INDUSTRIAL SOLID STATE DETECTOR

MODEL 1214 BASE MOUNT

KANSON ELECTRONICS, INC.

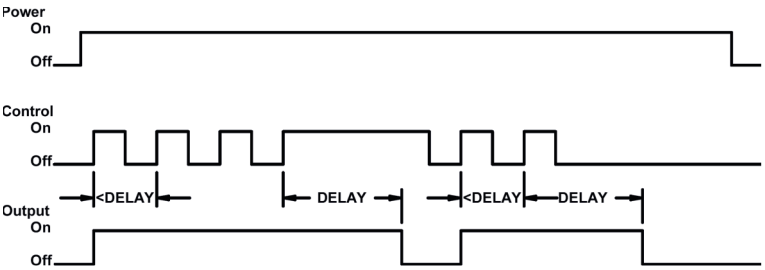
Underspeed motion detector which is designed for use in standard mechanical switch applications.

Features:

- Control contacts independant of input power.
- Time range from 0.06 to 100 seconds.
- 120 VAC or 24 V AC/DC input.
- 10 amp relay output.
- Remote adjust capability.

As long as the unit receives two consecutive pulses within a set time, the output will remain energized.

TIMING



UNDERSPEED DETECT

- Control is independent of unit power.
- Turning on control starts/restarts the delay time and turns on the output.
- As long as the control turns on twice within the delay time the output will remain on.
- If an underspeed condition is detected, turning on control restarts the output.

SPECIFICATIONS

INPUT

VOLTAGE:	120VAC, 24VAC/DC
FREQUENCY:	50/60Hz
TOLERANCE (VOLTAGE):	±10% of nominal
POWER CONSUMPTION:	10VA Maximum
TRANSIENT PROTECTION:	Isolation Transformer, (120VAC only)

OUTPUT

TYPE:	Electromechanical relay
RATING:	10A @ 240VAC maximum

FUNCTION

TYPE:	Electromechanical relay
TIME RAMP:	10A @ 240VAC maximum
TIME RANGE:	0.06 to 100 seconds in 10 ranges
RANGE TOLERANCE:	≤10% of setting
CONTROL:	Isolated contact closure (maximum resistance - 100Ω)
CONTROL TERMINALS:	E - F

VOLTAGE PRESENT AT CONTROL TERMINALS: 24VDC minimum, 40VDC maximum

CYCLE TIME:	Min. time control circuit closed	2msec.
	Min. time control circuit open	50msec
	Max. control circuit pulses/sec	18

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SPECIFICATIONS CON'T

PHYSICAL

OPERATING TEMP: 0° to 50° C (32° to 122° F)
TIMING VARIATION VS. TEMP: ±5% maximum
MOUNTING: Base Mount
TERMINATION: Terminal block on face of timer
HOUSING: Metal

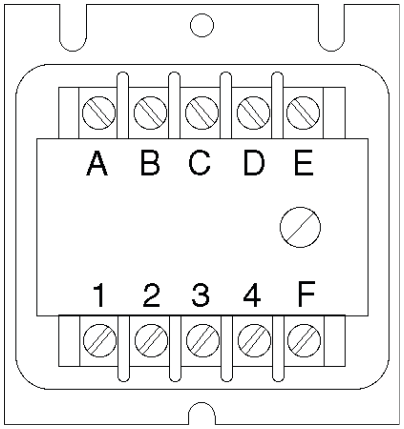
WIRING

OUTPUT B, B1, B2

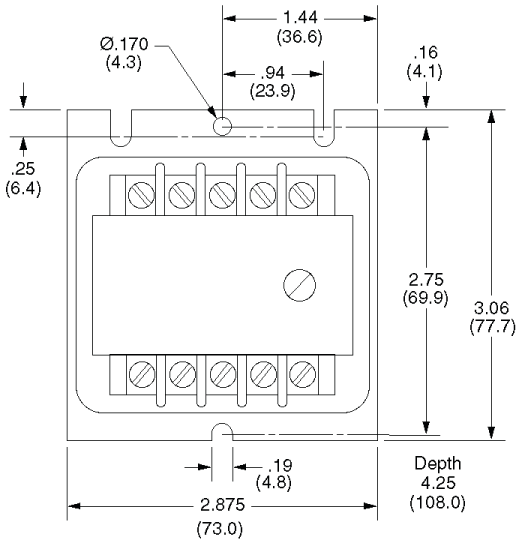
A-B Voltage Input (constant)
C-D Remote adjust (jumper if not used)
E-F Control (resets timing function)
1-2 N.O. timed (except B2, N.C.)
3-4 N.C. timed (except B1, N.O.)

Caution: Never apply voltage to C-D-E-F

Wiring Terminal Location



DIMENSIONS INCH (MM)



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INDUSTRIAL SOLID STATE DETECTOR MODEL 1214 BASE MOUNT

ORDERING DATA

ORDERING CODE **1214 - 1 - K - B**

BASIC MODEL NUMBER

1214

INPUT VOLTAGE

1	120 VAC
2	24 V AC/DC

TIME RANGE (secs)

A	0.06 - 0.10
B	0.06 - 0.25
C	0.06 - 0.50
D	0.06 - 1.0
E	0.06 - 2.5
F	0.06 - 5.0
G	0.06 - 10.0
H	0.06 - 25.0
J	0.06 - 50.0
K	0.06 - 100

OUTPUT

B	Relay 1 N.O., 1 N.C., contacts electrically isolated
B1	Relay 2 N.O., contacts electrically isolated
B2	Relay 2 N.C., contacts electrically isolated

APPLICABLE ACCESSORIES

See accesory section for details

Potentiometers	RP-201 thru RP-210
Reference dial	RP-216
Locking attachment	RP-217

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INDUSTRIAL SOLID STATE DETECTOR

MODEL 1217 BASE MOUNT

KANSON ELECTRONICS, INC.

Model 1217C is an underspeed motion detector which can be coupled with a DC proximity sensor (Model 1217P) or used as a PLC watchdog. Available in time ranges from 0.06 to 100 seconds. As long as the unit receives two consecutive pulses within a set time, the output will remain energized.

Model 1217P proximity sensor is designed to function in conjunction with Model 1217C. It is a limit switch style sensor with three options for sensing location (end, right, left). The unit features an LED indicator and a normally closed PNP output.

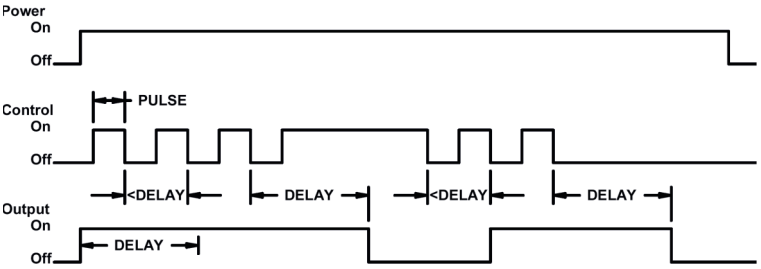
Model 1217P

PROXIMITY SWITCH

Model 1217C

UNDERSPEED DETECTOR

OPERATION



UNDERSPEED DETECT

- Control is independent of unit power.
- When power is applied to the unit, the output turns on and the time delay starts.
- Delay time is reset at the end of each control pulse.
- As long as two pulses end within the delay period, the output will remain on.
- If an underspeed condition is detected, two pulse endings within the delay time will restart the output.

SPECIFICATIONS 1217C

INPUT

VOLTAGE:	120VAC, 24VAC/DC
FREQUENCY:	50/60Hz
TOLERANCE (VOLTAGE):	±10% of nominal
POWER CONSUMPTION:	10VA Maximum
TRANSIENT PROTECTION:	Transformer (120VAC only), MOV (24V)

OUTPUT

TYPE:	Electromechanical relay
MECHANICAL LIFE:	10,000,000 operations
ELECTRICAL LIFE:	500,000 operations
RATING:	10A - 1/6HP @ 120VAC, 1/3HP @ 240VAC

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SPECIFICATIONS 1217C CON'T

FUNCTION

TYPE: Electromechanical relay
TIME RAMP: 0.06 sec to minimum - 10kΩ/sec, 0.5 sec minimum - 100kΩ/sec
TIME RANGE: 0.06 to 100 seconds in 7 ranges
RANGE TOLERANCE: ≤10% of setting
CONTROL: Isolated contact closure (maximum resistance - 100Ω)
or DC proximity switch (ISSC 1217P)
CONTROL TERMINALS: D - E - F
VOLTAGE PRESENT AT CONTROL TERMINALS: 24VDC minimum, 40VDC maximum
CYCLE TIME: Min. time control circuit closed 2msec.
Min. time control circuit open 50msec
Max. control circuit pulses/sec 18

PHYSICAL

OPERATING TEMP: 0° to 50° C (32° to 122° F)
TIMING VARIATION VS. TEMP: ±5% maximum
MOUNTING: Base Mount
TERMINATION: Terminal block on face of timer
HOUSING: Metal

SPECIFICATIONS 1217P

INPUT

VOLTAGE RANGE: 10-40vdc
MAXIMUM SWITCHING FREQUENCY: 150 pulses/sec
OUTPUT RATING: 100mA
SENSING DISTANCE: 0.5 inch (12.7mm)
RESIDUAL VOLTAGE: ≤0.7V

OUTPUT

SWITCHING MODE: Source/PNP
OUTPUT STATE: N.C.
INDICATOR: LED
OPERATING TEMP: -25° to 75° C (-13° to 167° F)

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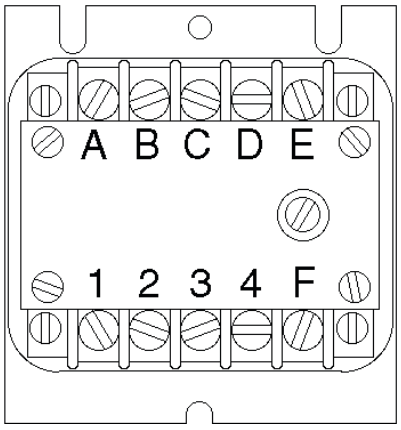
INDUSTRIAL SOLID STATE DETECTOR — MODEL 1217 BASE MOUNT

KANSON ELECTRONICS, INC.

