switch (no voltage), 3-30VDC, 20-300VAC, and 10-300VDC inputs
- Programmable scale factors for interfacing with one- and two-cycle engines
- Open-drain MOSFET output

Specifications

Display: Figures: 5 reflective LCD digits 0.32" [8mm] high

Inputs: Switch (no voltage)

DC Voltage

Absolute voltage range:	-0.5 VDC, minimum to 30.0VDC, maximum
VIH	3.0 VDC, maximum
VIL	1.0 VDC, minimum

High Voltage AC/DC:

Absolute Maximum voltage:	300VAC/VDC
VIH:	10VDC/20 VAC, max.
VIL:	3VDC/3 VAC, minimum

Scale Factors: 0.5 pulses per revolution, 1 pulse per revolution, and 2 pulses per revolution. Units can be factory or user programmed by optional front panel switches.

Accuracy: Resolution Dependent, better than 1% for inputs greater than 700RPM or 12 Hz.

Power: Internally powered models: Self powered (15+yr battery)
Externally Powered models: 5-28 VDC , externally supplied
Absolute Maximum external power: 30.0 VDC

Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

EEPROM: (When installed) 40 years, externally powered
Maximum data writes: 100,000

Mounting: Panel with clip

Terminations: Terminal block

Weight: 2 oz. [57g]

Environmental:

Temp. (Storage & Operating):	-4˚F to + 140˚F [-20˚C to +60˚C]
Humidity:	0 to 95% RH, non-condensing

Vibration:

Operating:	10 to 55 Hz, 0.01" [0.25mm] double amplitude
Non-operating:	10 to 55 Hz, 0.03" [0.75mm] double amplitude

Shock:

Operating:	10G's
Non-operating:	30G's

Dielectric: 1000 VAC 50/60Hz for 1 minute

Accuracy: 100% (provided signal meets stated parameters)

EMC Compliance: EN61326:1997 with A1: 1998 & A2:2001 for industrial environments

Enclosure: NEMA 4/4X, 12, & IP66 compliance (from the front) when properly mounted using the optional gasket

Approvals: CE compliant, UL & cUL recognized

Environmental Compliance: Compliant to the European WEEE & RoHS Directives

Rate Indicator Types

Tachometer: Displayed resolution is one RPM. The maximum rate that the unit can measure is 30,000 RPM. The unit can also be programmed to vary the "scale factor" for the tachometer input to RPM's for one and two-stroke engines.

Frequency Meter: The Model 63 can measure frequency from 0-500 Hz, making it ideal for 50, 60 and 400 Hz applications.

Functions

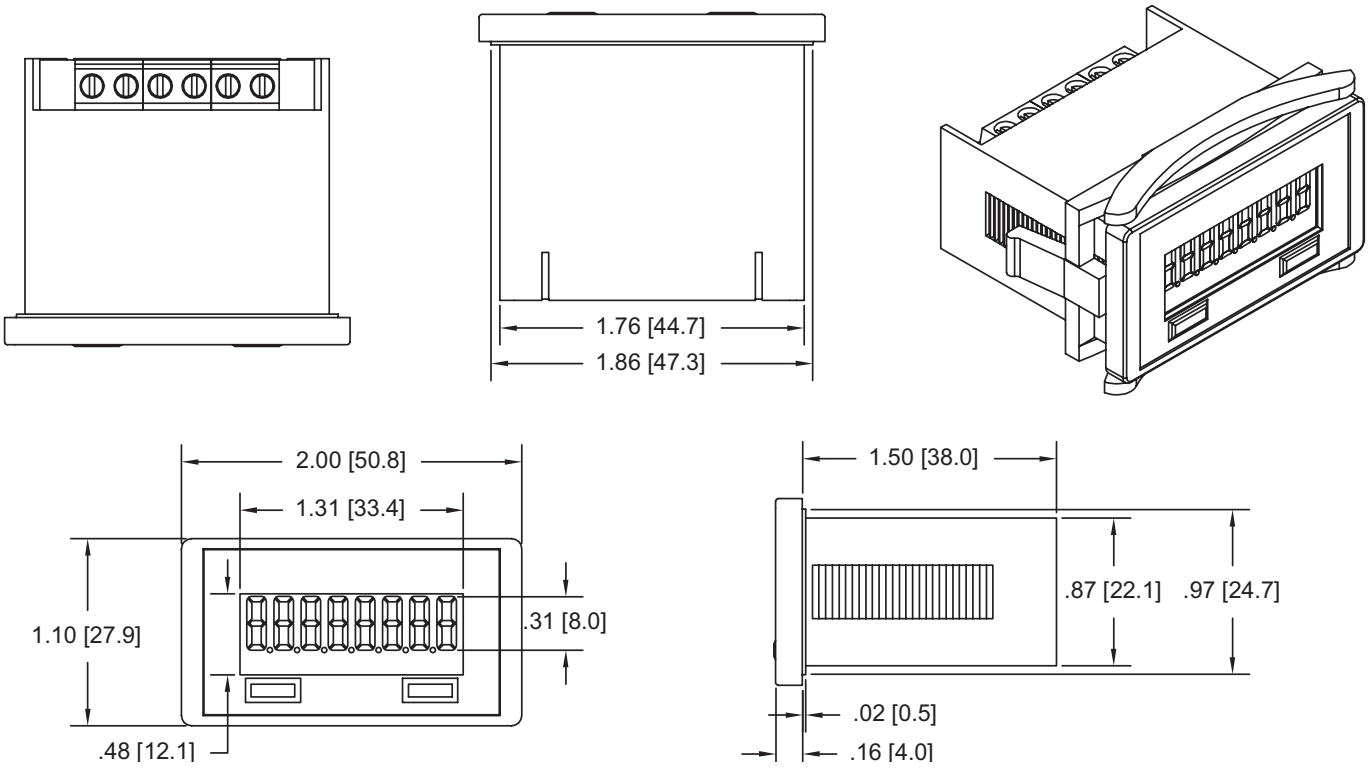
Front Panel Switch Functions: Front panel switches can be used for reset, display selection and programming.

SEL: The background function is displayed while this switch is pressed and held during normal operation. During programming, this switch is used to select options.

RST: This is the reset switch during normal operation, during programming the RST switch is used to enter an option.

Unit Programming: Units with front panel switches can be field programmed for a scale factor that can be programmed to comply with one and two-stroke engines.

Dimensions



Panel Cutout: 1.79" [45.5mm] x 0.89" [22.6mm]
Recommended Panel Thickness: 0.875" [22.2mm]

Notes

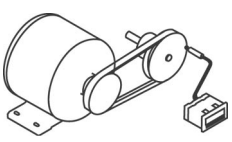
1. When interfacing the Model 63 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

2. The Absolute Voltage Range and the Absolute Maximum Voltage are the voltages at which operation beyond the specified limits may result in damage to the unit.

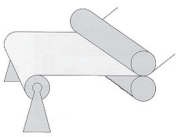
3. Operates like open-collector NPN. Care should be taken when interfacing to this input since there is no current limiting protection in the counter.

Applications

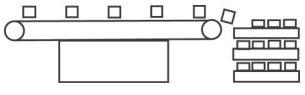
Motor/Pulley Speed



Rate Indication



Speed Control



Description

The 83 Counter features a 7 segment, 2 lines by 6-digit backlit LCD display. The main display line is red and shows the count value or the batch/ total value when preset 3 or output 3 is viewed in the secondary display. The smaller secondary display line is green and can be used to view the prescaler value, preset values, output count values or batch/total count values (batch model only).

The 83 Counter offers a choice of nine programmable counting modes for use in applications requiring bidirectional, anti-coincidence, and quadrature counting. The unit may be programmed to detect counts on both edges of the input signal resulting in a doubling of frequency. DIP switches are used for input configuration setup and to provide a program disable function.

Four front panel push buttons are used for ease of programming the operating modes and data values, to change the viewed display, and performing user programmable functions, e.g. reset, etc. The 83 Counter can be configured for one of two numeric date entry methods.

Digital - The digital entry allows for the selection and incrementing of digits individually.

Automatic Scrolling - This method allows for the progressive change of one through all digits positions by pressing and holding the **up** or **down** button.

Protection of data value and unit configuration - The program disable DIP switch, a user-programmable code value, and an external user input selected for program disable can be utilized to provide multilevel protection.

The standard with dual presets is available with solid-state and relay outputs. The batch counter has relay outputs for output 2 and the batch/total output 3, with output 1 available as solid-state. For all 83 Counters, the solid-state outputs are available in a choice of NPN current sinking or PNP current sourcing, open- collector transistor outputs. All relay output boards are field replaceable.

Prescaler output is available as a dual preset, with solid-state outputs. The prescaler output is useful for providing a lower frequency scaled pulse train to a PLC or another external totalizer. The prescaler output provides a programmable width for every count or every 10 counts registered on the display

RS485 communications - optional serial communication capability allows for interrogation and modification of the preset, count and prescaler values.

Construction - The unit is made of lightweight, high impact plastic with a textured front panel and a clear display window. The front panel meets NEMA4X/IP65 specifications when properly installed. Multiple units can be stacked horizontally or vertically. SMT, extensive testing, plus high immunity to noise interference make the 83 Counter extremely reliable in industrial environments.

Features

- Quadrature sensing
- Bidirectional counting, up/down control
- Count values to (999999)
- Prescaler output model (dual preset only)
- Field replaceable relay output boards
- Solid State and relay output models
- NEMA4X/IP65 sealed bezel
- Status indicators for outputs
- Security via programmable operator access privileges and protected values menu
- Programmable user inputs and front panel function key
- Horizontal or vertical stacking of multiple units
- 85 to 250VAC or 18 to 36VDC/24 VAC power units
- RS485 communications option
- Choice of numeric data entry modes

Options

- Output type
- Serial communications
- Voltage input
- Display color
- Number of presets

Display: 2 line by 6 digits LCD display, negative image transmissive with RED (top line) and GREEN (bottom line) backlighting. Positive image reflective display units are non-stock available.
Main: 0.3" (7.6mm) high digits
Secondary: 0.2" (5mm) high digits
Annunciators:
Value: PRS, 1,2 and 3
Output: 01, 02 and 03

POWER REQUIREMENTS:
AC Versions
AC Power: 85 to 250 VAC, 50/60Hz, 9VA max.
DC Power: 11 to 14 VDC @ 159 mA max. (Non PNP output models)
Note: Models with PNP current sourcing outputs must be powered from AC

DC Versions
DC Power: 18 to 36 VDC: 5.5 W max.
AC Power: 24 VAC +/- 10%: 50/60 Hz: 7VA max.
Note: The 10% tolerance range on AC input voltage must be strictly adhered to DO NOT EXCEED 26.4 VAC

PEAK (START-UP CURRENT)
AC or DC Power: 500mA peak start-up current for 10 msec. max.

DC OUT/ VSCR IN-terminal 10
For units that do not have PNP current sourcing outputs, this terminal provides a DC output for sensor power + 12 VDC (+/- 15%). The maximum sensor current is 100mA.

For units with PNP current sourcing outputs this terminal serves a dual purpose depending on the application PNP output voltage level and current requirements.

1. The terminal may be used as a +12 VDC output for sensor power. In this case, the PNP output voltage level will be +12 VDC (+/-15%). A maximum of 100 mA is available for the combination of sensor and PNP output sourcing current.

2. If a higher PNP output voltage level or additional output sourcing current is needed, an external DC supply may be connected between the *"DC OUT* (V SRC IN)" and *"COMM*." terminals. This supply will determine the PNP output voltage level, and must be in the same range of +13 to +30 VDC.
An external DC supply can also provide the additional output sourcing current required in applications where two or more PNP outputs are "ON" simultaneously. However, the maximum current range of 100mA per individual output must not be exceeded, regardless of external supply capacity.

3. Memory: Nonvolatile FRAM retains all program parameters and count values.

4. SENSOR POWER: + 12 VDC (+/- 15%) @ 100mA max.

5. COUNT INPUTS A & B: Accepts count pulses from a variety of sources, DIP switch selectable.
Current Sourcing: (active high): V_{in}max. = 3.9K ohm pull-down to 30 VDC.
Current Sinking: (active low): 7.8 K ohm pull-up to 12 VDC : I_{snk} = 1.8mA max.
Debounce : 50 Hz
Lo Bias: V_{IL} = 1.5 VDC max., V_{IH} = 3.75 VDC min.
Hi Bias: V_{IL} = 5.5 VDC max., V_{IH} = 7.5 VDC min.

6. MAX. COUNT RATE: Model dependent. All listed values are in Khz.
Note: Max. count rates for X2 & X4 modes are given for 50% duty cycle signals and quad signals with 90° phase shift.

Single Preset Model 8301

Prescaler Value	C1-Usr C1-Ud	C2-usr C2-Ud	*Ad-sub Ad-Ad	QUAD X1	QUAD X2	QUAD X4
0.00001-0.99999	8.4	4.1	9.4	5.4	4.5	2.1
1.00000	12.0	5.9	12.4	6.5	6.0	3.0
1.00001-2	6.6	3.2	6.8	4.3	3.3	1.6
2.00001-3	5.3	2.6	5.6	3.7	2.6	1.3
3.00001-4	4.3	2.1	4.6	3	2.2	1.1
4.00001-5	3.6	1.8	3.8	2.7	1.8	0.9
5.00001-6	3.1	1.5	3.4	2.4	1.6	0.8
6.00001-7	2.8	1.4	3.2	2.1	1.4	0.7
7.00001-8	2.6	1.3	2.8	1.9	1.3	0.6
8.00001-9	2.3	1.1	2.4	1.8	1.1	0.5
9.00001-9.99999	2.1	1.0	2.3	1.7	1.1	0.5

Dual Preset Model 8302

Prescaler Value	C1-Usr C1-Ud	C2-usr C2-Ud	*Ad-sub Ad-Ad	QUAD X1	QUAD X2	QUAD X4
0.00001-0.99999	8.3	4.1	8.6	4.5	4.1	2.1
1.00000	11.5	5.7	11.5	6.0	5.8	3.0
1.00001-2	6.5	3.2	6.6	4.0	3.2	1.6
2.00001-3	5.0	2.4	5.2	3.4	2.5	1.3
3.00001-4	4.1	2.0	4.4	2.8	2.0	1.0
4.00001-5	3.4	1.7	3.8	2.5	1.7	0.8
5.00001-6	2.9	1.4	3.2	2.2	1.4	0.7
6.00001-7	2.7	1.3	2.8	2.0	1.3	0.6
7.00001-8	2.2	1.1	2.4	1.8	1.2	0.6
8.00001-9	2.2	0.9	2.3	1.6	1.1	0.5
9.00001-9.99999	1.9	0.9	2.0	1.5	0.9	0.4

Batch Model 8303
With Counter 2 configured as a Batch Counter (*C2 A5n = bAtch*)

Prescaler Value	C1-Usr C1-Ud	C2-usr C2-Ud	*Ad-sub Ad-Ad	QUAD X1	QUAD X2	QUAD X4
0.00001-0.99999	8.3	4.1	8.4	3.7	3.6	2.2
1.00000	11.4	5.5	11.8	4.3	4.2	3.0
1.00001-2	6.5	3.2	6.6	3.2	3.0	1.6
2.00001-3	5.0	2.5	5.4	2.8	2.5	1.3
3.00001-4	4.1	2.0	4.2	2.4	2.0	1.0
4.00001-5	3.4	1.7	3.8	2.1	1.7	0.8
5.00001-6	2.9	1.4	3.2	1.9	1.5	0.7
6.00001-7	2.7	1.3	2.8	1.7	1.3	0.6
7.00001-8	2.4	1.1	2.6	1.6	1.2	0.6
8.00001-9	2.2	1.1	2.4	1.5	1.1	0.5
9.00001-9.99999	1.9	0.9	2.2	1.4	1.0	0.4

Batch Model 8303
With Counter 2 configured as a Total Counter (*C2 A5n = totAL*)

Prescaler Value	C1-Usr C1-Ud	C2-usr C2-Ud	*Ad-sub Ad-Ad	QUAD X1	QUAD X2	QUAD X4
0.00001-0.99999	6.5	3.3	6.6	3.5	3.3	1.6
1.00000	8.5	3.6	8.6	4.0	4.0	2.1

Prescaler Output Model 8304

Prescaler Value	C1-Usr C1-Ud	C2-usr C2-Ud	*Ad-sub Ad-Ad	QUAD X1	QUAD X2	QUAD X4
0.00001-0.99999	6.2	N/A	N/A	N/A	N/A	N/A
1.00000	8.0	N/A	N/A	N/A	N/A	N/A

** Inputs A & B rates summed.*

7. USER INPUTS: Configurable as current sinking (active low), or current sourcing (active high) inputs via a single plug jumper.