WIRING

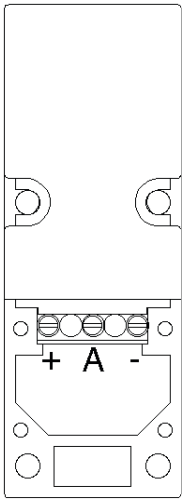
1217C MOTION DETECTOR

A-B Voltage Input (constant)
C Not used
D DC (-) to terminal - on proximity sensor
E Control to Terminal A on proximity sensor
F DC (+) to terminal + on proximity sensor
1-2 N.O. timed
3-4 N.C. timed

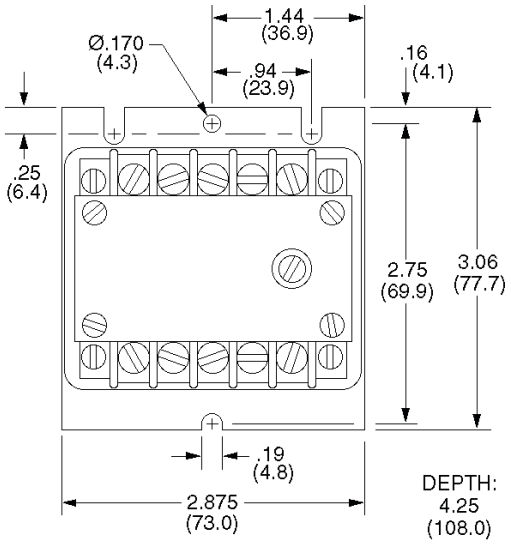


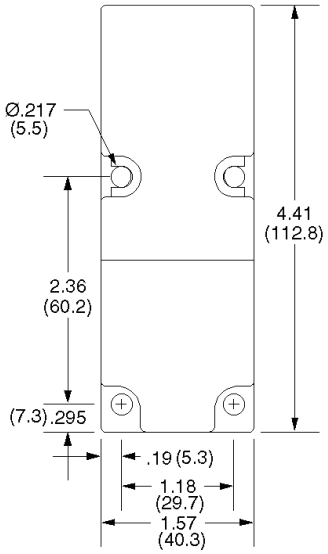
1217P PLC WATCHDOG TIMER

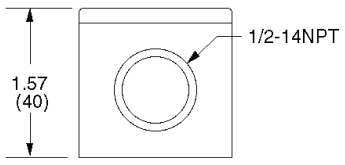
A-B Voltage Input (constant)
C Not used
D Common on PLC
E +24V pulsed output from PLC
F Not used
1-2 N.O. timed
3-4 N.C. timed



DIMENSIONS INCH (MM)







INSTALLATION RECOMMENDATION:
The standard unit is insensitive to most induced voltage transients on the control leads (E - F). Although not mandatory, shielding the leads is recommended. Reasonable care should be taken to eliminate control lead runs in conduit or trays with high voltage lines (1000V or greater).

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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE DETECTOR MODEL 1217 BASE MOUNT

ORDERING DATA - CONTROL

ORDERING CODE **1217C - 1 - K - B**

BASIC MODEL NUMBER
1217C

INPUT VOLTAGE

1	120 VAC
2	24 V AC/DC

TIME RANGE (secs)

D	0.06 - 1.0
E	0.06 - 2.5
F	0.06 - 5.0
G	0.06 - 10.0
H	0.06 - 25.0
J	0.06 - 50.0
K	0.06 - 100

OUTPUT

B	Relay 1 N.O., 1 N.C., contacts electrically isolated
B1	Relay 2 N.O., contacts electrically isolated
B2	Relay 2 N.C., contacts electrically isolated

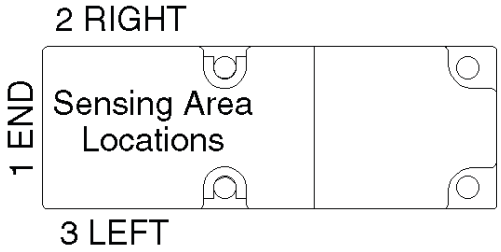
ORDERING DATA - PROX.

ORDERING CODE **1217P - 1**

BASIC MODEL NUMBER
1217P

LOCATION OF SENSING AREA

1	End
2	Right
3	Left



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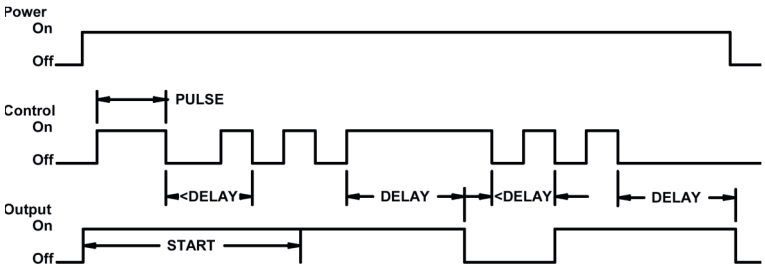
INDUSTRIAL SOLID STATE MODEL 1248A SENSOR - DETECTOR LIMIT STYLE

KANSON ELECTRONICS, INC.

The **1248A** is a self-contained combination proximity sensor and underspeed switch (motion detector) in an easy to install limit switch style unit. Two-wire circuit is wired in the same manner as a limit switch. There are three user selectable speed ranges which cover 5 through 7500 pulses per minute. Also there is an adjustable start time delay of 0 to 20 seconds which allows the system time to come up to speed before the detector begins monitoring for underspeed conditoins. An LED indicates that the output is energized and a target adjustment mode aids setup.

SENSOR
UNDERSPEED DETECTOR

TIMING



UNDERSPEED DETECT

- When power is applied to the unit, the output turns on and the initial start time delay begins.
- A metal target passing thru the sensor field produces the internal control pulse.
- The delay time is reset at the end of each pulse.
- As long as two pulses end within the delay period, the output will remain on.
- If an underspeed condition is detected, two pulse endings within the delay time will reset output.

SPECIFICATIONS

INPUT

VOLTAGE: 20 - 250VAC/DC
FREQUENCY: 50/60Hz or DC
LEAKAGE: ≤2mA
TRANSIENT PROTECTION: MOV

OUTPUT

MAXIMUM LOAD CURRENT: 500mA (continuous)
VOLTAGE: ≤9V (with resistive load maximum load current)
MAXIMUM INRUSH CURRENT: 7A
MINIMUM LOAD CURRENT: 5mA

SENSING

SENSING DISTANCE: 12.7mm (0.5in)
TARGET SIZE: 40mm x 40mm mild steel

TIMING

SPEED RANGES: 3 (User selectable) 5 - 75 ppm
ppm = speed (RPM) X number of targets
MAXIMUM SPEED (at which sensor can detect target): 10,000 ppm
HYSTERESIS: 10% differential between pickup & dropout speeds
RESPONSE TIME: All speed ranges 3msec/3msec (target present/target absent)
DELAY IN READINESS: 100msec (with start time delay at zero)
START UP TIME DELAY: 0-20 seconds (User adjustable)

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KANSON ELECTRONICS, INC.

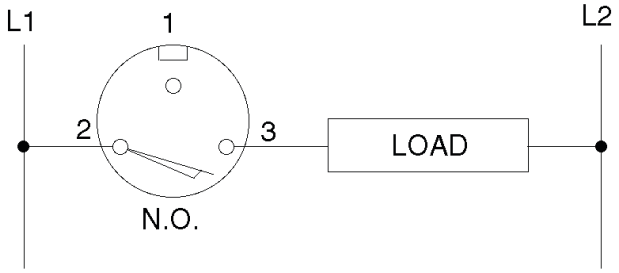
INDUSTRIAL SOLID STATE MODEL 1248A SENSOR - DETECTOR LIMIT STYLE

SPECIFICATIONS CON'T

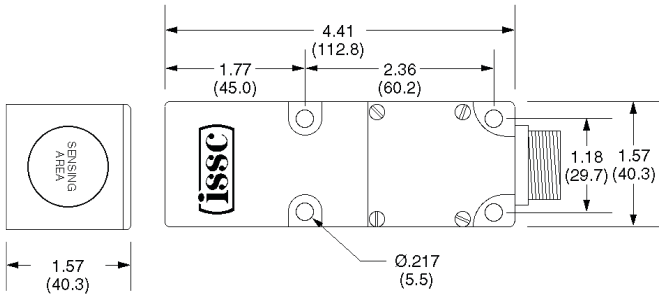
PHYSICAL

OPERATING TEMP: -13° to 70° C (32° to 158° F)
HOUSING MATERIAL: Polycarbonate
ENVIRONMENTAL RATING: NEMA 1, 3, 4, 6, 12, 13, IP67
TERMINATION: 3-pin mini-style connector
ACCESSORIES: 2m cable with connector RP-503

WIRING

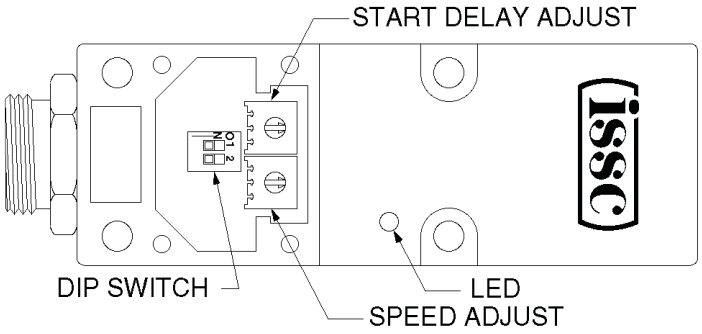


DIMENSIONS INCH (MM)



ADJUSTMENTS

Initial Start Time Delay (0-20 Seconds Adjustable)
The 1248A is supplied with an initial start time delay which energizes the output for the time specified when power is applied to the unit. This feature provides time at startup for the monitored equipment to reach a speed that will maintain an energized output. The output de-energizes if the speed of the monitored equipment fails to reach the set point by the end of this delay. Removing and reapplying power resets the intial time delay.



DIP switch range selection
The DIP switches select one of the three ranges or test mode. The switches can be changed without removing power from the device. When the test mode is selected, the 1248A emulates a standard proximity switch. The output comes on when the target is present. If power is applied with the switches set for test mode, the 1248A enters a factory test mode. Turn off power and set a switch to off to exit.

RANGE	SPEED ppm	SWITCH 1	SWITCH 2
A	5-75	OFF	OFF
B	50-750	ON	OFF
C	500-7500	OFF	ON
TEST	-	ON	ON

ORDERING DATA

1248A-1A4P **The 1248A is currently only available as an end sensing, normally open output, 20-250 V AC/DC unit with 3 selectable speed ranges.**

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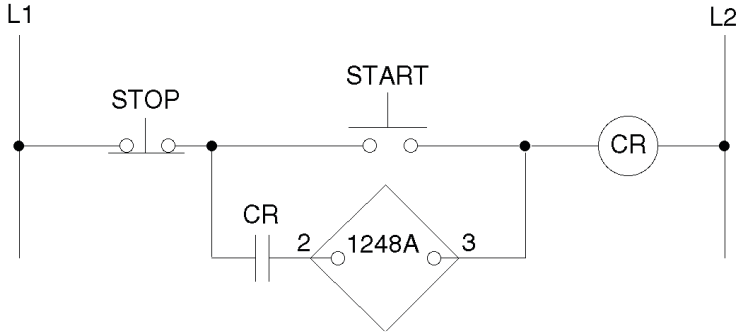
INDUSTRIAL SOLID STATE MODEL 1248A SENSOR - DETECTOR LIMIT STYLE

KANSON ELECTRONICS, INC.

APPLICATION EXAMPLE



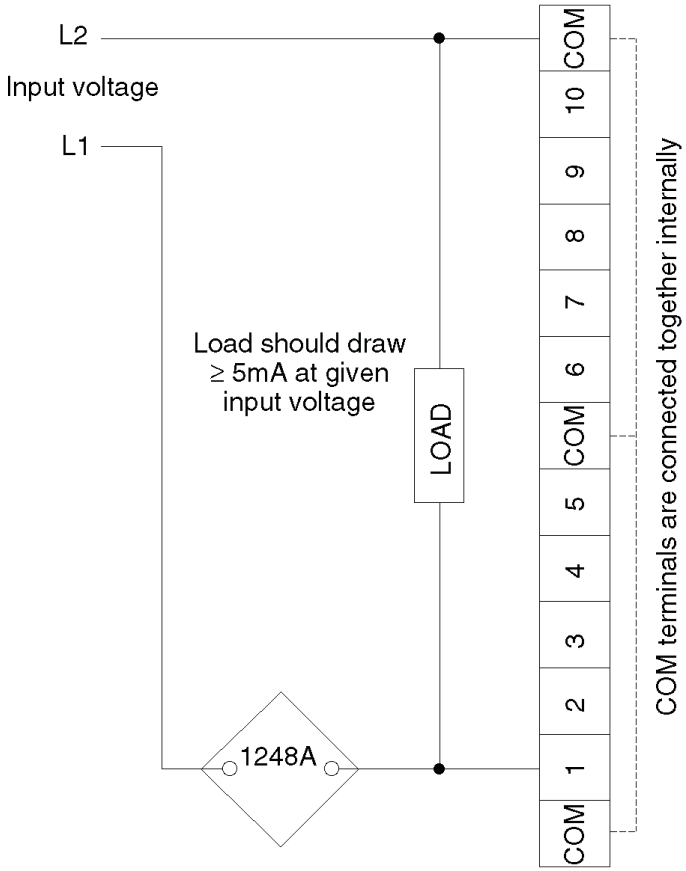
NOTE: This circuit requires the start time delay to be adjusted for no less than 1/2 second.

SPECIAL CONSIDERATION FOR PLC APPLICATIONS

When using the **Model 1248A** as a direct input to a PLC, the minimum load current specification of 5mA must be taken into consideration. Most of today's PLC's have a very high impedence which does not allow enough current for the 1248A to operate properly.

The solution to this problem is to parallel a load (a resistor or indicator lamp) with the PLC input.

Typical PLC Application Example:



See your PLC User's Manual for specific wiring details.

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INDUSTRIAL SOLID STATE DETECTOR — MODEL 1260 BASE MOUNT

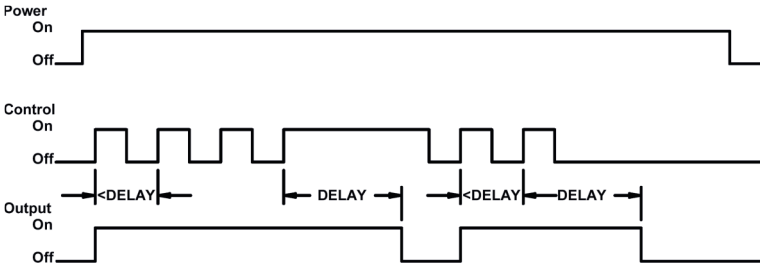
KANSON ELECTRONICS, INC.

Underspeed motion detector which features either relay contact or solid state output. AC control circuit is compatible with standard mechanical switches, solid state proximity switches and 120VAC pulses. Available in time ranges from 0.06 to 500 seconds with remote adjust capability.

As long as the unit recieves two consecutive pulses within the set time, the output will remain energized.

UNDERSPEED DETECTOR

TIMING



UNDERSPEED

- Control is independent of unit power.
- Turning on control starts/restarts the delay time and turns on the output.
- As long as the control turns on twice within the delay time, the output will remain on.
- If an underspeed condition is detected, turning control on restarts the output.

SPECIFICATIONS

INPUT

VOLTAGE:	120VAC
FREQUENCY:	50/60Hz
TOLERANCE (VOLTAGE):	±10% of nominal
POWER CONSUMPTION:	10VA maximum
TRANSIENT PROTECTION:	Isolation transformer

OUTPUT

TYPE:	Electromechanical relay or solid state
RATING:	1.5A @ 120VAC (solid state) 10A - 240VAC maximum (electromechanical)

FUNCTION

TYPE:	Motion detector
REPEAT ACCURACY:	±0.5% of setting
INDICATION:	LED indicates unit timing and output energized
TIMING RAMP:	0.06 sec. minimum time - 100kΩ/sec, 0.5 sec. minimum time - 10kΩ/sec
TIME RANGE:	0.06 to 500 seconds in 12 ranges
RANGE TOLERANCE:	≤10% of setting
CONTROL:	Isolated contact closure or AC proximity switch
CONTROL TERMINALS:	P1-P2-L2

VOLTAGE PRESENT AT CONTROL TERMINALS: P1-P2: Same as input voltage, L2-P2: 120VAC pulse

CYCLE TIME:	Min. time control circuit closed 8msec Min. time control circuit open 16msec Max. control circuit pulses/sec 40

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INDUSTRIAL SOLID STATE DETECTOR MODEL 1260 BASE MOUNT

KANSON ELECTRONICS, INC.

SPECIFICATIONS

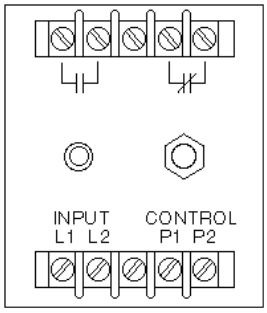
PHYSICAL

OPERATING TEMP: -32° to 71° C (-25.6° to 159.8° F)
TIMING VARIATION VS. TEMP: ±3% maximum
MOUNTING: Base mount
TERMINATION: Terminal block on face of timer
HOUSING: Metal

WIRING

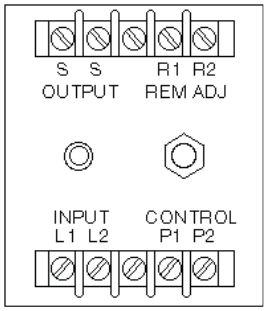
Output B
L1-L2 Voltage input (constant)
P1-P2 Control
L2-P2 120VAC Pulse
Output as shown: N.O. timed, N.C. timed

Caution: Never apply voltage to P1
(L1 internally jumpered to P1)



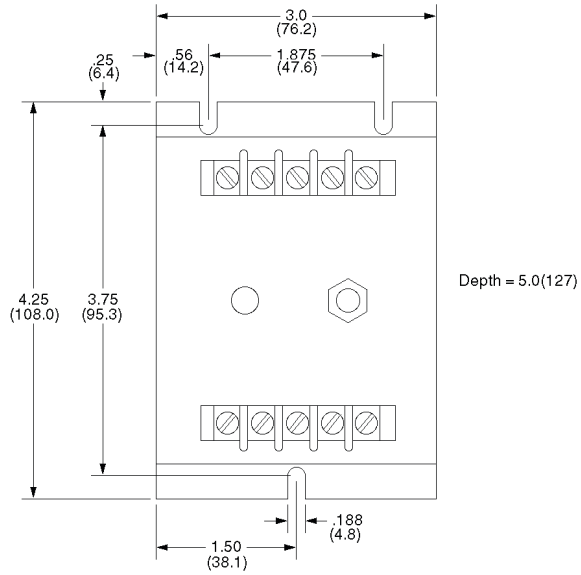
Output C
L1-L2 Voltage input (constant)
P1-P2 Control
L2-P2 120VAC Pulse
R1-R2 Remote adjust (jumper if not used)
S1-S2 N.O. solid state, timed