Current Sinking: (active low) : V_{IL}= 1.5 VDC max. 22 K ohm pull-ups to 5 VDC

Current Sourcing: (active high): V_{IH} =3.5 min. V_{IN} max. = 30 VDC; 22K ohm pull-down.

Response Time: 10 msec. max.

Inhibit Response Time: 250 microsec max.

8. OUTPUTS: (Output type and quantity model dependent)

Solid-State:

NPN Open Collector: I_{SNK}= 100mA max. @ V_{OL} = 1.1 VDC max. ;V_{OH}= 30 VDC max.

PNP Open Collector: I_{SRC} = 100mA max. (See note) ; V_{OH} = 12 VDC +/-15% (using internal supply); V_{OH} = 13 to 30 VDC (using external supply).

Note: The internal supply of the 83 counter can provide a total of 100 mA for the combination of sensor current and PNP output sourcing current. The supply voltage is +12 VDC (+/-15 %), which will be the PNP output voltage level when using only the internal supply.

If additional PNP output sourcing current or a higher output voltage level is desired, an external DC supply may be connected between the "DC Out/In" and "Comm" terminals. This supply will determine the PNP output voltage level, and must be in range of +13 to 30 VDC.

An external supply can provide the additional output sourcing current required in applications where two or more outputs are "ON" simultaneously. However, the maximum rating of 100mA per individual output must not be exceeded, regardless of external supply capacity.

Relay: Form A contact, rating = 5 A @ 250 VAC, 30 VDC (resistive load) , 1/10 HP @ 120 VAC (inductive load).

Relay Life Expectancy: 100,000 cycles min. at max. load rating.

Programmable Timed Output: User selectable output time resolutions.

0.01 Second Resolution: 0.01 to 99.99 sec., +/-0.01% +20 msec max. (Prescalers less than 2)

0.1 Second Resolution: 0.1 to 999.9 sec. +/- 0.01 + 100 msec max. (Prescalers less than 2)

9. RS485 SERIAL COMMUNICATIONS (Optional): Up to 32 units can be connected.

Baud Rate: Programmable from 1200 to 9600 baud.

Address: Programmable from 0 to 99.

Data Format: 10 Bit Frame, 1 start bit , 7 or 8 data bits, 1 or no Parity bit, and 1 stop bit.

Parity: Programmable for Odd (7 data bits), Even (7 data bits) or None (8 data bits).

10. CERTIFICATIONS AND COMPLIANCES:

UL Recognized Component, File # E195514

Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc.

CE Compliant:

ELECTROMAGNETIC COMPATIBILITY

Immunity to EN 50082-2

electrostatic discharge	EN 61000-4-2
electromagnetic RF fields	EN 61000-4-3
fast transients	EN 61000-4-4
RF conducted interference	EN 61000-4-6
simulation of cordless phone	EN V502204

Emissions to EN 50081-2

RF interference EN 55011 enclosure class A

11. ENVIRONMENTAL CONDITIONS:

Operating Temperature: +32°F to +122°F [0°C TO +50°C]

Storage Temperature: -40°F to +158°F [-40°C to +70°C]

Operating and Storage Humidity: 85% max. relative humidity (non-condensing) from +32°F to +122°F [0°C to +50°C]

Altitude : Up to 6500 Feet [1981 Meters]

12. ELECTRICAL CONNECTIONS: Wire clamping screw terminals.

13. CONSTRUCTION: Black plastic case with collar style panel latch. The panel latch can be installed for horizontal or vertical stacking. Black plastic textured bezel can be removed from the case without removing the case from the panel or disconnecting the wiring. Front panel meets NEMA4X/IP65 requirements for indoor use, when properly installed. Installation Category II, Pollution Degree 2.

14. WEIGHT: 6.0 oz [170g]

SINGLE PRESET MODELS

The 8301 has a solid-state output that operates in parallel with a relay output. The solid-state output is available as an NPN or PNP open collector transistor.

DUAL PRESET MODELS

The 8302 has two outputs that are activated from presets 1 and 2. These outputs can be relay or solid-state outputs. The solid-state outputs are available as NPN or PNP open-collector transistors. Units with solid-state outputs can be ordered with an optional prescaler output.

3 PRESET BATCH MODELS

The 8303 has a secondary counter that can be used for batch counting, or to keep a total count. This second counter can be programmed to operate in one of eight operating modes. Output 1 and 2 are assigned to the primary process counter (C1). Output 3 is assigned to the secondary Batch/Total counter (C2). The three preset batch unit can be ordered with solid-state or relay outputs. Units with solid-state outputs have a User Input 2 terminal available. The relay model has a relay output for Output 2 and Output 3 (Batch/Total). Output 1 is available only as solid-state.

PRESCALER OUTPUT MODELS

The 8304 is a dual preset counter with solid-state outputs. These models have an additional output configured as a prescaler output. Each time the least significant digit of the display increments, the Prescaler output provides a pulse. The width of this pulse is variable in that the output will turn off after a programmed number of count input pulses has occurred (1-9). The Prescaler output can also be programmed to activate when the 10's digit of the display increments, rather than the least significant digit.

Note: *Prescaler Output Models are limited to two programmable count modes and prescaler values of 1.00000 or less. See Count Input Modes for available modes.*

FRONT PANEL KEYPAD

- Performs user Programmed Function.

- Cycles through secondary displays.
- Enters Programming Mode or Protected Value Menu when pushed and held for 2 seconds.
- Scrolls through programming displays.
- Enters Data Values.

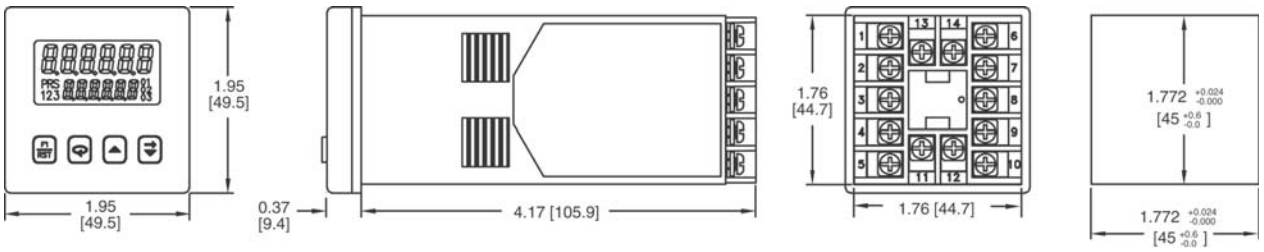
- Selects next available mode in programming mode.
- Increments digit in digit Entry mode.
- Increments value in Auto Scrolling entry mode.

- Selects Digit to right when in Digit Entry mode.
- Decrements value in Auto Scrolling entry mode.

Models Description

For Details on Models and Descriptions, see the Ordering Information section

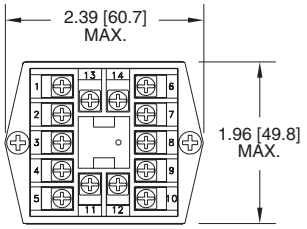
Dimensions



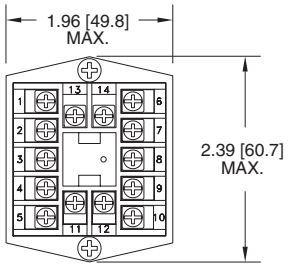
MULTIPLE UNIT STACKING

The Model 83 is designed for close spacing of multiple units. Units can be stacked either horizontally or vertically. For vertical stacking, install the panel latch with screws to the sides of the unit. For horizontal stacking, the panel latch screws should be at the top and bottom of the unit. The minimum spacing from center line to center line of the units is 1.96" (49.8 mm). This spacing is the same for vertical or horizontal stacking.

Note: When stacking units, provide adequate panel ventilation to ensure that the maximum operating temperature range is not exceeded.

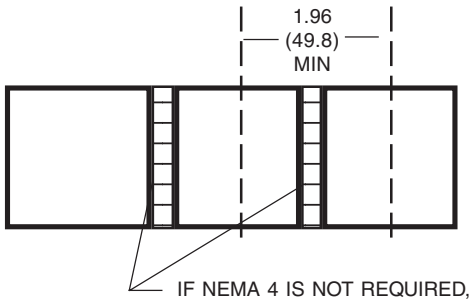


PANEL LATCH INSTALLED FOR VERTICAL UNIT STACKING



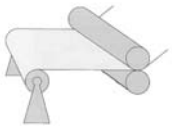
PANEL LATCH INSTALLED FOR HORIZONTAL UNIT STACKING

PANEL CUTOUT SPACING FOR MULTIPLE UNIT STACKING. HORIZONTAL ARRANGEMENT SHOWN.



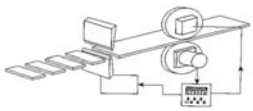
Applications

Convert-

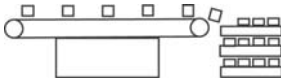


Batching

Cut-to-length



Packag-
ing



Ordering Information

MODEL NO.	DESCRIPTION	NPN O.C. OUTPUT(S)	*PNP O.C. OUTPUT(S)	RELAY OUTPUT(S)	RS485	PART NUMBERS FOR AVAILABLE SUPPLY VOLTAGES	
						18-36 VDC/24 VAC	85 TO 250 VAC
8301	1 Preset Counter Backlit LCD	Yes	No	Yes	No	**8301-0110**	**8301-1110**
8302	2 Preset Counter Backlit LCD	Yes	No	No	No	**8302-0100**	8302-1100
	2 Preset Counter Backlit LCD	Yes	No	No	Yes	**8302-0101**	**8302-1101**
	2 Preset Counter Backlit LCD	No	No	Yes	No	**8302-0010**	**8302-1010**
	2 Preset Counter Backlit LCD	No	No	Yes	Yes	**8302-0011**	**8302-1011**
8304	2 Preset Counter w/Prescaler Output Backlit LCD	Yes	No	No	No	**8304-0100**	**8304-1100**
	2 Preset Counter w/Prescaler Output Backlit LCD	Yes	No	No	Yes	**8304-0101**	**8304-1101**
8303	3 Preset Batch Counter Backlit LCD	Yes(01)	No	Yes	No	**8303-0110**	**8303-1110**
	3 Preset Batch Counter Backlit LCD	Yes(01)	No	Yes	Yes	**8303-0111**	**8303-1111**
	3 Preset Batch Counter Backlit LCD	Yes	No	No	No	**8303-0100**	**8303-1100**
	3 Preset Batch Counter Backlit LCD	Yes	No	No	Yes	**8303-0101**	**8303-1101**

Note: On batch Relay Models, Outputs 2 and 3 are relays, and Output 1 (01) is a solid-state output.

* PNP outputs are non-stock items
* Items in bold are normally in factory stock.

RELAY OUTPUT BOARDS

DESCRIPTION	NPN O.C.	* PNP O.C.	RELAY	PART NUMBER
Single Preset	Yes	No	Yes	1726-044S
Dual Preset	No	No	Yes	1726-045S
Batch	Yes	No	Yes	1726-046S

Description

The Model 83 Timer is available in single or dual preset models. The 83 Timer features a 7 segment, 2 lines by 6-digit backlit LCD display. The main display line is red and shows the timer value. The smaller secondary display line is green and can be used to view the preset values or output time values.

The 83 Timer can be configured for a variety of different operating modes to meet most timing application requirements. Twelve timing ranges are available from thousands of a second to hours and minutes. Decimal points are used to separate the time units (hours, minutes, seconds). Timing can be cumulative or can reset and start upon each power cycle. “on delay” or “off delay”, “single shot”, “repetitive auto cycling” modes are all supported.

The 83 Timer can also be configured to continue or stop timing upon reaching preset. The display can be programmed to stop at the preset value (reset to zero mode) or zero (reset to preset mode), or automatically reset to zero or preset and hold. Once stopped, the timer can be restarted by manually resetting it, or it can be programmed to restart when power is reapplied. The 83 Timer has a run/stop input, 3 programmable user inputs, and a programmable front panel function key. The run/stop and user inputs can be configured as sinking (active low) or sourcing (active high) inputs via a single plug jumper. The user inputs and the front panel function key can be configured to provide a variety of functions.

Four front panel push-buttons are used for ease of programming the operating modes and data values, changing the viewed display, and performing user programmable functions, e.g. reset, etc. The 83 Timer can be configured for one of two numeric data entry methods digit or automatic scrolling.

Digital - The digital entry allows for the selection and incrementing of digits individually.

Automatic scrolling - This method allows for the progressive change of one through all digits positions by pressing and holding the **up** or **down** button.

The dual preset models are available with solid-state or relay outputs. The single preset model has a solid-state and relay output in parallel. All solid-state outputs are available in a choice of NPN current sinking or PNP current sourcing, open- collector transistor outputs. All relay output boards are field replaceable.

RS485 communications - optional serial communication capability allows for interrogation and modification of the preset, and timer values.

Construction- The unit is made of lightweight, high impact plastic with a textured front panel and a clear display window. The front panel meets NEMA4X/IP65 specifications when properly installed. Multiple units can be stacked horizontally or vertically. SMT, extensive testing, plus high immunity to noise interference make the 83 Timer extremely reliable in industrial environments.

Features

- Displays values to (999999)
- 12 timing ranges
- Field replaceable relay output boards
- Solid state and relay output models
- NEMA4X/IP65 sealed bezel
- Status indicators for outputs
- Security via programmable operator access privileges and protected values menu
- Programmable user inputs and front panel function key
- Horizontal or vertical stacking of multiple units
- 85 to 250VAC or 18 to 36VDC/24 VAC power units
- RS485 communications option
- Choice of numeric data entry modes

Options

- Output type
- Serial communications
- Voltage input
- Display color
- Number of presets

Specifications

Display: 2 line by 6 digits LCD display**,** negative image transmissive with RED (top line) and GREEN (bottom line) backlighting. Positive image reflective display units are non-stock available.
Main: 0.3" (7.6mm) high digits
Secondary: 0.2" (5mm) high digits
Annunciators:
Value: PRS, 1, and 2
Output: 01 and 02

POWER REQUIREMENTS:
AC Versions
AC Power: 85 to 250 VAC, 50/60Hz, 9VA max.
DC power: 11 to 14 VDC @ 159 mA max. (Non PNP output models)
Note: Models with PNP current sourcing outputs must be powered from AC

DC Versions
DC Power: 18 to 36 VDC: 5.5 W max.
AC Power: 24 VAC +/- 10%: 50/60 Hz: 7VA max.
Note: The 10% tolerance range on AC input voltage must be strictly adhered to> DO NOT EXCEED 26.4 VAC

PEAK (START-UP CURRENT)
AC or DC Power: 500mA peak start-up current for 10 msec. max.

DC OUT/ VSCR IN-terminal 10
For units that do not have PNP current sourcing outputs, this terminal provides a DC output for sensor power (+ 12 VDC +/-15%). The maximum sensor current is 100mA. For units with PNP current sourcing outputs this terminal serves a dual purpose depending on the application PNP output voltage level and current requirements.

1. The terminal may be used as a +12 VDC output for sensor power. In this case, the PNP output voltage level will be +12 VDC (+/-15%). A maximum of 100 mA is available for the combination of sensor and PNP output sourcing current.

2. If a higher PNP output voltage level or additional output sourcing current is needed, an external DC supply may be connected between the *"DC OUT"* (V SRC IN) and *"COMM."* terminals. This supply will determine the PNP output voltage level, and must be in the same range of +13 to +30 VDC.
An external DC supply can also provide the additional output sourcing current required in applications where two or more PNP outputs are "ON" simultaneously. However, the maximum current range of 100mA per individual output must not be exceeded, regardless of external supply capacity.

3. MEMORY: Nonvolatile FRAM retains all program parameters and Timer values.

4. SENSOR POWER: +12 VDC (+/- 15%) @ 100mA max.

5. INPUTS: Run/Stop, Usr. In1, Usr. In2, and Usr. In3. Configurable as current sinking (active low), or current sourcing (active high) inputs via a single plug jumper.