Caution: Never apply voltage to P1-R1-R2
(L1 internally jumpered to P1)



Wiring Terminal Locations

DIMENSIONS INCH (MM)



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INDUSTRIAL SOLID STATE DETECTOR MODEL 1260 BASE MOUNT

ORDERING DATA

ORDERING CODE **1260 - 1 - G - B**

BASIC MODEL NUMBER

1260

INPUT VOLTAGE

1	120 VAC

TIME RANGE (secs)

A	0.06 - 0.10
B	0.06 - 0.25
C	0.06 - 0.50
D	0.06 - 1.0
E	0.06 - 2.5
F	0.06 - 5.0
G	0.06 - 10.0
H	0.06 - 25.0
J	0.06 - 50.0
K	0.06 - 100
L	0.5 - 250
M	0.5 - 500
W	Factory fixed (within 5% of customer specified time)

OUTPUT

B	Relay 1 N.O., 1 N.C., contacts electrically isolated
C	Solid state 1 N.O., 1.5 amps AC

APPLICABLE ACCESSORIES

See accesory section for details

Potentiometers	RP-201 thru RP-210
Reference dial	RP-216
Locking attachment	RP-217

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INDUSTRIAL SOLID STATE DETECTOR

MODEL 1262 BASE MOUNT

KANSON ELECTRONICS, INC.

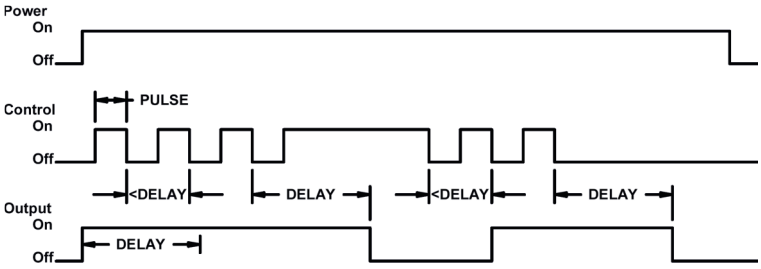
Underspeed motion detector which features either AC or DC control inputs. AC control circuit is compatible with standard mechanical switches, solid state proximity sensors and 120VAC pulses. DC control circuit is compatible with solid state source or sink proximity sensors and 12VDC pulses. Available in time ranges from 0.06-1000 seconds.

As long as the unit receives two consecutive pulses within the set time, the output will remain energized. An optional initial hold time function allows the system time to come up to speed before the detector begins monitoring for underspeed conditions.

MSHA Investigation No. IA-137. The 1262 is used in conjunction with the ISSC 1221 proximity sensor and is approved by the Mine Safety and Health Administration.

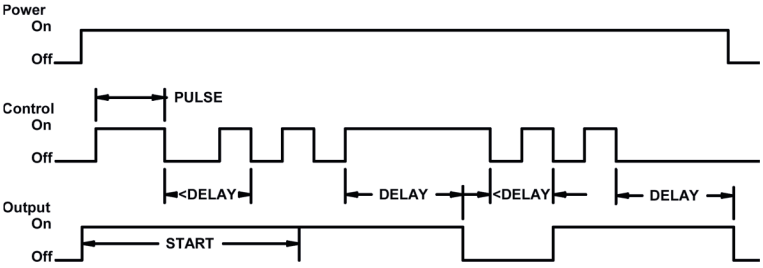
UNDERSPEED DETECTOR

TIMING



UNDERSPEED DETECT

- Control is independent of unit power.
- When power is applied to the unit, the output turns on and the time delay starts.
- Delay time is reset at the end of each control pulse.
- As long as two pulses end within the delay period, the output will remain on.
- If an underspeed condition is detected, two pulse endings within the delay time will restart the output.



UNDERSPEED DETECT - OPTIONAL START DELAY

- Control is independent of unit power.
- A pulse is the turning on then off of the control.
- When power is applied to the unit, the output turns on and the initial start time delay starts.
- The delay time is reset at the end of each pulse.
- As long as two pulses occur within the delay period, the output will remain on.
- If the output turns off, two pulses within the delay time will reset the output.

Adjust Set Time Interval

A timing potentiometer sets the time interval. It is necessary to calculate the period of time between pulses to determine the correct time setting.

1) Determine minimum operating speed. This is the speed at which the output energizes. Any greater speed also maintains an energized output. Any slower speed de-energizes the output.

2) Determine pulse/sec ratio provided by minimum operating speed. Example: 2 pulses/sec.

3) Determine time interval between pulses. Example: 2 pulses/sec = 1 pulse/0.5 sec.

4) Adjust timing potentiometer to a setting slightly greater than 0.5 sec. Minimum operating speed (1 pulse/0.5 sec) will provide 2 pulses in a timer interval slightly greater than 0.5 sec and maintain an energized output. Any speed less than the minimum operating speed will not provide two pulses per set time interval and the unit's output will de-energize.

5) Select a time range, when ordering a 1262, in which the set time interval for minimum operating speeds falls midrange. This provides better time setting resolution. Example: Set time interval - 0.55 sec. Select time range "D" - 0.06-1.0 sec.

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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE DETECTOR MODEL 1262 BASE MOUNT

SPECIFICATIONS

INPUT

VOLTAGE: 120VAC
FREQUENCY: 50/60Hz
TOLERANCE (VOLTAGE): ±10% of nominal
POWER CONSUMPTION: 10VA maximum
TRANSIENT PROTECTION: Isolation transformer

OUTPUT

TYPE: Electromechanical relay
RATING: 10A - 1/6HP @ 120VAC, 1/3HP @ 240VAC

FUNCTION

TYPE: Motion detector
REPEAT ACCURACY: ±1% of setting
INDICATION: LED indicates unit timing and output energized.
TIMING RAMP: 0.02 sec. minimum time - 1MΩ/sec
0.06 sec. minimum time - 100kΩ/sec
0.5 sec. minimum time - 10kΩ/sec
TIME RANGE: 0.02 to 1000 seconds in 13 ranges
RESPONSE TIME: Set time interval
HYSTERESIS: ~5% between pickup and dropout speeds
RANGE TOLERANCE: ±10% of setting
CONTROL TERMINALS: A-B-C-D-E-F
VOLTAGE PRESENT AT CONTROL TERMINALS:
A-C: Same as input voltage
B-C: 120VAC pulse
D-E-F: 12VDC
D-E: 12VDC pulse

CYCLE TIME:

Time Range		AC Control	DC Control
A-C	Minimum time control circuit closed	8 msec	0.1 msec
	Minimum time control circuit open	16 msec	0.45 msec
	Maximum control circuit pulses/sec	40	1800
D-H	Minimum time control circuit closed	8 msec	0.1 msec
	Minimum time control circuit open	16 msec	5 msec
	Maximum control circuit pulses/sec	40	200
J-N	Minimum time control circuit closed	8 msec	8 msec
	Minimum time control circuit open	42 msec	42 msec
	Maximum control circuit pulses/sec	20	20

PHYSICAL

OPERATING TEMP: 0° to 50° C (32° to 122° F)
TIMING VARIATION VS.TEMP: ±5% maximum
MOUNTING: Base mount
TERMINATION: Terminal block on face of timer
HOUSING: Metal

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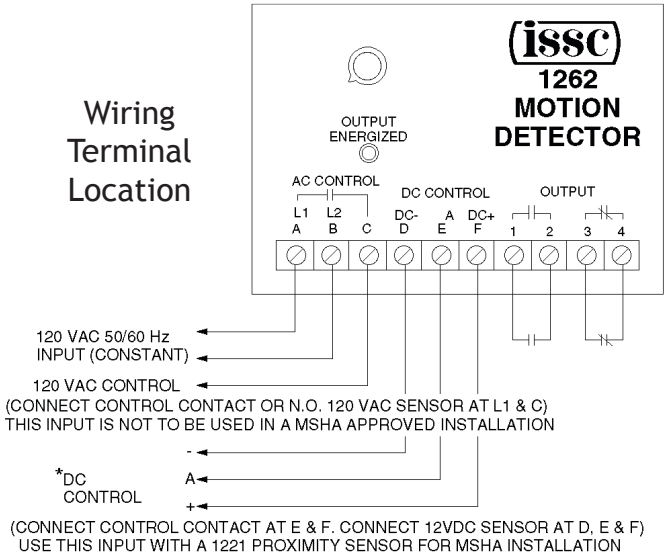
INDUSTRIAL SOLID STATE DETECTOR MODEL 1262 BASE MOUNT

KANSON ELECTRONICS, INC.