Current Sinking: (active low) :
V_{IL} = 1.5 VDC max. 22 K ohm pull-ups to 5 VDC
Current Sourcing: (active high): V_{IH} = 3.5 min.
V_{IN} max. = 30 VDC; 22K ohm pull-down.
Run/Stop Response Time : 250 microseconds max.

User Input Response Time: 5 msec. max.

6. TIME ACCURACY: +/- 0.01%

7. OUTPUTS: (Output type and quantity model dependent)
Solid-State:
NPN Open Collector:
I_{SNK} = 100mA max. @ V_{OL} = 1.1 VDC max.; V_{OH} = 30 VDC max.
PNP Open Collector:
I_{SRC} = 100mA max. (See note) ; V_{OH} = 12 VDC +/-15% (using internal supply); V_{OH} = 13 to 30 VDC (using external supply).
Note: The internal supply of the 83 Timer can provide a total of 100 mA for the combination of sensor current and PNP output sourcing current. The supply voltage is +12 VDC (+/-5 %), which will be the PNP output voltage level when using only the internal supply.
If additional PNP output sourcing current or a higher output voltage level is desired, an external DC supply may be connected between the " DC Out/In" and "Comm" terminals. This supply will determine the PNP output voltage level, and must be in range of +13 to 30 VDC.
*An external supply can provide the additional output sourcing current required in applications where two or more outputs are **"ON"** simultaneously. However, the maximum rating of 100mA per individual output must not be exceeded, regardless of external supply capacity.*

Relay: Form A contact, rating = 5 A @ 250 VAC, 30 VDC (resistive load) 1/10 HP @ 120 VAC (inductive load).
Relay Life Expectancy:
100,000 cycles min. at max. load rating.
Programmable Timed Output:
User selectable output time resolutions.
0.01 Second Resolution: 0.01 to 99.99 sec., +/- 0.01% +10 msec max.
0.1 Second Resolution: 0.1 to 999.9 sec. +/- 0.01 % +100 msec max.

8. RS485 SERIAL COMMUNICATIONS (Optional):
Up to 32 units can be connected.
Baud Rate: Programmable from 1200 to 9600 baud.
Address: Programmable from 0 to 99
Data Format: 10 Bit Frame, 1 start bit , 7 or 8 data bits, 1 or no Parity bit, and 1 stop bit.
Parity: Programmable for Odd (7 data bits), Even (7 data bits) or None (8 data bits).

9. CERTIFICATIONS AND COMPLIANCES:
UL Recognized Component, File # E195514
Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories, Inc.

CE COMPLIANT :
ELECTROMAGNETIC COMPATIBILITY

Immunity to EN 50082-2

electrostatic discharge	EN 61000-4-2
electromagnetic RF fields	EN 61000-4-3
fast transients	EN 61000-4-4
RF conducted interference	EN 61000-4-6
simulation of cordless phone	ENV50204

Emissions to EN 50081-2

RF interference	EN 55011	enclosure class A

10. ENVIRONMENTAL CONDITIONS:
Operating Temperature: +32°F to +122°F [0°C to +50°C]
Storage Temperature: -40°F to +158°F [-40°C to +70°C]

Operating and Storage Humidity:
85% max. relative humidity (non-condensing) from +32°F to +122°F [0°C to +50°C]
Altitude: Up to 6500 Feet

11. ELECTRICAL CONNECTIONS:
Wire clamping screw terminals.

12. CONSTRUCTION: Black plastic case with collar style panel latch. The panel latch can be installed for horizontal or vertical stacking. Black plastic textured bezel can be removed from the case without removing the case from the panel or disconnecting the wiring. Front panel meets NEMA4X/IP65 requirements for indoor use, when properly installed. Installation Category II, Pollution Degree 2.

13. WEIGHT: 6.0 oz [170g]

SINGLE PRESET MODELS

The 8321 Timer offers a choice of twelve timing ranges with eighteen different operating modes. The unit has a solid-state output that operates in parallel with a relay output. The solid-state output is available as an NPN or PNP open collector transistor.

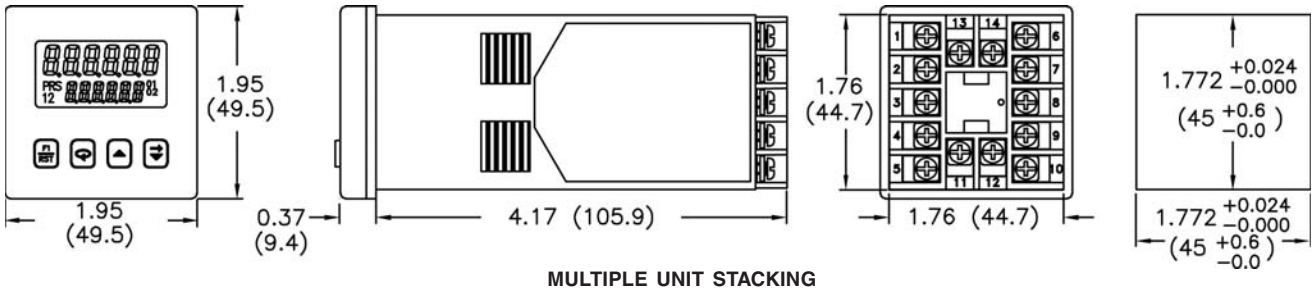
DUAL PRESET MODELS

The 8322 Timer offers a choice of twelve timing ranges with 44 operating modes. The unit is available with solid-state or relay outputs. The solid-state outputs are available as NPN or PNP open collector transistors.

Models Description

For Details on Models and Descriptions, see the Ordering Information section

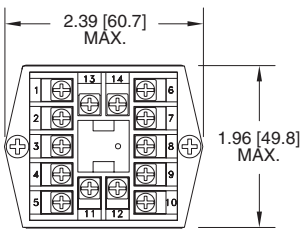
Dimensions



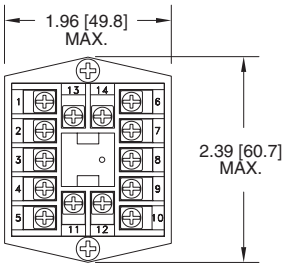
MULTIPLE UNIT STACKING

The Model 83 is designed for close spacing of multiple units. Units can be stacked either horizontally or vertically. For vertical stacking, install the panel latch with screws to the sides of the unit. For horizontal stacking, the panel latch screws should be at the top and bottom of the unit. The minimum spacing from center line to center line of the units is 1.96" (49.8 mm). This spacing is the same for vertical or horizontal stacking.

Note: When stacking units, provide adequate panel ventilation to ensure that the maximum operating temperature range is not exceeded.

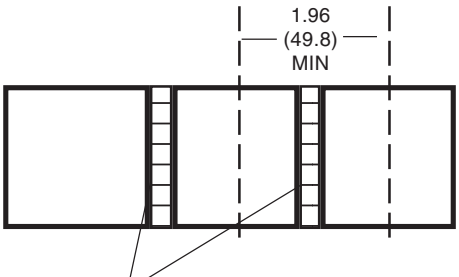


PANEL LATCH INSTALLED FOR VERTICAL UNIT STACKING



PANEL LATCH INSTALLED FOR HORIZONTAL UNIT STACKING

PANEL CUTOUT SPACING FOR MULTIPLE UNIT STACKING. HORIZONTAL ARRANGEMENT SHOWN.

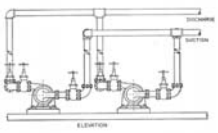


IF NEMA 4 IS NOT REQUIRED, THIS PANEL MATERIAL MAY BE REMOVED.

Applications

Mixing

Volumetric measurement



Batch Control

Ordering Information

MODEL NO.	DESCRIPTION	NPN O.C. OUTPUT(S)	* PNP O.C. OUTPUT(S)	RELAY OUTPUT(S)	RS485	PART NUMBERS FOR AVAILABLE SUPPLY VOLTAGES	
						18-36 VDC/24 VAC	85 TO 250 VAC
8321	1 Preset Timer Backlit LCD	Yes	No	Yes	No	8321-0110	**8321-1110**
8322	2 Preset Timer Backlit LCD	No	No	Yes	No	**8322-0010**	**8322-1010**
	2 Preset Timer Backlit LCD	No	No	Yes	Yes	**8322-0011**	**8322-1011**
	2 Preset Timer Backlit LCD	Yes	No	No	No	**8322-0100**	**8322-1100**
	2 Preset Timer Backlit LCD	Yes	No	No	Yes	8322-0101	**8322-1101**

* PNP Outputs are non-stock items
* Items in bold are normally in factory stock.

RELAY OUTPUT BOARDS

DESCRIPTION	NPN O.C.	* PNP O.C.	RELAY	PART NUMBER
Single Preset	Yes	No	Yes	1726-044S
Dual Preset	No	No	Yes	1726-045S
3 Preset	Yes	No	Yes	1726-046S

* PNP Outputs are non-stock items

Description

The Model 88 is a family of LCD Indicators/Controllers, with eight 7-segment digits that are 0.35" [9mm] in height. The standard display is a backlit LCD, providing red characters on a dark background. An optional reflective LCD with dark characters on a light background is available. Unit programming is accomplished using four front-panel switches, or programming can be done using the optional serial data interface and dedicated PC-based software (Redi-Ware), which is available from Redington free of charge. Upon power up, the Indicator/Controller performs internal diagnostics and flashes all segments of the display "ON" and "OFF" several times. The Indicator/Controller then configures itself per previous programming, loads the internal Counters and Timers with their values prior to power down, and begins normal operation.

The Model 88 Indicator/Counter is capable of receiving counts and/or analog inputs, processing those inputs in a number of different selectable ways, and then providing outputs in several formats. Base units, i.e. #8800-0000, 8802-0000, or similar units can be programmed for Elapsed Time, Rate, Preset Count/Time, count Add/Sub, or Quadrature. The count inputs can be prescaled from -9.9999 to 99.9999. On the 8802 units, the prescale can be further multiplied by 10^{-3}. Rate can be displayed as the prescaled rate of the count per seconds (Hz) or per minute (rpm). On the 8802 units, the rate can be either prescaled count per hours (PPH) or per minute (rpm). The two independent control outputs are open-collector (NPN) outputs that can be controlled by either count inputs, time, rate, the analog input, or combinations of these inputs. Based on two inputs, the indicator is capable of displaying two counts, a rate indicator and an elapsed time at the same time. The base unit provides the display, programming, and processing functions for the final configuration as well as the counter I/0 function. I/0 functions and installed modules are available that allow the user to configure complex functions into a small enclosure. Other models add analog input/output functions to the base unit, and serial communication functions, which supports RS232/RS422/RS485, providing the user with a broad selection of configurations.

Each Model 88 base unit is normally powered from a DC voltage of +10V to + 32 V. However, an AC power supply module # 200557-002S can be attached to the rear of the unit that converts +90VAC to +250VAC, to +12VDC, which can be used to power the Model 88 and an external sensor. Another module, 200557-001S, can be added that converts the discrete outputs of the Model 88 base unit to relay contacts.

Features

- Dual up counting
- Preset of time, rate or count
- Directional counting
- 1,2,4x quadrature
- Add/add counting
- Add/subtract counting
- Rate indication on count inputs
- Analog ranges: 0 to 10 VDC or 4 to 20 mA
- Prescaling of analog inputs and counts
- Elapsed timer function available for all modes of operation
- NEMA 4X/IP56 sealed panel
- UL, cUL Recognized, CE Compliant UL file # E19514

Options

- Relay Module 200557-001S
  2 form C, 5 amp relays
- Serial Comm. (RS232, RS422, RS485)
- Analog input/outputs
- Display color
- AC Power Module 200557-002S
  +90 VAC to +285 VAC, 50/60 Hz (unit is normally powered from +10 VDC to +32 VDC)

Specifications

Display: LCD, 8 digits, 0.35" [9mm] negative image transmissive red or positive image reflective display. In the negative count mode the display will be 7 digits with a "-" sign. (Reflective display recommended in sunlight)

Annunciators: A, B, R, 1, 2 ANLG, LOCK, HZ, RPM, HRS, SEC. 0.039" [1mm]

Programming: Programming is accomplished through the front panel switches or by serial data interface and dedicated PC software, supplied by Redington Counters, Inc.

Available Functions:
Totalizer
Directional Counting
Rate/Count
Three different quadrature resolutions
Add-Add
Add-Subtract
Dual Count
Elapsed Time
Analog Input
Predetermining

Predetermining Functions: Preset units provide two discrete outputs which can be controlled as a function of count, rate, elapsed time, or analog input. Each control output can be set by any of the four functions and reset by the same or a different function. For example, control output 1 could be set when a specific count is reached and reset when an analog input level is reached.

Predetermining Timer:
Programmable Ranges:
Hours
Seconds
Hours, Minutes & Seconds

Programmable Decimal Point:
Counter A: 4 decimal point locations may be selected.
Counter B: 4 decimal point locations may be selected.
Rate Display: 4 decimal point locations may be selected.
Analog Input: 4 decimal point locations may be selected.
Time: 4 decimal point locations may be selected.

Power Requirements:
Base unit: +10VDC TO +32VDC @ 50mA max.
Relay Module: Model 200557-001S; +10VDC to +32VDC @ 50mA, max.
AC Power Supply: Model 200557-002S; +90VAC to +250 VAC 50/60 Hz @ 6 VA max.

Memory: Nonvolatile EEPROM retains all program parameters and values when power is removed. EEPROM provides 20 year data retention.

Sensor Power: +12VDC @ 100mA, minimum (200557-002S Module)

Front Panel Lockout:
Two front panel lockouts are available. In the programming mode, the operator is prohibited from entering new parameters. In the operating mode, the lockout disallows manual reset of any displayed inputs.

Count/Timer Inputs (Input A & Input B):
Software selectable: switch contact or voltage input
Software Selectable: filter: no filter or 160 Hz 1st order L.P.
Voltage Mode V_{IH}: 2.4VDC, min.
Voltage Mode V_{IL}: 0.8VDC, max. or open circuit
Switch Mode V_{IH}: 2.4 VDC, min. or open circuit
Switch Mode V_{IL}: 0.8VDC, max.
Maximum Input voltage: 32.0VDC
Minimum Input voltage: -0.8VDC

Counter/Timer Operational Format:
Input A is used for all count functions
Input B is used for timer enable and all dual Input counter functions (i.e. ADD/ADD, ADD-SUB, DIRECTIONAL COUNT, QUADRATURE, and DUAL COUNT).

Input Scaling: A & B Counters and analog input, (-9.9999 to 99.9999). The 8802 and 8812 units have an option for prescaling the A & B counters from -9.9999 x 10^{-3} to 99.9999 x 10^{-3}

Quadrature Counting:
Software selectable X1, 2, 4

Analog Input: 0 to 10VDC or 4 to 20 mA
Resolution: 4 digit

Input Impedence: 150K ohms, for 0 to 10VDC
100 ohms, for 4 to 20 mA

Max. Count Rate: 40 KHz for single counter mode.
20 KHz for dual count modes

Rate Input Units: The rate input can be expressed in terms of scaled counts per minute (rP) or scaled counts per second (Hz) of counter A. The 8802 and 8812 units can express rates in terms of scaled counts per minute (rP) or scaled counts per hour of counter A.

Rate Indicator Accuracy:
±0.01%, References Time Base @T=25°C

Minimum Input Frequency:
1 pulse in 10 seconds

Maxium Input Frequency: 40 K HZ

Reset Functions: (Automatic & manual)

Reset-to-Zero: Can be programmed so that the output activates when counter equals the preset value, counter returns to zero when reset.

Reset-to-Preset: Can be programmed so that the output activates when counter equals zero, Counter returns to Preset value when reset.

Resets: Automatic or manual.

Outputs: Base unit; Solid-state NPN: (2) Open collector: I_{SNK}=100mA @V_{OL}=1.1VDC V_{OH}=40VDC

Relay Module: Model 200557-001S; 2 form "C" relays rated @ 5 amps 250 VAC, 30VDC(resistive load) 1/10th HP @120VAC (inductive load)

Relay Life Expectancy:
100,000 cycles min. @ max. rated load.

Programmable Timed Outputs:
Both control outputs can be timed.