WIRING

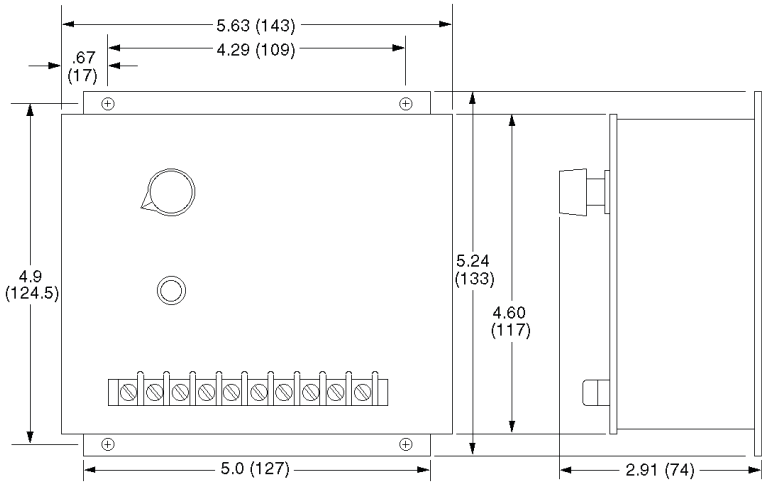
A-B Voltage input (constant)
A-C AC Control - mechanical contact or proximity sensor
B-C AC Control - 120VAC pulse
D-E-F DC Control - soure or sink* proximity sensor
D- (DC-) common for proximity sensor
E- (A) input for proximity sensor
F- (+12VDC) supplied to proximity sensor
D-E 12VDC pulse
D- (DC-) common
E-(+12VDC) supplied by sourcing output
E-F DC Control - mechanical contact
*When using the sink proximity sensor, install 1200Ω pull-up resistor (supplied with unit) at E-F.
1-2 N.O. (except B2, N.C.)
3-4 N.C. (except B1, N.O.)

Wiring Terminal Location



*NOTE: TO USE ISSC DC PROXIMITY SWITCH 1221 (N.O.) , A 1200 Ω PULL-UP RESISTOR (SUPPLIED WITH UNIT) MUST BE INSTALLED AT TERMINALS E & F. (SEE DWG. G2693).

DIMENSIONS INCH (MM)



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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE DETECTOR MODEL 1262 BASE MOUNT

ORDERING DATA

ORDERING CODE **1262 - 1 - L - C - B1 OP3(5)**

BASIC MODEL NUMBER
1260

INPUT VOLTAGE

1	120 VAC

DETECTION MODE

L	Underspeed

TIME RANGE (secs)

A	0.06 - 0.10
B	0.06 - 0.25
C	0.06 - 0.50
D	0.06 - 1.0
E	0.06 - 2.5
F	0.06 - 5.0
G	0.06 - 10.0
H	0.06 - 25.0
J	0.06 - 50.0
K	0.06 - 100
L	0.5 - 250
M	0.5 - 500
W	Factory fixed (within 5% of customer specified time)

OUTPUT

B	Relay 1 N.O., 1 N.C., contacts electrically isolated
B1	Relay 2 N.O., contacts electrically isolated

OPTION (if desired)

OP3(t)	Initial start time delay. Specified in parenthesis time selected below.

1 sec.	10 secs.
5 secs.	25 secs.

SPECIAL MODEL FOR PLC WATCHDOG APPLICATIONS

ORDER NUMBER 1262-PC
0.06 - 2.5 second timeout,
2 second initial start time delay,
Relay output 1 N.O., 1 N.C.

APPLICABLE ACCESSORIES

See accesory section for details

Locking attachment	RP-217

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INDUSTRIAL SOLID STATE DETECTOR

MODEL 1213 BASE MOUNT

KANSON ELECTRONICS, INC.

The function of a resistive sensitive relay is based on the detection of various resistance values. Output pick-up occurs when both of the units sensing probes come in contact with a material or liquid which provides a resistance value lower than the units maximum sensitivity level.

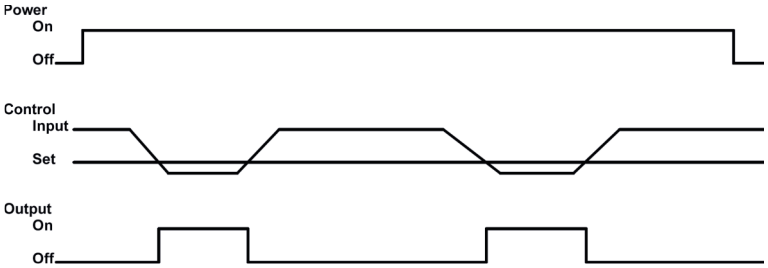
Type A resistive sensitive relay can be wired for output pick-up at a maximum resistance level of either 3,000Ω or 30,000Ω.

Type B has a low maximum resistance level for ouput pick-up at 110Ω. The unit can be purchased with an optional sensitivity adjustment which allows the resistance level to be set anywhere between 10Ω and 110Ω. The Type B is ideal in tool or work detection applications requiring coolant solutions which have low resistance.

Type C voltage sensitive relay, amplifies a low DC voltage signal by energizing a mechanical output which is capable of switching heavier voltage loads. The Type C can be applied directly to the solid state output of instruments or logic control equipment to function as a power relay.

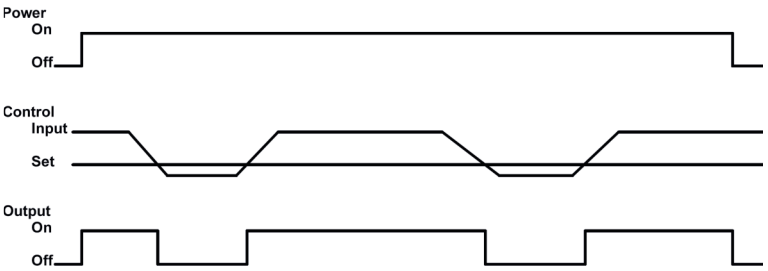
RESISTANCE OR VOLTAGE DETECTOR

FUNCTION



RESISTANCE DETECTION - Type A, B

- Control is independent of unit power.
- When input resistance drops below the set reference resistance the output turns on.



VOLTAGE DETECTION - Type C

- Control is independent of unit power.
- While input voltage is above 3VDC, the output remains on.

SPECIFICATIONS

INPUT

VOLTAGE:	120VAC
FREQUENCY:	50/60Hz
TOLERANCE (VOLTAGE):	±15% of nominal
POWER CONSUMPTION:	10VA Maximum
TRANSIENT PROTECTION:	Isolation Transformer

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SPECIFICATIONS CON'T

OUTPUT

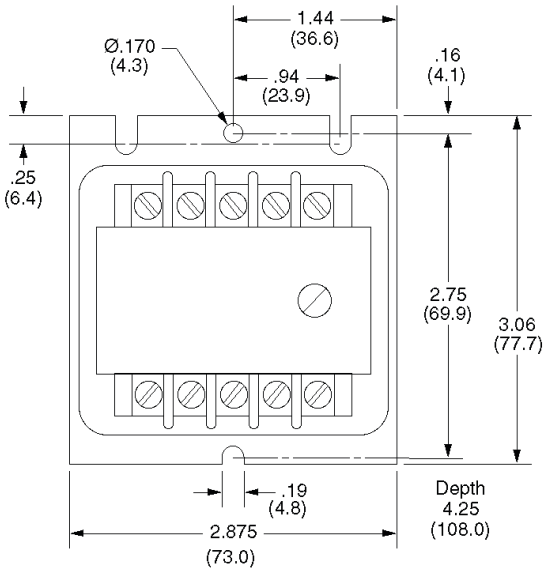
TYPE: Electromechanical relay
RATING: 10A @ 240VAC maximum

	Type A Resistive Sensitive 3.0kΩ	Type A Resistive Sensitive 30.0kΩ	Type B Resistive Sensitive 110kΩ	Type C Voltage Sensitive
Control Terminals	E & F (C & D jumpered)	C & F (C & D without jumper)	E & F (C & D not used)	E(+) & F(-) (C & D not used)
Max. open circuit voltage	8VDC	40VDC	2VDC	N/A
Max. short circuit current	10mA	10mA	2.0mA	N/A
Max. control resistance to energize unit	3.0kΩ	30.0kΩ	110Ω	N/A
Min. control resistance to de-energize unit	6.0kΩ	45kΩ	160Ω	N/A
Max. control voltage	N/A	N/A	N/A	20VDC
Min. control voltage	N/A	N/A	N/A	1.5VDC ±10%
Control point which may be grounded	E or F	E or F	F	F

PHYSICAL

OPERATING TEMP: 0° to 50° C (32° to 122° F)
MOUNTING: Base Mount
TERMINATION: Terminal block on face of timer
HOUSING: Metal

DIMENSIONS INCH (MM)



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INDUSTRIAL SOLID STATE DETECTOR MODEL 1213 BASE MOUNT

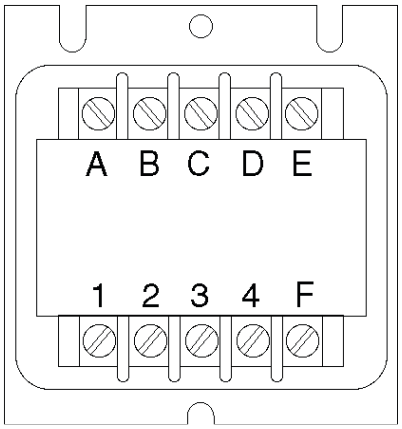
KANSON ELECTRONICS, INC.

WIRING

TYPE A
A-B Voltage Input (constant)
C-F Control 30K (energize output, remove jumper)
E-F Control 3K (energizes output, jumper C & D)
1-2 N.O. (except B2, N.C.)
3-4 N.C. (except B1, N.O.)

Caution: Never apply voltage to C-D-E-F

Wiring Terminal Location



TYPE B
A-B Voltage Input (constant)
C-D Not used
E-F Control (energizes output)
1-2 N.O. (except B2, N.C.)
3-4 N.C. (except B1, N.O.)

Caution: Never apply voltage to C-D-E-F

TYPE C
A-B Voltage Input (constant)
C-D Not used
E-F Control E(+) F(-) (energizes output)
1-2 N.O. (except B2, N.C.)
3-4 N.C. (except B1, N.O.)

Caution: Never apply voltage to C-D-E-F

ORDERING DATA

ORDERING CODE **1213 - 1 - B - B OP2**

BASIC MODEL NUMBER
1213

INPUT VOLTAGE
1 120 VAC

INPUT MODE
A Resistive sensitive relay with dual control points, 3K ohm or 30K ohm maximum.
B Low resistive sentitive relay with single control point, 110 ohm maximum.
C Voltage sensitive control point, 20V maximum, 3V minimum.

OUTPUT
B Relay 1 N.O., 1 N.C., contacts electrically isolated
B1 Relay 2 N.O., contacts electrically isolated
B2 Relay 2 N.C., contacts electrically isolated

OPTIONS
OP1 Output indication light
OP2 Sensitivity adjustment which allows resistance level to be set anywhere between 10 and 110 ohms (type B only).

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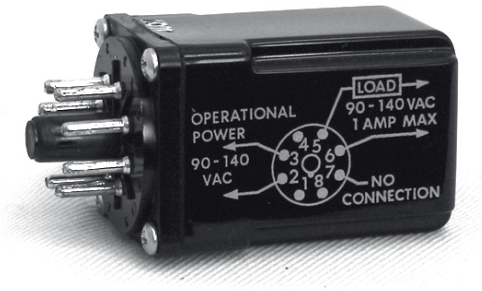
INDUSTRIAL SOLID STATE SWITCH

MODEL 1230 PLUG - IN

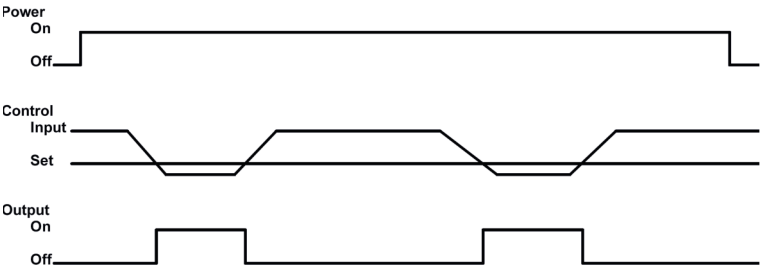
KANSON ELECTRONICS, INC.

The **Model 1230** Resistive Sensitive Switch is a completely solid state industrial control device whose output changes state when the resistance impressed on its input pins matches a predetermined value. This is accomplished by installing a reference resistance across input pins. Designed for service in rugged industrial control environments, it is a plug-in device which can be applied in any control scheme where a control action is required, based upon a change in electrical resistance; such as RTD, photo cells, liquid level contacts, tool to work piece contact, etc. Control input open circuit voltage and short circuit current are limited to low levels for safety reasons.



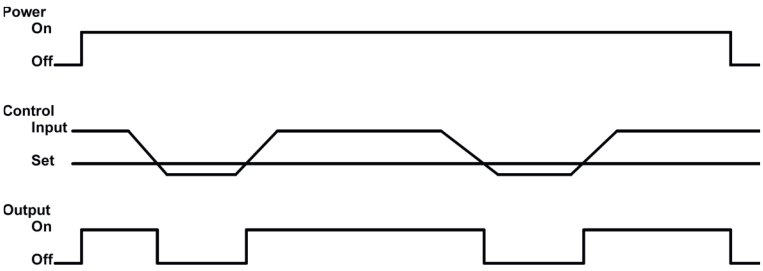
RESISTANCE SWITCH

FUNCTION



LOW RESISTANCE DETECT

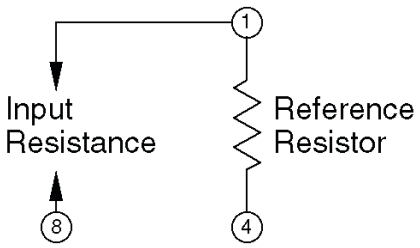
- Control is independent of unit power.
- When input resistance drops below the set reference resistance, the output turns on.



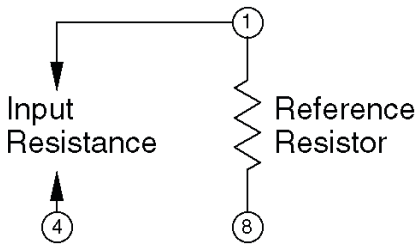
HIGH RESISTANCE DETECT

- Control is independent of unit power.
- While input resistance is above the set reference resistance, the output remains on.

LOW RESISTANCE DETECT CONNECTIONS



HIGH RESISTANCE DETECT CONNECTIONS



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INDUSTRIAL SOLID STATE SWITCH

MODEL 1230 PLUG - IN

KANSON ELECTRONICS, INC.

SPECIFICATIONS

INPUT

VOLTAGE:	90-140VAC
FREQUENCY:	50/60Hz
POWER CONSUMPTION:	20mA
TRANSIENT PROTECTION:	Transformer

OUTPUT

TYPE:	N.O. Triac (optically isolated, 1500 Vrms)
RATING:	1.0A rms max. continuous, 15A inrush (16msec @ 60Hz)
MAXIMUM SWITCHING RATE:	30/second

RESISTANCE INPUT

SENSITIVITY:	1.0
OPEN CIRCUIT VOLTAGE:	<7V maximum
SHORT CIRCUIT CURRENT:	<5V maximum
HYSTERESIS:	Approximately 30%

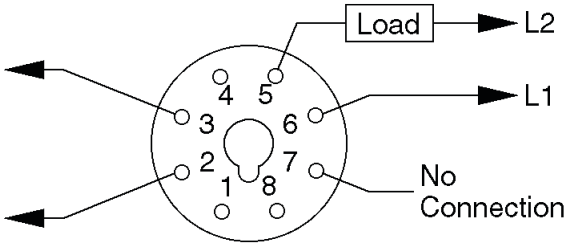
PHYSICAL

OPERATING TEMP:	-25° to 70° C (-13° to 160° F)
MOUNTING:	Plug-in
TERMINATION:	8-pin socket
HOUSING:	Plastic

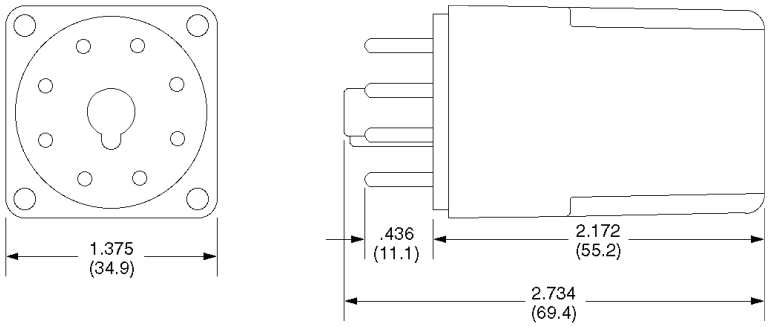
WIRING

POWER WIRING

Operational power (may be connected to same source as load).



DIMENSIONS INCH (MM)



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ORDERING DATA

ORDERING CODE **1230 - 1 - D - C**

BASIC MODEL NUMBER

1230

INPUT VOLTAGE

1	90 - 140 VAC

INPUT MODE

D	Resistive sensitive switch, (input sensitivity 1.0kΩ to 1.0MΩ)

OUTPUT

C	Solid state (AC) 1 amp, 120VAC

APPLICABLE ACCESSORIES

See accessory section for details

8 - pin socket	RP-302
8 - pin socket (DIN rail mount)	RP-302

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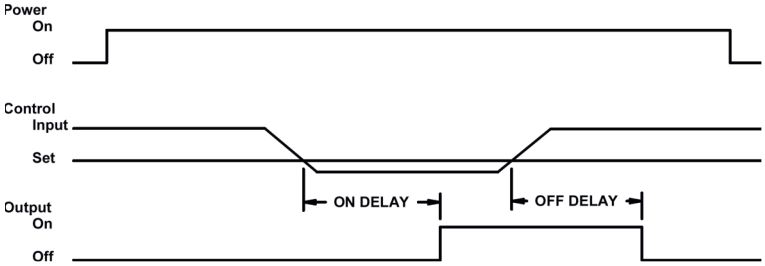
INDUSTRIAL SOLID STATE DETECTOR

MODEL 1232 BASE MOUNT

KANSON ELECTRONICS, INC.

The **Model 1232** is useful where initial contact may be poor or the item to be detected may bounce against the sensing probes. Output operates when the sensing probes come in contact with a material which provides a resistance value lower than the set resistance and after set ON Delay. Output releases when the resistance between the sensing probes is greater than the set resistance and after set OFF Delay.

TIMING



LOW RESISTANCE DETECT

- Control is independent of unit power.
- When input resistance drops below the set reference resistance, the output turns on after a delay period.
- When input resistance again rises above the set reference resistance, the output turns off after a delay period.

SPECIFICATIONS

INPUT

VOLTAGE: 120VAC, 24VAC/DC
FREQUENCY: 50/60Hz
TOLERANCE (VOLTAGE): ±10% of nominal
POWER CONSUMPTION: 10VA maximum
TRANSIENT PROTECTION: MOV

OUTPUT

TYPE: Electromechanical relay
RATING: 10A @ 240VAC maximum

RESISTANCE INPUT

SENSITIVITY: 1.0k to 1.0M in 5 ranges
OPEN CIRCUIT VOLTAGE: 13V maximum
SHORT CIRCUIT CURRENT: 5mA maximum
HYSTERESIS: Approximately 20%

TIMING

TYPE: ON Delay/OFF Delay (independently adjustable)
REPEAT ACCURACY: ≤0.5% of setting
TIME RANGE: 0.05 to 1.0 seconds
CONTROL: Resistance applied to terminals C & D

PHYSICAL

OPERATING TEMP: 0° to 70° C (32° to 158° F)
TIMING VARIATIONS VS. TEMP: ±5% maximum
MOUNTING: Base Mount
TERMINATION: Terminal block on face of timer
HOUSING: Metal

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INDUSTRIAL SOLID STATE DETECTOR — MODEL 1232 BASE MOUNT

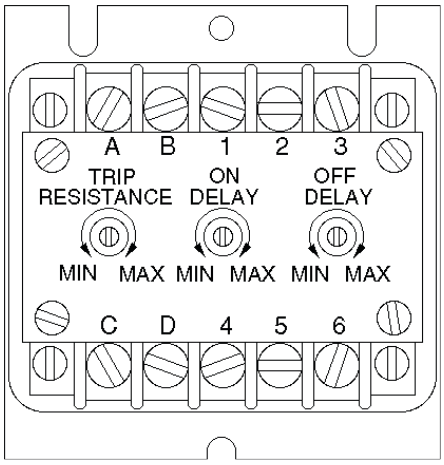
KANSON ELECTRONICS, INC.