Elapsed Timer Accuracy: ± 0.01% @T=25°C

Analog Output: 0 TO 10VDC OR 4 TO 20mA
Accuracy: 0.25% of full scale @ T = 25°C
Resolution: 14 bits

RS232/RS485/RS422 Serial Communications: (Optional)
Baud Rate: Selectable 2400, 4800, 9600, or 19.2K
Data Length/Parity/Stop Bits: 8n1
RS485 Address: Programmable from 0 to 99.
Transceiver Loading: RS232/RS485/RS422- up to 16 loads

Certifications & Compliances:
UL, cUL- Recognized Component, file # E 195514
CE-Compliant to EN 61326: 1998 for industrial equipment

Environmental Conditions:
Operating Temperature: -4°F to +140°F [-20°C to +60°C]
Storage Temperature: -40°F to +185°F [-40°C to +85°C]
Altitude: Up to 6561Ft. (2000 Meters)
Operating & Storage Humidity: to 95% (non-condensing) from -4°F to +140°F [-20°C to +60°C]

Electrical Connection: Wire clamping screw terminals

Construction:
High impact black plastic case with "Clip" type mount. Front panel meets NEMA 4X/IP65 requirements for indoors use, when properly installed. Oversized front panel flange insures proper sealing of panel cutouts. Gaskets for front panel are provided.

Panel Thickness: 0.05" to 0.20" [1.3 to 5.1mm]

Weight: Less than 3 oz. (85g)

Ordering Information

MODEL NUMBER	DESCRIPTION	DISPLAY RED TRANSMISSIVE	DISPLAY REFLECTIVE	ANALOG INPUT	ANALOG OUTPUT	RS-485 RS-232 RS 422
8800-0000	Base unit, Red Trans., 10-30VDC, Prescale	X				
8810-0000	Base unit, Reflective, 10-30VDC, Prescale		X			
8800-0100	Red Trans., 10-30VDC, Prescale, Serial Communications	X				X
8810-0100	Reflective, 10-30VDC, Prescale, Serial Communications		X			X
8800-0010	Red Trans., 10-30VDC, Analog input, Prescale	X		X		
8810-0010	Reflective, 10-30VDC, Analog input, Prescale		X	X		
8800-0001	Red Trans., 10-30VDC, Analog output, Prescale	X			X	
8810-0001	Reflective, 10-30VDC, Analog output, Prescale		X		X	
8800-0110	Red Trans., 10-30VDC, Analog input, Prescale, Serial Communications	X		X		X
8810-0110	Reflective, 10-30VDC, Analog input, Prescale, Serial Communications		X	X		X
8800-0101	Red Trans., 10-30VDC, Analog output, Prescale, Serial Communications	X			X	X
8810-0101	Reflective, 10-30VDC, Analog output, Prescale, Serial Communications		X		X	X
8800-0011	Red Trans., 10-30VDC, Analog I/O, Prescale	X		X	X	
8810-0011	Reflective, 10-30VDC, Analog I/O, Prescale		X	X	X	
8800-0111	Red Trans, 10-30VDC, Analog I/O, Prescale, Serial Communications	X		X	X	X
8810-0111	Reflective, 10-30VDC, Analog I/O, Prescale, Serial Communications		X	X	X	X
8802-0000	Base Unit, Red Trans., 10-30VDC, Expanded Prescale, PPH Rate	X				
8812-0000	Base Unit, Reflective, 10-30VDC, Expanded Prescale, PPH Rate		X			
8802-0100	Red Trans., 10-30VDC, Expanded Prescale, PPH Rate, Serial Comm	X				X
8812-0100	Reflective, 10-30VDC, Expanded Prescale, PPH Rate, Serial Comm		X			X
8802-0010	Red Trans., 10-30VDC, Analog Input, Expanded Prescale, PPH Rate	X		X		
8812-0010	Reflective, 10-30VDC, Analog Input, Expanded Prescale, PPH Rate		X	X		
8802-0110	Red Trans., 10-30VDC, Analog Input, Expanded Prescale, PPH Rate, Serial Comm	X		X		X
8812-0110	Reflective, 10-30VDC, Analog Input, Expanded Prescale, PPH Rate, Serial Comm		X	X		X

ACCESSORIES

200557-001S	Relay module	2 form C relays
200557-002S	AC Voltage module,	+90VAC to +250VAC also outputs +12VDC for base unit & sensor

Note: Reflective display is recommended for applications that will be exposed to direct sunlight

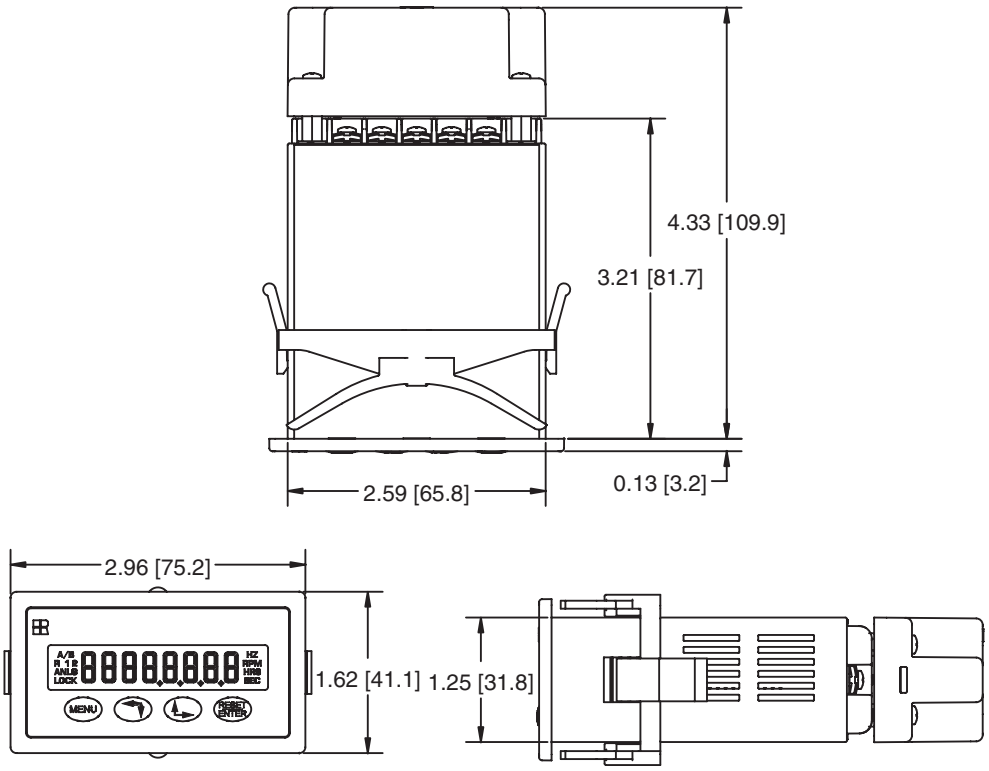
* All parts are normally in factory stock.

Models Description

For Models and Descriptions see the Ordering Information section

Dimensions

Model 88

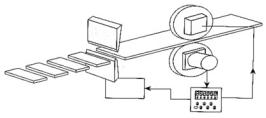


Panel Cutout 2.63” to 2.605” x 1.28” to 1.26” [66.8 to 66.2 x 32.5 to 32.0]
Max. thickness of panel 0.5” [12.7]

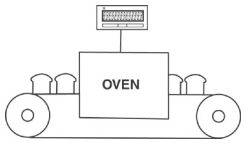
Applications

Batching

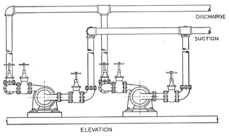
Cut-to-length



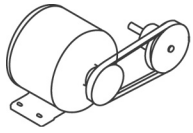
Elapsed time indicator



Flow and level control



Rate/Indication or control



Description

With two preset outputs, the Model 88 Preset Counter is a panel-mounted instrument that provides the user with incredible flexibility. The Model 88 Preset Counter can be programmed for a number of different input configurations. Programming of the Preset Counter is accomplished through a 4-switch front panel or through an optional serial interface using Redington Counters Redi-Ware, which is downloadable from the Redington Counters website. The unit has an 8-digit LCD display, which also includes a number of annunciators for ease of use. Constructed in a rugged, black plastic housing, the Model 88 Preset Counter operates from +10VDC to +32 VDC power at less than 1 watt.

The Model 88 Preset Counter uses two inputs for counting, which can be set up for various counter applications such as quadrature, add-add, add-subtract, or directional counting. A prescaler is available that ranges from 0 to 99.9999 or from 0 to 0.0999999. The prescaled inputs are added to a 15-digit counter, in which 7 digits are to the right of the decimal point, and 8 digits are to the left. Of the 15 digits, the 12 most significant digits are displayable. The user can define which 8 of the 12 displayable digits are to be displayed by setting the decimal point on the display.

The Model 88 Preset Counter has two open-collector npn outputs. Each is triggered independently by a user-programmable preset count. Each can be automatically reset, manually reset, or reset via an external reset input. The automatic reset can be based on time in seconds, or it can be tied to the other preset output. In this case, a preset output can be on until the other preset output turns on. In addition, the on-state of the output transistor can be defined by the user.

Another feature of the Model 88 Preset Counter is an inhibit input that stops counting on the counter if the feature is enabled by the user. When the inhibit signal is present and active, the counter stops counting until the inhibit signal returns to its inactive state.

The Model 88 Preset Counter is constructed of a printed circuit board assembly housed in a rugged, black plastic housing. The front panel of the unit is composed of an 8-digit LCD. The standard display is transmissive with a red backlight. An optional reflective LCD with dark characters on a silver background is also available. There are also four switches on the front panel that are used for programming and manual resetting of the unit. All of this has been tested to NEMA 4X requirements when properly mounted in a panel. In addition, the unit is UL and cUL recognized, and when properly installed, it is compliant to CE EMC requirements.

The Model 88 Preset Counter comes with a number of options. There is a relay module, which can be attached to the end of the unit. The relay module contains two Form C relays that are controlled by the open-collector npn outputs. There is a Power Supply module that can be attached to the end of the unit. The power supply module generates 12VDC at up to 0.25A to power the Model 88 Preset Counter, a relay module, and still have 100mA for sensor excitation. Finally, the Model 88 can be ordered with a Serial I/O option that can be programmed to provide serial data into and out of the unit in RS232, RS485, and RS422 formats.

Features

- Directional counting
- 1,2,4x quadrature
- Add/add counting
- Add/subtract counting
- 2 presets: reset to zero, reset to preset
- Automatic, manual, or external reset
- NEMA 4X/IP56 sealed panel
- UL, cUL Recognized, CE Compliant UL file # E19514

Options

- Relay Module 200557-001S
  2 form C, 5 amp relays
- Serial Comm. (RS232, RS422, RS485)
- Display color
- AC Power Module 200557-002S
  +90 VAC to +285 VAC, 50/60 Hz (unit is normally powered from +10 VDC to +32 VDC)

Specifications

Display: LCD, 8 digits, 0.35" [9mm] negative image transmissive red or positive image reflective display. In the negative count mode the display will be 7 digits with a "-" sign. (Reflective display recommended in sunlight)

Annunciators: A, 1, 2, LOCK, 0.039" [1mm]

Programming: Programming is accomplished through the front panel switches or by serial data interface and dedicated PC software, supplied by Redington Counters, Inc.

Available Functions:
Directional Counting
Three different quadrature resolutions
Add-Add
Add-Subtract

Predetermining Functions: Preset units provide two discrete outputs which can be controlled as a function of count. Each output can be latched, timed, or held on until the other preset is reset

Programmable Decimal Point:
4 decimal point locations may be selected.

Power Requirements:
Base unit: +10VDC TO +32VDC @ 50mA max.
Relay Module: Model 200557-001S; +10VDC to +32VDC @ 50mA, max.
AC Power Supply: Model 200557-002S; +90VAC to +250 VAC 50/60 Hz @ 6 VA max.

Memory: Nonvolatile EEPROM retains all program parameters and values when power is removed. EEPROM provides 20 year data retention.

Sensor Power: +12VDC @ 100mA, minimum (200557-002S Module)

Front Panel Lockout:
Two front panel lockouts are available. In the programming mode, the operator is prohibited from entering new parameters. In the operating mode, the lockout disallows manual reset of any displayed inputs.

Count Inputs (Input A & Input B):
Software selectable: switch contact or voltage input
Software Selectable: filter: no filter or 160 Hz 1st order L.P.
Voltage Mode V_{IH}: 2.4VDC, min.
Voltage Mode V_{IL}: 0.8VDC, max. or open circuit
Switch Mode V_{IH}: 2.4 VDC, min. or open circuit
Switch Mode V_{IL}: 0.8VDC, max.
Maximum Input voltage: 32.0VDC
Minimum Input voltage: -0.8VDC

Counter Operational Format:
Input A is used for all count functions
Input B is used for timer dual Input counter functions (i.e. ADD/ADD, ADD-SUB, DIRECTIONAL COUNT, & QUADRATURE)

Input Scaling: 0 to 99.9999 x 10^0 or x 10^{-3}

Quadrature Counting:
Software selectable X1, 2, 4

Max. Count Rate: 40 KHz

Reset-to-Zero: Can be programmed so that the output activates when counter equals the preset value, counter returns to zero when reset.

Reset-to-Preset: Can be programmed so that the output activates when counter equals zero, counter returns to preset value when reset.

Resets: Automatic, manual, and external.

Outputs: Base unit; Solid-state NPN: (2) Open collector: I_{SNK}=100mA @V_{OL}=1.1VDC V_{OH}=40VDC

Relay Module: Model 200557-001S; 2 form "C" relays rated @ 5 amps 250 VAC, 30VDC(resistive load) 1/10th HP @120VAC (inductive load)

Relay Life Expectancy:
100,000 cycles min. @ max. rated load.

Programmable Timed Outputs:
Both control outputs can be timed.

RS232/RS485/RS422 Serial Communications: (Optional)

Baud Rate:	Selectable 2400, 4800, 9600, or 19.2K
Data Length/Parity/Stop Bits:	8n1
RS485 Address:	Programmable from 0 to 99.
Transceiver Loading:	RS232/RS485/RS422- up to 16 loads

Certifications & Compliances:
UL, cUL- Recognized Component, file # E 195514
CE-Compliant to EN 61326: 1998 for industrial equipment

Environmental Conditions:

Operating Temperature:	-4°F to +140°F [-20°C to +60°C]
Storage Temperature:	-40°F to +185°F [-40°C to +85°C]
Altitude:	Up to 6561Ft. (2000 Meters)
Operating & Storage Humidity:	to 95% (non-condensing) from -4°F to +140°F [-20°C to +60°C]

Electrical Connection: Wire clamping screw terminals

Construction:
High impact black plastic case with "Clip" type mount. Front panel meets NEMA 4X/IP65 requirements for indoors use, when properly installed. Oversized front panel flange insures proper sealing of panel cutouts. Gaskets for front panel are provided.

Panel Thickness: 0.05" to 0.20" [1.3 to 5.1mm]

Weight: Less than 3 oz. (85g)

Ordering Information

MODEL NUMBER	DESCRIPTION	DISPLAY RED TRANSMISSIVE	DISPLAY REFLECTIVE	RS-485 RS-232 RS 422
8804-0000	Base unit, Red Trans., 10-30VDC, Prescale	X		
8814-0000	Base unit, Reflective, 10-30VDC, Prescale		X	
8804-0100	Red Trans., 10-30VDC, Prescale, Serial Communications	X		X
8814-0100	Reflective, 10-30VDC, Prescale, Serial Communications		X	X

ACCESSORIES
200557-001S Relay module 2 form C relays
200557-002S AC Voltage module, +90VAC to +250VAC also outputs +12VDC for base unit & sensor

Note: Reflective display is recommended for applications that will be exposed to direct sunlight

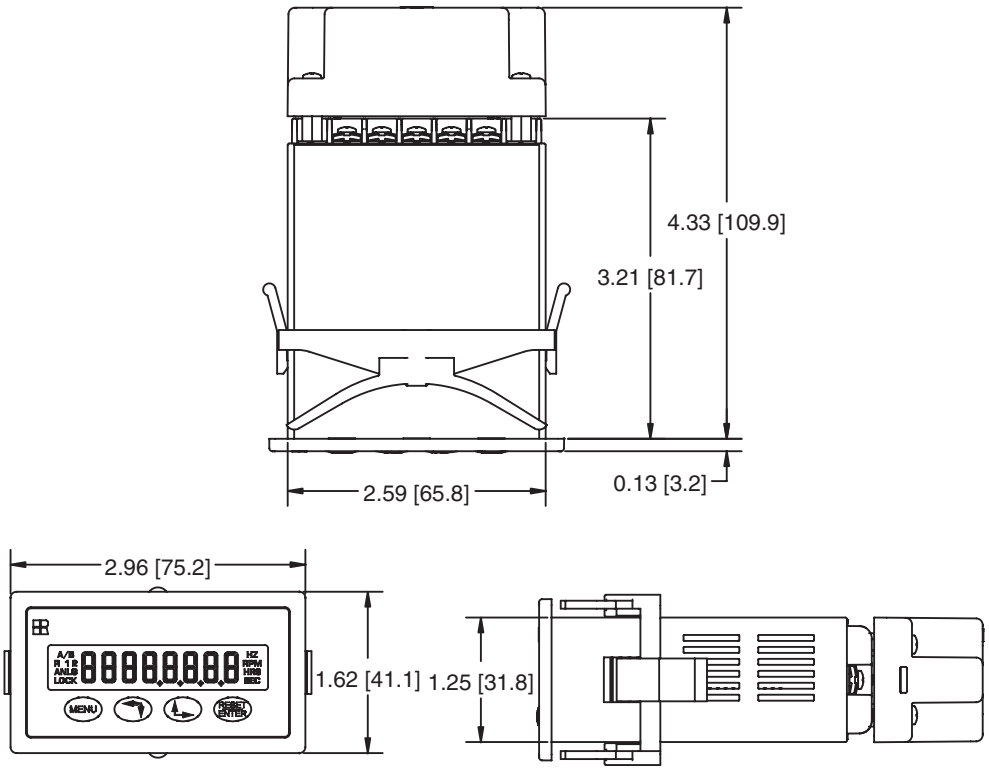
* All parts are normally in factory stock.

Models Description

For Models and Descriptions see the Ordering Information section

Dimensions

Model 88

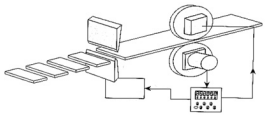


Panel Cutout 2.63" to 2.605" x 1.28" to 1.26" [66.8 to 66.2 x 32.5 to 32.0]
Max. thickness of panel 0.5" [12.7]

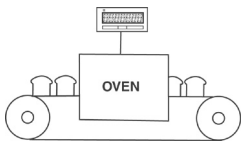
Applications

Batching

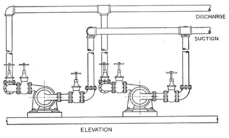
Cut-to-length



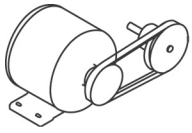
Elapsed time indicator



Flow and level control



Rate/Indication or control



Description

With two preset outputs, the Model 88 Preset Timer is a panel-mounted instrument that provides powerful timing control to any number of applications. The Model 88 Preset Timer can be programmed to operate as either an Hours Timer or a Seconds Timer. In addition, it has a powerful set of user-programmable options for two discrete outputs. At the input side of the unit, the inputs can be configured for voltage or dry contact inputs. Programming of the Preset Timer is accomplished through a 4-switch front panel or through an optional serial interface using Redington Counters Redi-Ware, which is downloadable from the Redington Counters website. The unit has an 8-digit LCD display, which also includes a number of annunciators for ease of use. Constructed in a rugged, black plastic housing, the Model 88 Preset Timer operates from +10VDC to +32VDC power at less than 1 watt.

The Model 88 Preset Timer has two open-collector npn outputs. Each is triggered independently by a user-programmable preset time. Each can be automatically reset, manually reset, or reset via an external reset input. The automatic reset can be based on time in seconds, or it can be tied to the other preset output. In this case, a preset output can be on until the other preset output turns on. In addition, the on-state of the output transistor can be defined by the user.

Another feature of the Model 88 Preset Timer is an inhibit input that stops timing on the timer if the feature is enabled by the user. When the inhibit signal is present and active, the timer stops timing until the inhibit signal returns to its inactive state.

The Model 88 Preset Timer is constructed of a printed circuit board assembly housed in a rugged, black plastic housing. The front panel of the unit is composed of an 8-digit LCD. The standard display is transmissive with a red backlight. An optional reflective LCD with dark characters on a silver background is also available. There are also four switches on the front panel that are used for programming and manual resetting of the unit. All of this has been tested to NEMA 4X requirements when properly mounted in a panel. In addition, the unit is UL and cUL recognized, and when properly installed, it is compliant to CE EMC requirements.

The Model 88 Preset Timer comes with a number of options. There is a relay module, which can be attached to the end of the unit. The relay module contains two Form C relays that are controlled by the open-collector npn outputs. There is a Power Supply module that can be attached to the end of the unit. The power supply module generates 12VDC at up to 0.25A to power the Model 88 Preset Timer, a relay module, and still have 100mA for sensor excitation. Finally, the Model 88 can be ordered with a Serial I/O option that can be programmed to provide serial data into and out of the unit in RS232, RS485, and RS422 formats.

Features

- Programmable for hours or seconds
- Hours displayed to .0001 hrs
- Seconds with 1 msec resolution
- Add/subtract counting
- 2 presets: reset to zero, reset to preset
- Automatic, manual, or external reset
- NEMA 4X/IP56 sealed panel
- UL, cUL Recognized, CE Compliant UL file # E19514

Options

- Relay Module 200557-001S
  2 form C, 5 amp relays
- Serial Comm. (RS232, RS422, RS485)
- Display color
- AC Power Module 200557-002S
  +90 VAC to +285 VAC, 50/60 Hz (unit is normally powered from +10 VDC to +32 VDC)

Specifications

Display: LCD, 8 digits, 0.35" [9mm] negative image transmissive red or positive image reflective display. In the negative count mode the display will be 7 digits with a "-" sign. (Reflective display recommended in sunlight)

Annunciators: A, 1, 2, LOCK, 0.039" [1mm]

Programming: Programming is accomplished through the front panel switches or by serial data interface and dedicated PC software, supplied by Redington Counters, Inc.

Available Functions: Hours
Seconds

Predetermining Functions: Preset units provide two discrete outputs which can be controlled as a function of count. Each output can be latched, timed, or held on until the other preset is reset

Programmable Decimal Point: 4 decimal point locations may be selected.

Power Requirements:

Base unit:	+10VDC TO +32VDC @ 50mA max.
Relay Module:	Model 200557-001S; +10VDC to +32VDC @ 50mA, max.
AC Power Supply:	Model 200557-002S; +90VAC to +250 VAC 50/60 Hz @ 6 VA max.

Memory: Nonvolatile EEPROM retains all program parameters and values when power is removed. EEPROM provides 20 year data retention.

Sensor Power: +12VDC @ 100mA, minimum (200557-002S Module)

Front Panel Lockout:
Two front panel lockouts are available. In the programming mode, the operator is prohibited from entering new parameters. In the operating mode, the lockout disallows manual reset of any displayed inputs.

Enable Input: Software selectable: switch contact or voltage input
Software Selectable: filter: no filter or 160 Hz 1st order L.P.
Voltage Mode V_{IH}: 2.4VDC, min.
Voltage Mode V_{IL}: 0.8VDC, max. or open circuit
Switch Mode V_{IH}: 2.4 VDC, min. or open circuit
Switch Mode V_{IL}: 0.8VDC, max.
Maximum Input voltage: 32.0VDC
Minimum Input voltage: -0.8VDC

Reset-to-Zero: Can be programmed so that the output activates when timer equals the preset value, timer returns to zero when reset.

Reset-to-Preset: Can be programmed so that the output activates when timer equals zero, timer returns to preset value when reset.

Resets: Automatic, manual, and external.
Outputs: Base unit; Solid-state NPN: (2) Open collector I_{SNK}=100mA @V_{OL}=1.1VDC V_{OH}=40VDC

Relay Module: Model 200557-001S; 2 form "C" relays rated @ 5 amps 250 VAC, 30VDC(resistive load) 1/10th HP @120VAC (inductive load)

Relay Life Expectancy:
100,000 cycles min. @ max. rated load.

Programmable Timed Outputs:
Both control outputs can be timed.

RS232/RS485/RS422 Serial Communications: (Optional)
Baud Rate: Selectable 2400, 4800, 9600, or 19.2K
Data Length/Parity/Stop Bits: 8n1
RS485 Address: Programmable from 0 to 99.
Transceiver Loading: RS232/RS485/RS422- up to 16 loads

Certifications & Compliances:
UL, cUL- Recognized Component, file # E 195514
CE-Compliant to EN 61326: 1998 for industrial equipment

Environmental Conditions:
Operating Temperature: -4°F to +140°F [-20°C to +60°C]
Storage Temperature: -40°F to +185°F [-40°C to +85°C]
Altitude: Up to 6561Ft. (2000 Meters)
Operating & Storage Humidity: to 95% (non-condensing) from -4°F to +140°F [-20°C to +60°C]

Electrical Connection: Wire clamping screw terminals

Construction:
High impact black plastic case with "Clip" type mount. Front panel meets NEMA 4X/IP65 requirements for indoors use, when properly installed. Oversized front panel flange insures proper sealing of panel cutouts. Gaskets for front panel are provided.

Panel Thickness: 0.05" to 0.20" [1.3 to 5.1mm]

Weight: Less than 3 oz. (85g)

Ordering Information

MODEL NUMBER	DESCRIPTION	DISPLAY RED TRANSMISSIVE	DISPLAY REFLECTIVE	RS-485 RS-232 RS 422
8805-0000	Base unit, Red Trans., 10-30VDC, Prescale	X		
8815-0000	Base unit, Reflective, 10-30VDC, Prescale		X	
8805-0100	Red Trans., 10-30VDC, Prescale, Serial Communications	X		X
8815-0100	Reflective, 10-30VDC, Prescale, Serial Communications		X	X

ACCESSORIES
200557-001S Relay module 2 form C relays
200557-002S AC Voltage module, +90VAC to +250VAC also outputs +12VDC for base unit & sensor

Note: Reflective display is recommended for applications that will be exposed to direct sunlight

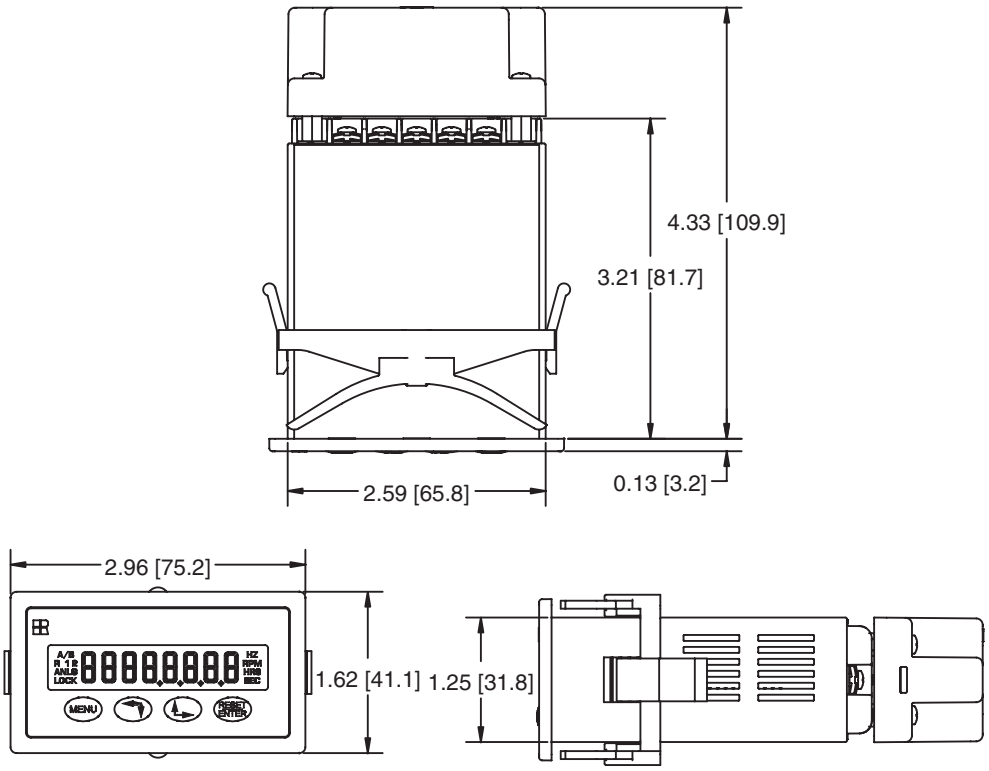
* All parts are normally in factory stock.

Models Description

For Models and Descriptions see the Ordering Information section

Dimensions

Model 88

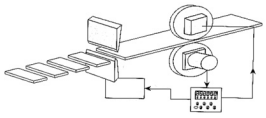


Panel Cutout 2.63" to 2.605" x 1.28" to 1.26" [66.8 to 66.2 x 32.5 to 32.0]
Max. thickness of panel 0.5" [12.7]

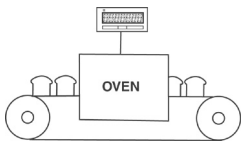
Applications

Batching

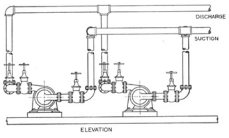
Cut-to-length



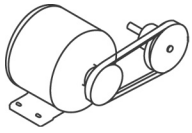
Elapsed time indicator



Flow and level control



Rate/Indication or control



Description

The Model 88 is a programmable LCD Totalizer, with eight 7-segment digits that are 0.35" [9mm] in height. The standard display is a backlit LCD, providing red characters on a dark background. An optional reflective LCD with dark characters on a light background is available. Unit programming is accomplished using four front-panel switches, or programming can be done using the optional serial data interface and dedicated PC-based software (Redi-Ware), which is available from Redington free of charge. Upon power up, the Totalizer performs internal diagnostics and flashes all segments of the display "ON" and "OFF" several times. The Totalizer then configures itself per previous programming, loads the internal Counters and Timers with their values prior to power down, and begins normal operation.

The Model 88 Programmable Totalizer is capable of receiving input pulses, processing those input pulses in a number of different, selectable ways, and then displaying the results. The Totalizer is capable of operating in a single-up count mode, as well as add-subtract, directional counting, add-add, and three levels of quadrature. In addition, the unit can support independent counting of two separate inputs. Counts can be pre-scaled by scale factors ranging from -9.9999 to 99.9999 or from -9.9999 x 10^{-3} to 99.9999 x 10^{-3}. Maximum count speed is up to 40KHz for single count modes and 20KHz for the dual count mode. Maximum input speed can be limited by enabling an analog filter on each input, thereby protecting count integrity from unwanted noise. The input format can also be selected. In addition, a serial data interface option is available to report counts from remote locations or to program the Totalizer. Each Model 88 base unit is normally powered from a DC voltage of +10V to + 32 V. However, an AC power supply module # 200557-002S can be attached to the rear of the unit that converts +90VAC to +250VAC, to +12VDC, which can be used to power the Model 88 and an external sensor.

Features

- Dual up counting
- Directional counting
- 1,2,4x quadrature
- Add/add counting
- Add/subtract counting
- Prescaling of counts
- NEMA 4X/IP56 sealed panel
- UL, cUL Recognized, CE Compliant UL file # E19514

Options

- Serial Comm. (RS232, RS422, RS485)
- Display color
- AC Power Module 200557-002S
  +90 VAC to +285 VAC, 50/60 Hz (unit is normally powered from +10 VDC to +32 VDC)

Specifications

Display: LCD, 8 digits, 0.35" [9mm] negative image transmissive red or positive image reflective display. In the negative count mode the display will be 7 digits with a "-" sign. (Reflective display recommended in sunlight)

Annunciators: A, B, LOCK, 0.039" [1mm]

Programming: Programming is accomplished through the front panel switches or by serial data interface and dedicated PC software, supplied by Redington Counters, Inc.

Available Functions:
Totalizer
Directional Counting
Three different quadrature resolutions
Add-Add
Add-Subtract
Dual Count

Programmable Decimal Point:
Counter A: 4 decimal point locations may be selected.
Counter B: 4 decimal point locations may be selected.

Power Requirements:
Base unit: +10VDC TO +32VDC @ 50mA max.
AC Power Supply: Model 200557-002S; +90VAC to +250 VAC 50/60 Hz @ 6 VA max.