WIRING

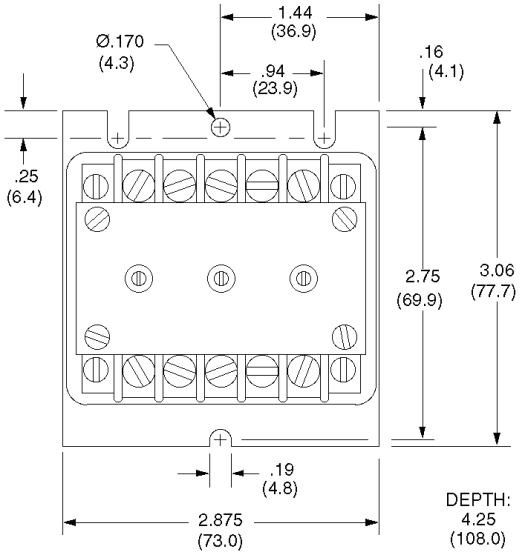
A-B Voltage Input (constant)
C-D Control (energizes output)
1-2 N.O.
2-3 N.C.
4-5 N.O.
5-6 N.C.

Caution: Never apply voltage to terminals C & D

Wiring Terminal Location



DIMENSIONS INCH (MM)



ORDERING DATA

ORDERING CODE **1232 - 2 - B - B**

BASIC MODEL NUMBER
1232

INPUT VOLTAGE

1	120 VAC
2	24V AC/DC

SENSING RANGE

A	1.0k - 3.0k
B	2.0k - 25k
C	20k - 250k
D	200k - 700k
E	500k - 1.0M

OUTPUT

B	Relay DPDT

800-233-9354 or 931-796-3050 / Fax: 931-796-3956 / Web: http://www.issc-kanson.com

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INDUSTRIAL SOLID STATE DETECTOR

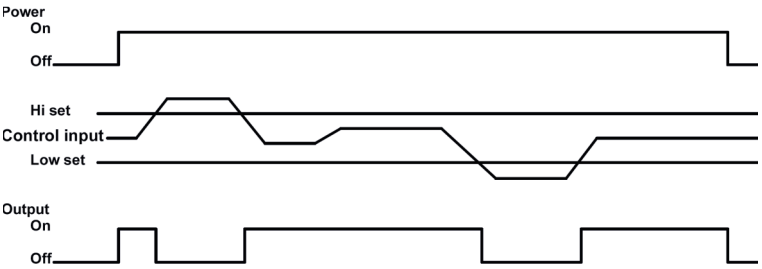
MODEL 1234 BASE MOUNT

KANSON ELECTRONICS, INC.

The **Model 1234** is a 'window' type detector and can be used where fail safe operation is required. LED indicators show low/good/high conditions. In a typical application, the unit could detect a probe shorted to ground (low) or a broke wire to the probe (high).

WINDOW RESISTANCE SWITCH

TIMING



WINDOW RESISTANCE

- Control is independent of unit power.
- While input resistance is between the high and low set reference resistances, the output remains on.

SPECIFICATIONS

INPUT

VOLTAGE:	120VAC, 24VAC/DC
FREQUENCY:	50/60Hz
TOLERANCE (VOLTAGE):	±10% of nominal
POWER CONSUMPTION:	10VA maximum
TRANSIENT PROTECTION:	MOV

OUTPUT

TYPE:	Electromechanical relay
RATING:	10A @ 240VAC maximum

RESISTANCE INPUT

SENSE RANGE:	0Ω to >50k
UPPER SET POINT:	100Ω to 50k
LOWER SET POINT:	85Ω to 42k (must be <85% of upper point)
OPEN CIRCUIT VOLTAGE:	13VDC maximum
SHORT CIRCUIT VOLTAGE:	2.0 mA maximum
HYSTERESIS:	Approximately 5%

PHYSICAL

OPERATING TEMP:	0° to 70° C (32° to 158° F)
MOUNTING:	Base Mount
TERMINATION:	Terminal block on face of timer
HOUSING:	Metal

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INDUSTRIAL SOLID STATE DETECTOR

MODEL 1234 BASE MOUNT

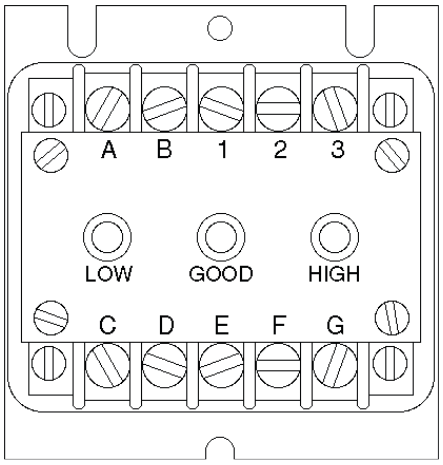
KANSON ELECTRONICS, INC.

WIRING

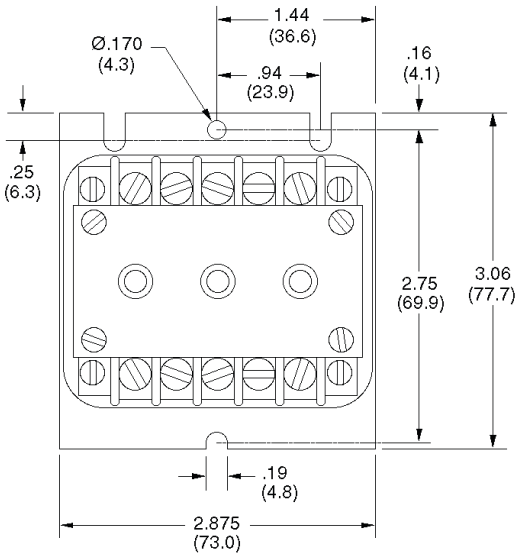
A-B Voltage Input (constant)
C-D Sensing Input (energizes output)
E-F Lower trip set resistance
G-F Upper trip set resistance
1-2 N.O.
2-3 N.C.

Caution: Never apply voltage to terminals C & D

Wiring Terminal Location



DIMENSIONS INCH (MM)



ORDERING DATA

ORDERING CODE **1234 - 2 - A - B ---**

BASIC MODEL NUMBER
1234

INPUT VOLTAGE
1 120 VAC
2 24V AC/DC

SENSING RANGE
A 0 - 350

OUTPUT
B Relay DPDT

OPTION (if desired)
OP1 Factory installed 47kΩ upper trip resistor and a 3.0kΩ lower trip resistor.

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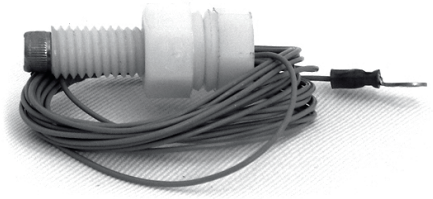
KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE DETECTOR / PROBE

MODEL LLD LIQUID LEVEL

The **Model LLD-100** is a resistance detector optimized to detect any conductive fluid. A typical application is to signal a high water level and activate a pump to lower the water to a safe level. Output is "off" with no conducting path from probe to aluminum mounting plate. Output is "on" when resistance between probe and aluminum mounting plate is ≤ MΩ.



SPECIFICATIONS

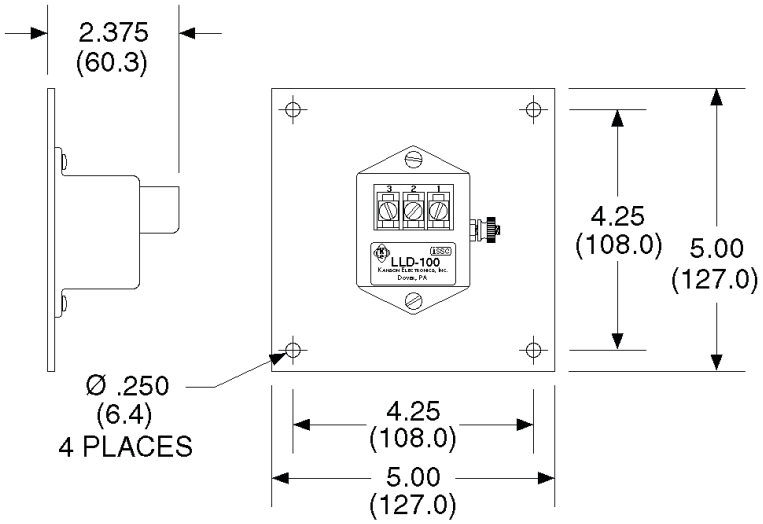
CIRCUIT TYPE:	N.O. Solid state output
OPERATING VOLTAGE:	105 - 130 VAC 50/60 Hz
MAXIMUM LOAD CURRENT:	12 Amps (continuous)
MAXIMUM INRUSH CURRENT:	50 Amps (one cycle)
MINIMUM LOAD CURRENT:	100 mAmps (continuous)
PROBE INPUT:	Open circuit voltage 12 VDC, Peak current <1mAmp max.
OPERATING TEMP:	-25° to 70° C (-10° to 155° F)
TERMINATION:	3-Position terminal strip

WIRING

TERMINAL 1:	LI (120 VAC)
TERMINAL 2:	LOAD
TERMINAL 3:	L2 (COMMON)
SIDE POST:	PROBE LEAD

Aluminum mounting plate and liquid to be detected should be at the same electrical potential - typically earth ground.