Memory: Nonvolatile EEPROM retains all program parameters and values when power is removed. EEPROM provides 20 year data retention.

Sensor Power: +12VDC @ 100mA, minimum (200557-002S Module)

Front Panel Lockout:
Two front panel lockouts are available. In the programming mode, the operator is prohibited from entering new parameters. In the operating mode, the lockout disallows manual reset of any displayed inputs.

Count Inputs (Input A & Input B):
Software selectable: switch contact or voltage input
Software Selectable: filter: no filter or 160 Hz 1st order L.P.
Voltage Mode V_{IH}: 2.4VDC, min.
Voltage Mode V_{IL}: 0.8VDC, max. or open circuit
Switch Mode V_{IH}: 2.4 VDC, min. or open circuit
Switch Mode V_{IL}: 0.8VDC, max.
Maximum Input voltage: 32.0VDC
Minimum Input voltage: -0.8VDC

Counter Operational Format:
Input A is used for all count functions
Input B is used for all dual Input counter functions (i.e. ADD/ADD, ADD-SUB, DIRECTIONAL COUNT, QUADRATURE, and DUAL COUNT).

Input Scaling: A & B Counters (-9.9999 to 99.9999, or -9.9999 x 10^{-3} to 99.9999 x 10^{-3})

Quadrature Counting:
Software selectable X1, 2, 4

Max. Count Rate: 40 KHz for single counter mode.
20 KHz for dual count modes.

Reset Functions: Manual and remote.

RS232/RS485/RS422 Serial Communications: (Optional)

Baud Rate:	Selectable 2400, 4800, 9600, or 19.2K
Data Length/Parity/Stop Bits:	8n1
RS485 Address:	Programmable from 0 to 99.
Transceiver Loading:	RS232/RS485/RS422- up to 16 loads

Certifications & Compliances:
UL, cUL- Recognized Component, file # E 195514
CE-Compliant to EN 61326: 1998 for industrial equipment

Environmental Conditions:

Operating Temperature:	-4°F to +140°F [-20°C to +60°C]
Storage Temperature:	-40°F to +185°F [-40°C to +85°C]
Operating & Storage Humidity:	to 95% (non-condensing) from -4°F to +140°F [-20°C to +60°C]
Altitude:	Up to 6561Ft. (2000 Meters)

Electrical Connection: Wire clamping screw terminals

Construction: High impact black plastic case with "Clip" type mount. Front panel meets NEMA 4X/IP65 requirements for indoors use, when properly installed. Oversized front panel flange insures proper sealing of panel cutouts. Gaskets for front panel are provided.

Panel Thickness: 0.05" to 0.20" [1.3 to 5.1mm]

Weight: Less than 3 oz. (85g)

Ordering Information

MODEL NUMBER	DESCRIPTION	DISPLAY RED TRANSMISSIVE	DISPLAY REFLECTIVE	ANALOG INPUT	ANALOG OUTPUT	RS-485 RS-232 RS 422
8803-0000	Base unit, Red Trans., 10-30VDC, Prescale	X				
8813-0000	Base unit, Reflective, 10-30VDC, Prescale		X			
8803-0100	Red Trans., 10-30VDC, Prescale, Serial Communications	X				X
8813-0100	Reflective, 10-30VDC, Prescale, Serial Communications		X			X

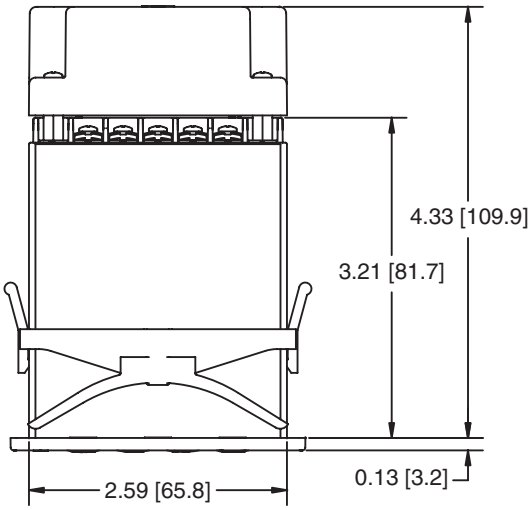
ACCESSORIES
200557-002S AC Voltage module, +90VAC to +250VAC also outputs +12VDC for base unit & sensor

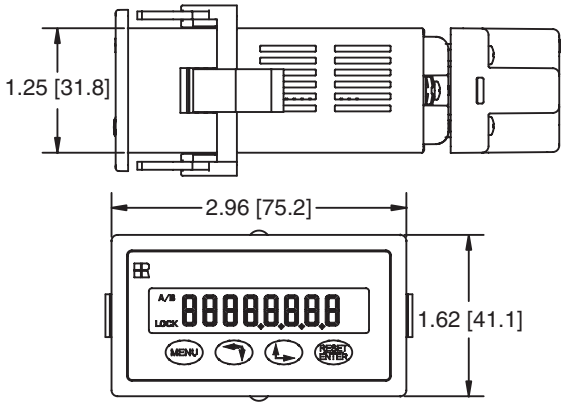
Note: Reflective display is recommended for applications that will be exposed to direct sunlight

* All parts are normally in factory stock.

Dimensions

Model 88 Totalizer

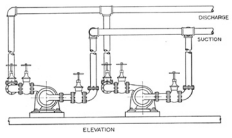




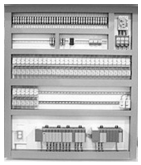
Panel Cutout 2.63" to 2.605" x 1.28" to 1.26" [66.8 to 66.2 x 32.5 to 32.0]
Max. thickness of panel 0.5" [12.7]

Applications

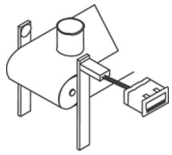
Flow meter



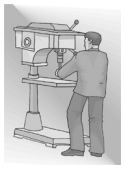
Panel builders



Piece count



Secondary equipment



Test equipment

Description

The Redington Model 33 line of LCD counters provides a large display, 7mm high figures, in an eight digit counter. The counters are available in a variety of mountings: 2-hole rectangular, 3-hole round, flush-round and flush-rectangular. Voltage operating ranges are 10-277 VDC AND 20-277VAC. All models are totally sealed from moisture and dirt and conform to NEMA 4 & 4X specifications when mounted with the optional gasket. Their rugged construction makes them ideal replacements for current electromechanical counters. Units have polarized LCD for high visibility in sunlight.

Features

- AC or DC voltage input in the same unit
- Totally sealed from moisture and dirt
- Always on display
- Compact depth
- Clip retainer mount or screws (supplied)

Options

- Custom logos and bezels
- Terminations
- Remote reset - dry contact with 6" wire leads
- Gaskets
  - 5003-002S gasket for 2-hole mount
  - 5003-003S gasket for flush-rectangular mount
  - 5003-004S gasket for flush-round mount
  - 5003-005S gasket for 3-hole round mount

Specifications

Display:	LCD with large 0.28" [7mm] high figures, black on light background
Records & Displays:	8 digit (99999999)
Inputs:	10 to 277VDC AND 20-277VAC Vih* 20VAC or 10VDC minimum Vil* 3VAC or 3VDC maximum
Speed:	25 counts per second
Battery Life:	7+ years
Shock:	44 to 55g's, SAE J1378
Vibration:	20 g @ 10 to 80 Hz, SAE J1378
Humidity:	95% SAE J1378
Operating Temperature:	-40°F to +185°F [-40°C to +85°C]
Sealing:	Totally sealed, panel gaskets-NEMA 4 & 4X
Agency Approvals:	CE compliant UL/cUL recognized (file# ELIY2.E36690)
Termination:	0.250" [6.4mm] spades
Reset:	Optional - dry contact with 6" wire leads
Case Material:	Polymer (black)
Weight:	1oz [28g]

* Vih is the input high voltage. This is specified as the minimum input voltage that the Model 33 will recognize as a high level.
Vil is the input low voltage. This is specified as the maximum input voltage that the Model 33 will recognize as a low level.

Note: When interfacing the Model 33 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

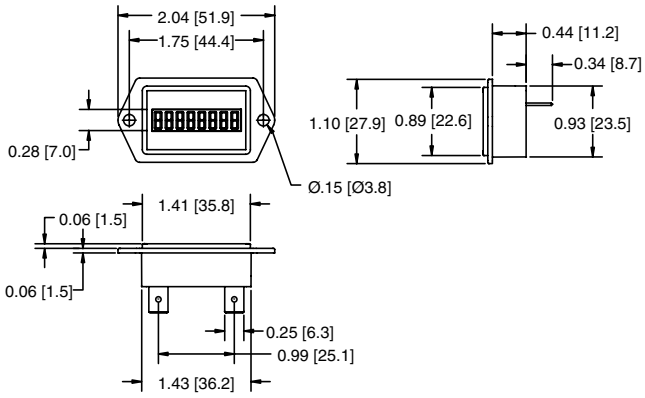
Models	Description
3301-0000	2-Hole Rect., 10-277 VDC AND 20-277VAC
3301-1000	3-Hole Round, 10-277 VDC AND 20-277VAC
3301-2000	Flush-Rect., 10-277 VDC AND 20-277VAC
3301-3000	Flush-Round, 10-277 VDC AND 20-277VAC

Models	Description
3301-0010	2-Hole Rect., 10-277 VDC AND 20-277VAC, remote reset
3301-1010	3-Hole Round, 10-277 VDC AND 20-277VAC, remote reset
3301-2010	Flush-Rect., 10-277 VDC AND 20-277VAC, remote reset
3301-3010	Flush-Round, 10-277 VDC AND 20-277VAC, remote reset

* All Items are normally in factory stock.

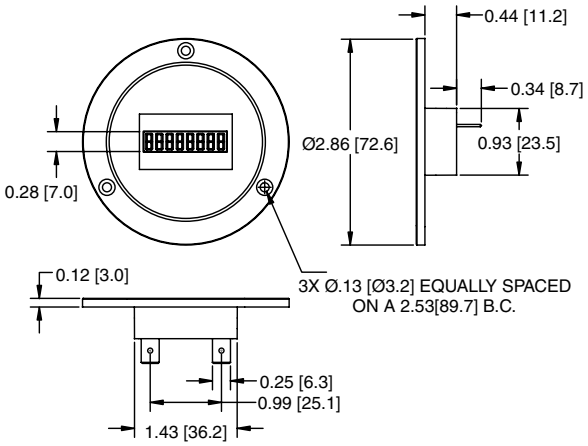
Dimensions

2-Hole



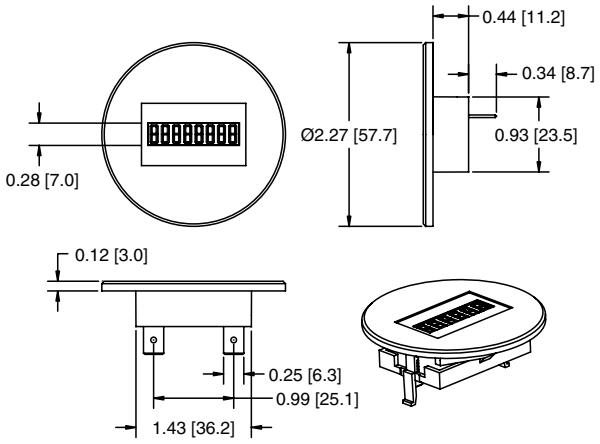
In-front panel cutout: 1.45 X 0.95 [24.0 x 37.0]
Behind panel cutout: 1.42 X 0.90 [22.9 x 36.1]

3-Hole Round



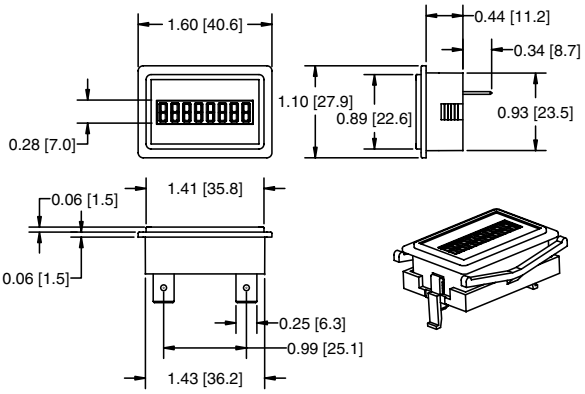
Panel cutout: 1.45 X 0.95 [24.0 x 37.0]

Flush-Round



Panel cutout: 1.45 X 0.95 [24.0 x 37.0]
Maximum panel thickness: 0.15 [3.8]

Flush-Rectangular



Panel cutout: 1.45 X 0.95 [24.0 x 37.0]
Maximum panel thickness: 0.15 [3.8]

Applications

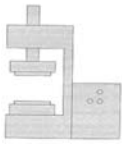
Medical Devices

Control Panels

Secondary Equipment

Test Equipment

Production Equipment



Office Equipment

Description

The Redington Model 33 line of LCD hour meters provides a large display, 7mm high figures, in the industry size housings. The hour meters are available in a variety of mountings: 2-hole rectangular, 3-hole round, flush-round and flush-rectangular. Voltage operating ranges are 10-277 VDC AND 20-277VAC 50/60Hz. All models are totally sealed from moisture and dirt and conform to NEMA 4 & 4X specifications when mounted with the optional gasket. The Model 3311-1020 is not NEMA 4 & 4X rated. Their rugged construction makes them ideal replacements for current hour meters. Units have polarized LCD for high visibility in sunlight.

Features

- AC or DC voltage input in the same unit
- Totally sealed from moisture and dirt
- Run indicator-blinking decimal point
- Always on display
- Compact depth
- AC Voltage input is not frequency sensitive
- Clip retainer mount or screws (supplied)

Options

- Custom logos and bezels
- Terminations
- Remote reset - dry contact with 6” wire leads
- Manual reset - Model 3311-1020 has a front panel push button
- Gaskets
  - 5003-002S gasket for 2-hole mount
  - 5003-003S gasket for flush-rectangular mount
  - 5003-004S gasket for flush-round mount
  - 5003-005S gasket for 3-hole round mount

Specifications

Display:	LCD with large 0.28” [7mm] high figures, black on light background
Run Indicator:	Blinking decimal point
Quartz Accuracy:	0.02% over entire voltage & temperature range
Records & Displays:	6 digit (99999.9)
Inputs:	10 to 277VDC AND 20-277VAC-50/60Hz Vih* 20VAC or 10VDC minimum Vil* 3VAC or 3VDC maximum
Battery Life:	7+ years
Shock:	44 to 55g’s, SAE J1378
Vibration:	20 g @ 10 to 80 Hz, SAE J1378
Humidity:	95% SAE J1378
Operating Temperature:	-40°F to +185°F [-40°C to +85°C]
Sealing:	Totally sealed, panel gaskets-NEMA 4 & 4X
Agency Approvals:	CE compliant UL/cUL recognized (file# ELIY2.E36690)
Termination:	0.250” [6.4mm] spades
Reset:	Front panel push button - Model 3311-1020 Optional - dry contact with 6” wire leads
Case Material:	Polymer (black)
Weight:	1oz [28g]
Protection Against:	Alternator load dump: 150V EMI(Electromagnetic Interference): +400V @ 500Hz inductive switching and reverse polarity

* Vih is the input high voltage. This is specified as the minimum input voltage that the Model 33 will recognize as a high level.
Vil is the input low voltage. This is specified as the maximum input voltage that the Model 33 will recognize as a low level.

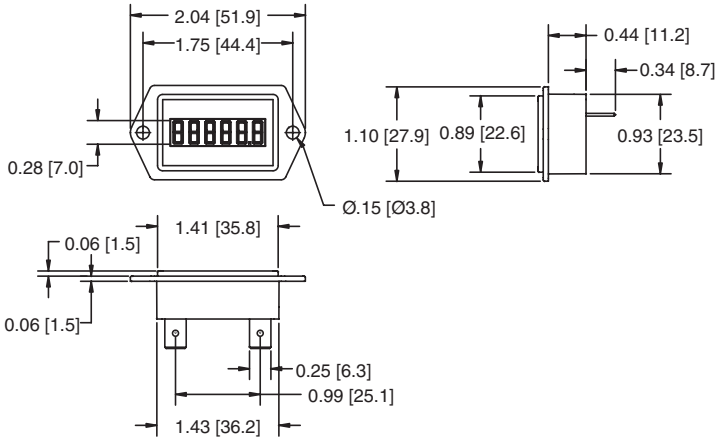
Note: When interfacing the Model 33 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

Models	Description	Models	Description
3311-0000	2-Hole Rect., 10-277 VDC AND 20-277VAC	**3311-0010**	2-Hole Rect., 10-277 VDC AND 20-277VAC, remote reset
3311-1000	3-Hole Round, 10-277 VDC AND 20-277VAC	**3311-1010**	3-Hole Round, 10-277 VDC AND 20-277VAC, remote reset
3311-2000	Flush Rect., 10-277 VDC AND 20-277VAC	**3311-2010**	Flush Rect., 10-277 VDC AND 20-277VAC, remote reset
3311-3000	Flush-Round, 10-277 VDC AND 20-277VAC	**3311-3010**	Flush-Round, 10-277 VDC AND 20-277VAC, remote reset
		3311-1020	3-Hole Round, 10-277 VDC AND 20-277VAC, manual reset

All parts are normally in factory stock.

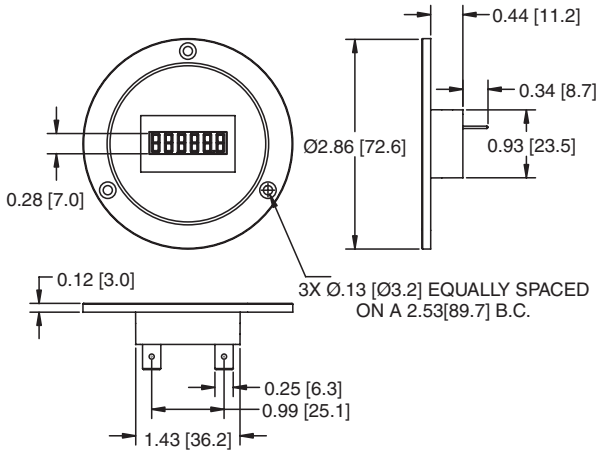
Dimensions

2-Hole



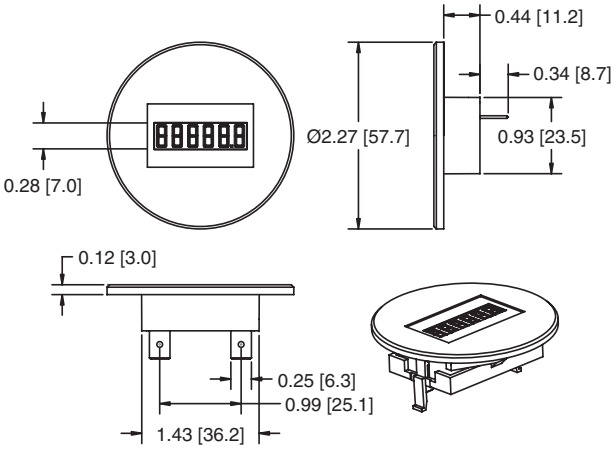
In-front panel cutout: 1.45 X 0.95 [24.0 x 37.0]
Behind panel cutout: 1.42 X 0.90 [22.9 x 36.1]

3-Hole Round



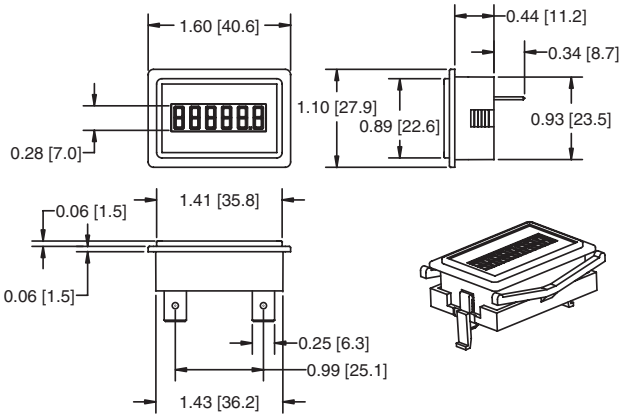
Panel cutout: 1.45 X 0.95 [24.0 x 37.0]
For 3311-1020 (manual reset), panel cutout is 2.0 [50.6]

Flush-Round



Panel cutout: 1.45 X 0.95 [24.0 x 37.0]
Maximum panel thickness: 0.15 [3.8]

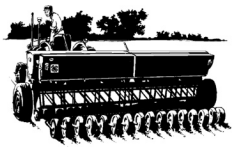
Flush-Rectangular



Panel cutout: 1.45 X 0.95 [24.0 x 37.0]
Maximum panel thickness: 0.15 [3.8]

Applications

Agricultural Equipment

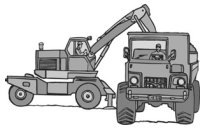


Medical Devices

Pressure Washers

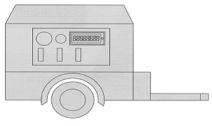
Sweepers

Construction Equipment



Marine Applications

Generators

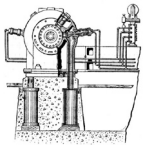


Office Equipment

Test Equipment

Boom Lifts

Compressors



Utility Vehicles

Description

The Model 53 Electronic Totalizer with 7 or 8 LCD digits is ideal as a replacement for electromechanical totalizers or where external power is not available. Powered by an internal lithium battery these products are highly reliable and provide the user with a choice of several options; with or without reset and multiple count ranges for optimized performance. The case is available in either tan or black.

Features

- Lithium battery
- Choice of non-reset or remote reset
- Switch (no-voltage), 3-30VDC, 20-250VAC/VDC

Options

- Case color
- Mounting adapter plates
- 8 digits
- 5003-001S - gasket
- Low AC voltage (4-30 VAC)

Specifications

Figures: 7 or 8 LCD figures, 0.32" [8mm] high
Reset: Remote, manual, and non-reset
Speed:
7 Digit: 0-40 counts/second [min. 12.5ms - on, 12.5ms - off]
0-150 counts/second [min. 3.3ms - on, 3.3ms - off]
8 Digit: 0-35 count/second [min14.3ms - on, 14.3ms - off]
Inputs: Switch (no-voltage), 3-30VDC, 20-250VAC/VDC
Vih 20VAC/3VDC minimum
Vil 3VAC/1VDC maximum
Power: Self-powered (internal lithium battery)
Mounting: Panel with clip
Terminations: Terminal block, or connector with 8" [200mm] wire leads
Battery Life: ~20years

Weight 2 oz. [57g]
Temperature:
Operating: -4°F to +140°F [-20°C to +60°C]
Storage: -40°F to +165°F [-40°C to +75°C]
Humidity: 0 to 95% RH, non-condensing
Vibration
Operating: 10 to 55Hz, 0.01" [0.25mm] double amplitude
Non-Operating: 10 to 55Hz, 0.03" [0.75mm] double amplitude
Shock
Operating: 10G
Non-Operating: 30G
Dielectric: 1000VAC 50/60Hz for 1 minute
Accuracy: 100% [Provided Signal Meets Stated Parameters]
Approvals: UL Recognized, CSA Certified, CE Compliant

Note: When interfacing the Model 53 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

Models

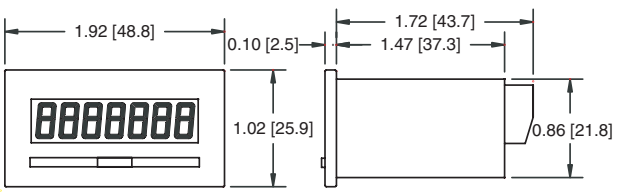
Models	Reset			Input			Speed/cps		Terminations		Color	
	remote	none	manual	switch	3-30VDC	20-250VAC/VDC	40/150	40	term. block	8" wire leads	Tan	Black
5300-0000	X			X			X		X		X	
5300-0001	X			X			X		X			X
5300-0100	X		X	X			X		X		X	
5300-0101	X		X	X			X		X			X
5300-1000	X				X		X		X		X	
5300-1001	X				X		X		X			X
5300-1100	X		X		X		X		X		X	
5300-1010	X				X		X			X	X	
5300-1011	X				X		X			X		X
5300-2000	X					X		X	X		X	
5300-2001	X					X		X	X			X
5300-2100	X		X			X		X	X		X	
5300-2200		X				X		X	X		X	
5300-2201		X				X		X	X			X

* Items in bold are normally in factory stock.

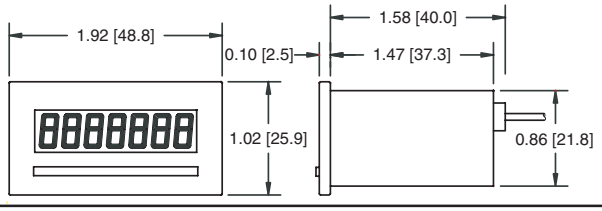
All part numbers shown are for 7 digit models. Please contact the factory for information on 8 digit models.

Dimensions

TERMINAL BLOCK

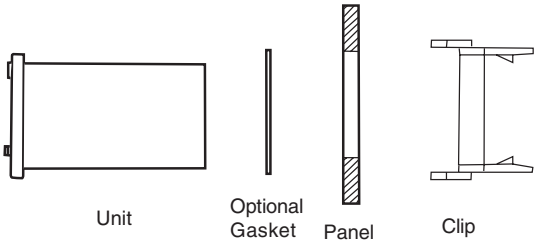


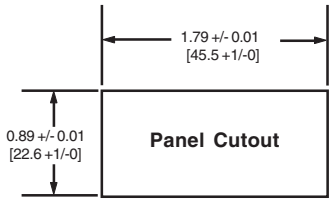
WIRE LEADS



Operating Instructions

MOUNTING:



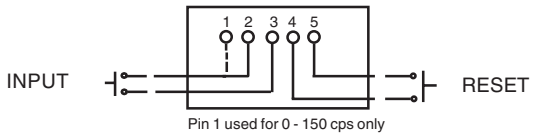


The mounting clip accommodates panel thicknesses up to 1/4" [6.4mm].

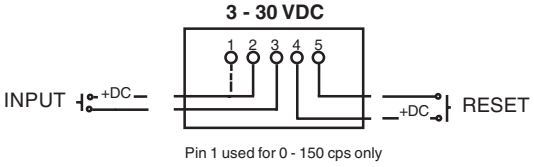
Panel adapter plates are available in flush and 2 hole mount to fit various panel cutouts. Consult the factory for availability.

WIRING:

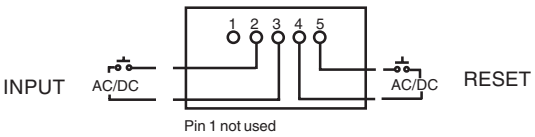
SWITCH (non-voltage)



3 - 30 VDC



20 - 250VAC/VDC



Color code for the 8" [203mm] lead wires (24AWG) are:

1 - Yellow
2 - Blue
3 - Black
4 - Violet
5 - Gray

Terminal block will accept wire sizes from 14 to 24AWG.

3 - 30VDC units are protected for transient voltages up to 50 volts with pulse widths of up to 1 second at a 1% duty cycle (including reverse polarity).

The operating AC frequency range is 40 to 400Hertz.

NOTES:

INPUT / RESET PARAMETERS

To insure proper performance from totalizers the following minimum input durations are required:

0 to 35 cps totalizer	Minimum	14.3 ms "on"	14.3 ms "off"	The count is activated on the falling edge.
0 to 40 cps totalizer	Minimum	12.5 ms "on"	12.5 ms "off"	The count is activated on the falling edge.
0 to 150 cps totalizer	Minimum	3.3 ms "on"	3.3 ms "off"	The count is activated on the rising edge.

All resettable totalizers can be reset by a pulse with a minimum duration of 6 milliseconds.

DUAL RANGE TOTALIZER PROTECTION FEATURE:

Dual range totalizers have a built-in range protection feature. This feature will protect the totalizer from receiving a false signal from the unused input line. Once a totalizer has received an input from pin #1 or pin #2, it will only accept inputs from that pin until the unit has been reset. For example, if a totalizer is run in the low speed range and it is determined that a high speed range is preferred, simply switch the input from pin #2 to pin #1 and reset the totalizer to de-activate this range protection feature. Conversely, if a totalizer is run in high speed range and it is determined that a low speed range is preferred, simply switch the input from pin #1 to pin #2 and reset the totalizer.

SPECIAL WIRING OPTION

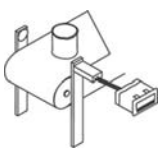
There is an internal connection between pin 3 and pin 5, a single wire can be used by connecting it to either pin 3 or pin 5. This option **does not** apply for units with input of 20 - 250VAC/VDC or manual reset enable.

OPTIONAL INPUTS:

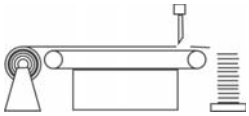
Optional control circuity (such as transistors) may be used as inputs provided that such circuitry provides the required parameters of the model used.

Applications

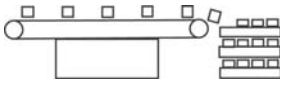
Number of Parts



Shear



Packaging Line



Description

The Model 53 Hour Meter with 7 LCD digits, 999999.9, and internal lithium battery, is ideal for applications requiring time accumulation for maintenance scheduling, warranty monitoring, lease time or fee computation. Applications include test equipment, panel builders, mobile equipment and medical devices. A choice of time ranges, in hours, minutes or seconds provides the user with a wide choice of recording increments.

Features

- Lithium battery
- Choice of manual reset, remote reset or non-reset
- Switch (no-voltage), 3-30VDC, 20-250VAC/VDC

Options

- Termination
- Case color
- Private labeling
- Mounting adapter plates
- 5003-001S - gasket
- Low AC voltage (4-30 VAC)

Specifications

Figures: 7 LCD figures, 0.32" [8mm] high
Reset: Remote, manual, and non-reset
Inputs: Switch (no-voltage), 3-30VDC, 20-250VAC/VDC (50/60Hz)
Vih* 20VAC/3VDC minimum
Vil* 3VAC/1VDC maximum
Power: Self-powered (internal lithium battery)
Mounting: Panel with clip
Terminations: Terminal block, or connector - 8" [200mm] wire leads
Weight: 2 oz. [57g]
Battery Life: ~20years
Accuracy: Quartz accuracy (better than 0.01%)
Approvals: UL Recognized, CSA Certified, CE Compliant

Temperature
Operating: -4°F to +140°F [-20°C to +60°C]
Storage: -40°F to +165°F [-40°C to +75°C]
Humidity: 0 to 95% RH, non-condensing
Vibration
Operating: 10 to 55Hz, 0.01" [0.25mm] double amplitude
Non-Operating: 10 to 55Hz, 0.03" [0.75mm] double amplitude
Shock
Operating: 10G
Non-Operating: 30G
Dielectric: 1000VAC 50/60Hz for 1 minute

Note: When interfacing the Model 53 with a Solid State Relay or AC Sensor, the leakage current need to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

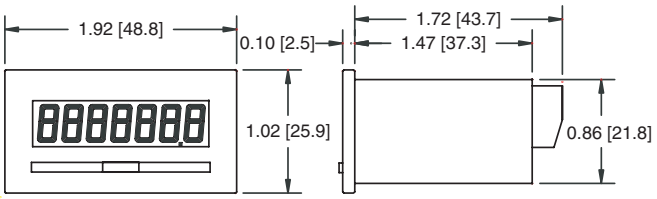
Models

Part#	Function			Reset			Input			Terminations		Color	
	hours	min.	sec.	remote	none	manual	switch	3-30VDC	20-250VAC/VDC	term. block	8" wire leads	tan	black
5320-0000	X			X			X			X		X	
5320-0001	X			X			X			X			X
5321-0000		X		X			X			X		X	
5321-0001		X		X			X			X			X
5322-0000			X	X			X			X		X	
5322-0001			X	X			X			X			X
5320-0100	X			X		X	X			X		X	
5320-0101	X			X		X	X			X			X
5320-1000	X			X				X		X		X	
5320-1001	X			X				X		X			X
5320-1010	X			X				X			X	X	
5320-1011	X			X				X			X		X
5320-1100	X			X		X		X		X		X	
5320-2000	X			X					X	X		X	
5320-2001	X			X					X	X			X
5320-2200	X				X				X	X		X	
5320-2201	X				X				X	X			X
5320-2100	X			X		X			X	X		X	

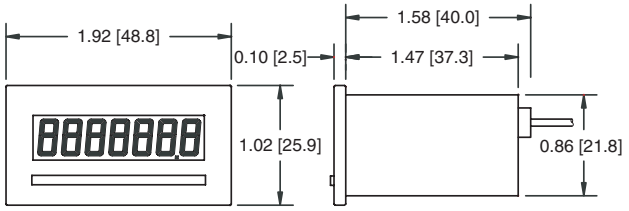
* Items in bold are normally in factory stock.

Dimensions

TERMINAL BLOCK

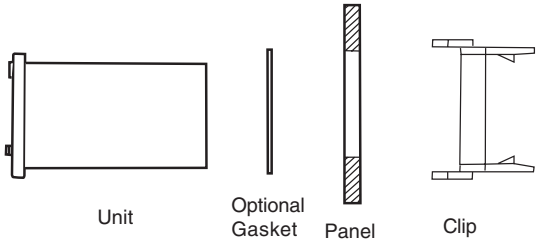


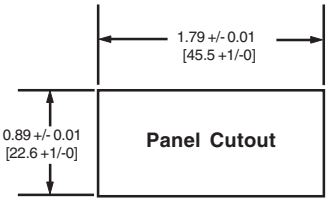
WIRE LEADS



Operating Instructions

MOUNTING:



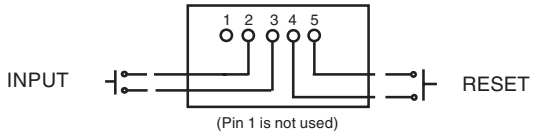


The mounting clip accommodates panel thicknesses up to 1/4" [6.4mm].

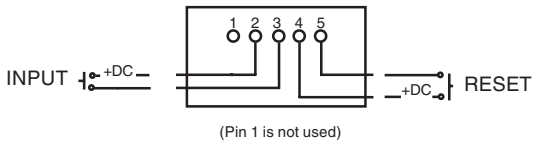
Panel adapter plates are available in flush and 2 hole mount to fit various panel cutouts. Consult the factory for availability.

WIRING:

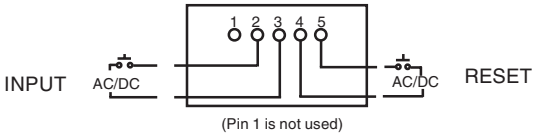
SWITCH (non-voltage)



3 - 30 VDC



20 - 250VAC/VDC



Color code for the 8" [203mm] lead wires (24AWG) are:

1 - Yellow
2 - Blue
3 - Black
4 - Violet
5 - Gray

Terminal block will accept wire sizes from 14 to 24AWG.

3 - 30VDC units are protected for transient voltages up to 50 volts with pulse widths of up to 1 second at a 1% duty cycle (including reverse polarity).

The operating AC frequency range is 40 to 400Hz.

NOTES:

All resettable hour meters can be reset by a pulse with a minimum duration of 6 milliseconds.

SPECIAL WIRING OPTION

There is an internal connection between pin 3 and pin 5, a single wire can be used by connecting it to either pin 3 or pin 5. This option **does not** apply for units with input of 20 - 250VAC/VDC or manual reset enable.

OPTIONAL INPUTS:

Optional control circuity (such as transistors) may be used as inputs provided that such circuitry provides the required parameters of the model used.

Applications

Medical Equipment

Test Equipment

Office Equipment

Description

The Model 53 Tachometers are self-powered by an internal lithium battery. They provide a low cost solution to accurately measure speed or production rates for a number of manufacturing and process applications. A wide selection of inputs, dry contact closure, 3-30VDC or 20-250VAC/VDC, make the Model 53 adaptable to most applications. When used with the appropriate sensor, the unit can display units per minute, length per minute or revolutions per minute. The maximum input rate is 10,000 counts per minute.

Features

- Lithium battery
- Choice of non-reset or remote reset
- Switch (no-voltage), 3-30VDC, 20-250VAC/VDC

Options

- Termination
- Case color
- Private labeling
- Mounting adapter plates
- 5003-001S - gasket

Specifications

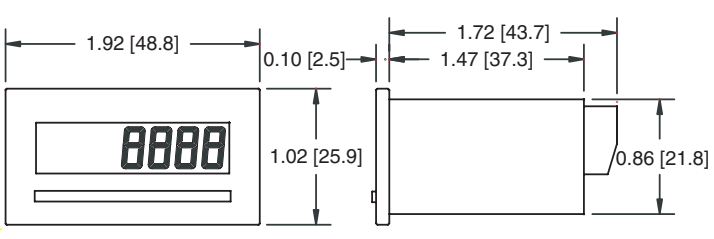
Figures: 4 LCD figures, 0.32” [8mm] high
Reset: Remote, manual, or non-reset
Speed: 10,000 counts/minute
Inputs: Switch (no-voltage), 3-30VDC, 20-250VAC/VDC
Power: Self-powered (internal lithium battery)
Mounting: Panel
Terminations: Terminal block, or connector -w/ 8” [200mm] wire leads
Battery Life: ~20years
Temperature:
Operating: -4°F to +140°F [-20°C to +60°C]
Humidity: 0 to 95% RH, non-condensing
Vibration:
Operating: 10 to 55Hz, 0.01” [0.25mm] double amplitude
Non-Operating: 10 to 55Hz, 0.03” [0.75mm] double amplitude
Shock:
Operating: 10G
Non-Operating: 30G
Dielectric: 1000VAC 50/60Hz for 1 minute
Accuracy: Typically within 1% above 700Hz
Weight: 2 oz. [57g]
Approvals: UL Recognized, CSA Certified, CE Compliant

Models

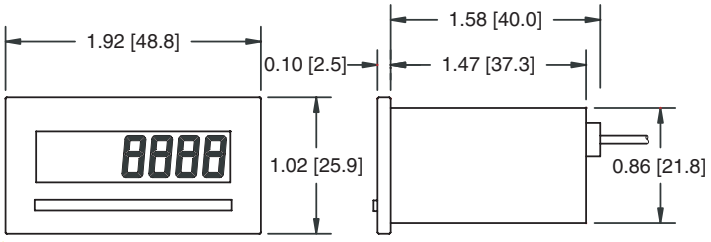
Models	Reset			Input		Speed/RPM	Terminations		Color			
	remote	none	manual	switch	3-30VDC	20-250VAC/VDC	10,000	2500	term. block	8” wire leads	Tan	Black
5330-0000	X			X			X		X		X	
5330-0001	X			X			X		X			X
5330-1000	X				X		X		X		X	
5330-1001	X				X		X		X			X
5330-2000	X					X		X	X		X	
5330-2001	X					X		X	X			X
5330-2200		X				X		X	X		X	
5330-2201		X				X		X	X			X

Dimensions

TERMINAL BLOCK

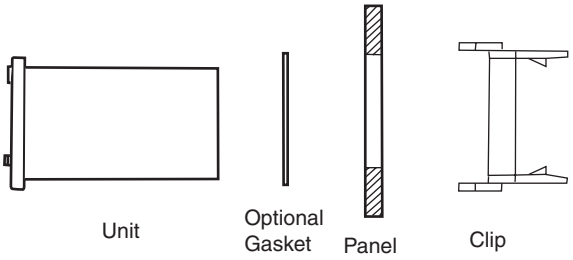


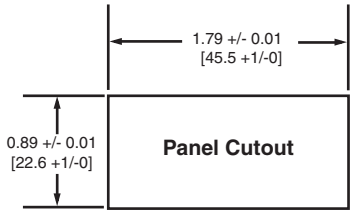
WIRE LEADS



Operating Instructions

MOUNTING:



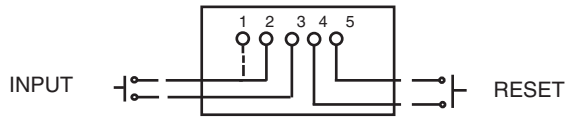


The mounting clip accommodates panel thicknesses up to 1/4" [6.4mm].

Panel adapter plates are available in flush and 2 hole mount to fit various panel cutouts. Consult the factory for availability.

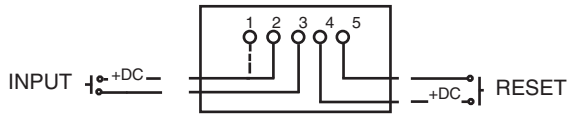
WIRING:

SWITCH (non-voltage)



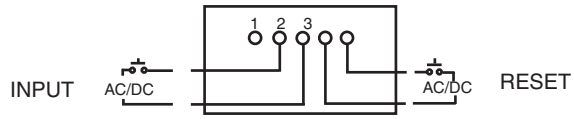
Pin 1 used for 0 - 10,000 RPM)
Pin 2 used for 0 - 2, 500 RPM)

3 - 30 VDC



Pin 1 used for 0 - 10,000 RPM)
Pin 2 used for 0 - 2, 500 RPM)

20 - 250VAC/VDC



Pin 1 not used

Color code for the 8" [203mm] lead wires (24AWG) are:

1 - Yellow
2 - Blue
3 - Black
4 - Violet
5 - Gray

Terminal block will accept wire sizes from 14 to 24AWG.

3 - 30VDC units are protected for transient voltages up to 50 volts with pulse widths of up to 1 second at a 1% duty cycle (including reverse polarity).

The operating AC frequency range is 40 to 400Hertz.

NOTES:

All resettable hour meters can be reset by a pulse with a minimum duration of 6 milliseconds.

SPECIAL WIRING OPTION

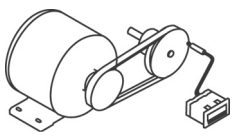
There is an internal connection between pin 3 and pin 5, a single wire can be used by connecting it to either pin 3 or pin 5. This option **does not** apply for units with input of 20 - 250VAC/VDC or manual reset enable.

OPTIONAL INPUTS:

Optional control circuity (such as transistors) may be used as inputs provided that such circuitry provides the required parameters of the model used.

Applications

Motor/pulley Speed



Description

A 6 figure, battery powered, push-button or key reset, electronic counter, available in base mount or panel mount configuration. No external power supply is required. Large 0.50" [12mm] LCD figures for fast, easy reading. Operates at 6-240 VAC or VDC. Long lasting internal lithium battery. Attractive styling and silent operation make these models equally well-suited for lab or office equipment applications.

Features

- No external power supply needed
- Long life lithium battery
- Large easy reading display
- Operates at 6 to 240 VAC or VDC

Options

- Non-reset
- Remote reset

Specifications

Figures: 6 LCD figures, 0.50" [12mm] high
Reset: Push-button, or lock and key
Speed: 0-40 counts/second, (min. 12.5ms - on, 12.5ms - off)
Input: 6-240VAC or VDC
Vih 6VAC/VDC minimum
Vil 2VAC/VDC maximum

Mounting: Base or panel
Terminations: (2) #22 AWG 221°F [105° C] wire leads, 8" [203mm] long
Temp. Range: -14°F to +122°F [-26°C to +50°C]
Power Source: Internal lithium battery
Weight: 18 oz. [510g]

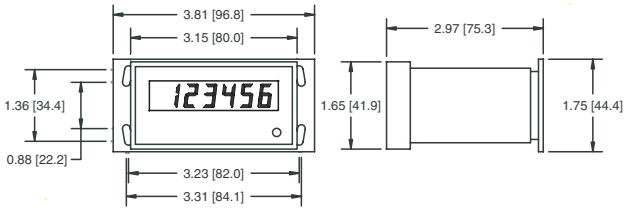
Note: When interfacing the Model 94 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

Models	Description
9415-001	6 figure, base mount, push-button reset
9415-003	6 figure, panel mount, push-button reset
9415-005	6 figure, panel mount, lock and key reset

* Items in bold are normally in factory stock.

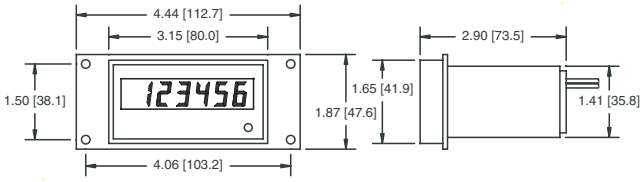
Dimensions

Base Mount



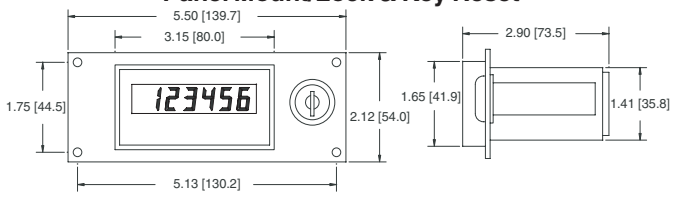
Mounting holes: 0.14" x 0.24" [3.6mm x 6.1mm] slots

Panel Mount



Panel cutout: 3.0" x 1.75" [76.2mm x 44.5mm]
Mounting holes: 0.17" [4.3mm] Dia.

Panel Mount/Lock & Key Reset

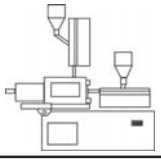


Panel cutout: 4.75 " x 1.50" [76.2mm x 44.5mm]
Mounting holes: 0.17" [4.3mm] Dia.

Applications

Office equipment

Production



Test labs

Control panels



Description

A 6 figure, battery powered, push-button or key reset, electronic hour meter, available in base mount or panel mount configuration. No external power supply is required. Large 0.50" [12mm] LCD figures for fast, easy reading. Operates at 6-240 VAC or VDC. Long lasting internal lithium battery. Attractive styling and silent operation make these models equally well-suited for lab or office equipment applications.

Features

- No external power supply needed
- Long life lithium battery
- Large easy reading display
- Operates at 6 to 240 VAC or VDC

Options

- Non-reset
- Remote reset
- Minutes meter
- Seconds meter

Specifications

Figures: 6 LCD figures, 0.50" [12mm] high
Reset: Push-button, or lock and key
Input: 6-240VAC (50/60Hz) or 6-240VDC
Vih 6VAC/VDC minimum
Vil 2VAC/VDC maximum
Mounting: Base or panel
Terminations: (2) #22 AWG 221°F [105° C] wire leads, 8" [203mm] long
Temp. Range: -14°F to +122°F [-26°C to +50°C]
Power Source: Internal lithium battery
Weight: 18 oz. [510g]

Note: When interfacing the Model 94 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.

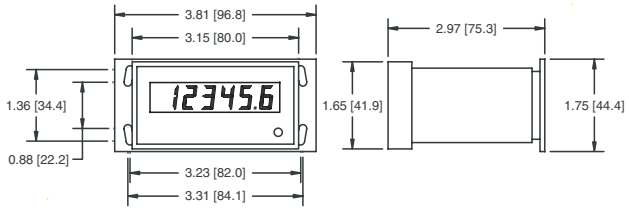
Models Description

9425-001	6 figure, base mount, push-button reset
9425-003	6 figure, panel mount, push-button reset
9425-005	6 figure, panel mount, lock and key reset

* Items are normally in factory stock.

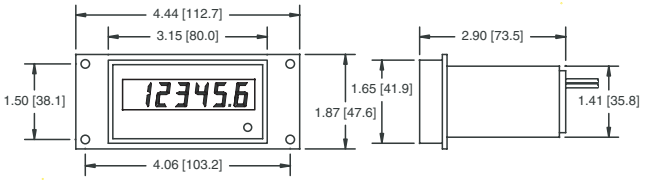
Dimensions

Base Mount



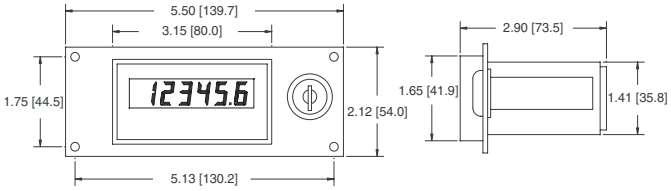
Mounting holes: 0.14" x 0.24" [3.6mm x 6.1mm] slots

Panel Mount



Panel cutout: 3.0" x 1.75" [76.2mm x 44.5mm]
Mounting holes: 0.17" [4.3mm] Dia.

Panel Mount/Lock & Key Reset

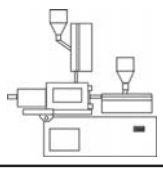


Panel cutout: 4.75 " x 1.50" [76.2mm x 44.5mm]
Mounting holes: 0.17" [4.3mm] Dia.

Applications

Office equipment

Production



Test labs

Control panels