DIMENSIONS INCH (MM)



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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE DETECTOR / PROBE

MODEL LLD LIQUID LEVEL

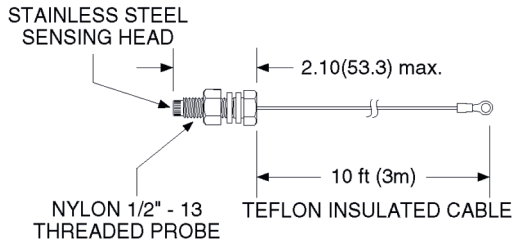
ORDERING DATA

BASIC MODEL NUMBER

LLD-100

APPLICABLE ACCESSORY

PROBE LLP-100



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KANSON ELECTRONICS, INC.

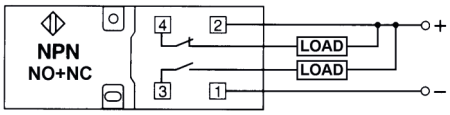
INDUSTRIAL SOLID STATE PROXIMITY SENSOR — INDUCTIVE LIMIT STYLE

The **Limit Style Shaped Case** proximity sensor features a movable sensing head making 5 orientations available. Four wire models have both N.O. and N.C. outputs. Two wire models have outputs selectable between N.O. or N.C. All models have LED indicators.

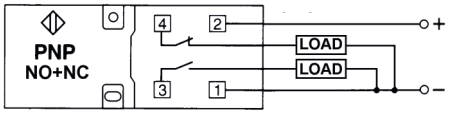
CE

WIRING

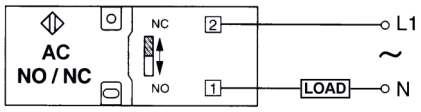
DC NPN, Complementary



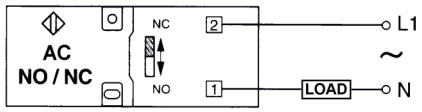
DC PNP, Complementary



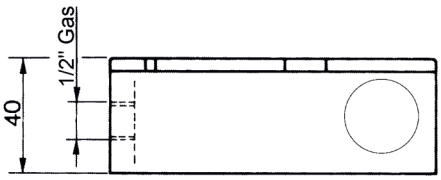
DC, N.O./N.C. Selectable

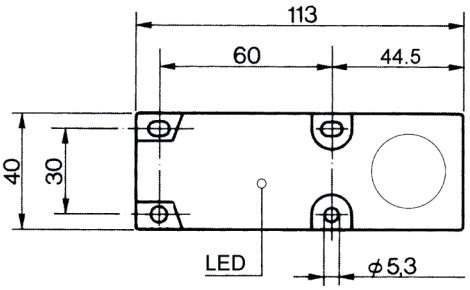


AC, N.O./N.C. Selectable



DIMENSIONS MM





ORDERING DATA

Flush Mounting

Model Number	L40-D010-F	L40-D710-F	L40-DP10-F	L40-AP10-F
Output Function	NPN, Complementary	PNP, Complementary	N.O./N.C. Selectable	N.O./N.C. Selectable
Operating Distance	15 mm			
Power Supply	10-55 VDC			20-250 VAC
Power Drain	<10 mA		-----	
Leakage Current	-----		<0.6 mA	<1.0 mA
Voltage Drop (ON state)	<1.8 V		<6.5 V	<6.0 V
Switching Current (max)	200 mA		100 mA	300 mA
Switching Current (min)	-----		1.5 mA	5 mA
In-rush Current <20 msec.	-----			1.5 A
Short Circuit Protection	Yes			-----
Operating Frequency	300 Hz			12 Hz
Repeatability	<3 % Operating Distance			
Hysteresis	<10 % (@ ~50 mm Operating Distance)			
Case	Plastic			
Flush Mounting	Yes			
Protection Degree	IP-65			
Operating Temperature	-25˚C to +70˚C			
Output Connection	Connector - RP-495 (included)			

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ORDERING DATA CON'T

Non Flush Mounting

Model Number	L40-D060-F	L40-D760-F	L40-DP60-F	L40-AP60-F
Output Function	NPN, Complementary	PNP, Complementary	N.O./N.C. Selectable	N.O./N.C. Selectable
Operating Distance	20 mm			
Power Supply	10-55 VDC			20-250 VAC
Power Drain	<10 mA		-----	
Leakage Current	-----		<0.6 mA	<1.0 mA
Voltage Drop (ON state)	<1.8 V		<6.5 V	<6.0 V
Switching Current (max)	200 mA		100 mA	300 mA
Switching Current (min)	-----		1.5 mA	5 mA
In-rush Current <20 msec.	-----			1.5 A
Short Circuit Protection	Yes			-----
Operating Frequency	300 Hz			12 Hz
Repeatability	<3 % Operating Distance			
Hysteresis	<10 % (@ ~50 mm Operating Distance)			
Case	Plastic			
Flush Mounting	No			
Protection Degree	IP-65			
Operating Temperature	-25˚C to +70˚C			
Output Connection	Connector – RP-495 (included)			

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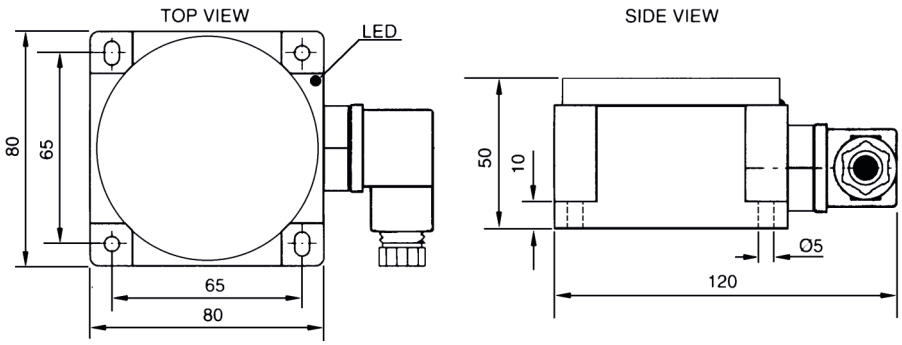
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR BLOCK TYPE

KANSON ELECTRONICS, INC.

The **Block Shaped Case** proximity sensor features an adjustable operating distance from 10 to 60 mm. Four wire models have both N.O. and N.C. outputs. Two wire models have outputs selectable between N.O. or N.C. All models have LED indicators.

CE

DIMENSIONS MM

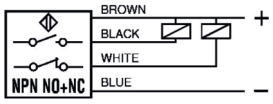


Sensitivity Adjustment

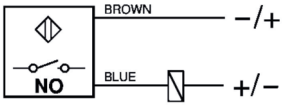
This sensor is equiped with a trimmer for sensitivity adjustment. The sensitivity increases when the trimmer is rotated in the clockwise direction and decreases when the trimmer is rotated in the counterclockwise direction. Avoid setting the distance greater than 60 mm. For optimum performance make the adjustment after installation to take other nearby metallic objects into consideration. The sensor is supplied preset to 50 mm.

WIRING

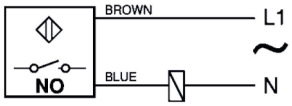
DC NPN, Complementary



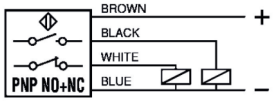
DC, N.O. Selected



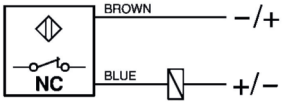
AC, N.O. Selected



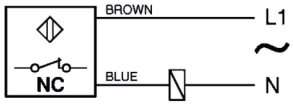
DC PNP, Complementary

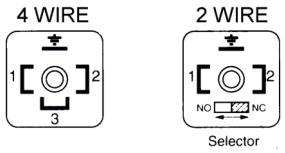


DC, N.C. Selected



AC, N.C. Selected





Version	Contact numeration			
	1	2	3	⏚
2 WIRE DC	–	+		
3 WIRE DC	–	+		NC/NO
4 WIRE DC	–	+	NC	NO
2 WIRE AC	L1	N		

ORDERING DATA

Model Number	L80-D064-F	L80-D764-F	L80-DP64-F	L80-AP64-F
Output Function	NPN, Complementary	PNP, Complementary	N.O./N.C. Selectable	N.O./N.C. Selectable
Operating Distance	10-60 mm Adjustable			
Power Supply	10-55 VDC			20-250 VAC
Power Drain	<10 mA		-----	
Leakage Current	-----		<0.6 mA	<1.0 mA
Voltage Drop (ON state)	<1.8 V		<6.5 V	<6.0 V
Switching Current (max)	200 mA		100 mA	300 mA
Switching Current (min)	-----		1.5 mA	5 mA
In-rush Current <20 msec.	-----			1.5 A
Short Circuit Protection	Yes			-----
Operating Frequency	50 Hz			12 Hz
Repeatability	<3 % Operating Distance			
Hysteresis	<10 % (@ ~50 mm Operating Distance)			
Case	Plastic			
Flush Mounting	No			
Protection Degree	IP-65			
Operating Temperature	-25˚C to +70˚C			
Output Connection	Connector - RP-495 (included)			

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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR RING TYPE

In inductive ring sensors, the sensing area is located inside the ring. These sensors are designed to detect metallic masses entering or passing through the ring. They are ideal for sensing, counting and checking of small metal parts such as: screws, washers, nuts etc. and the control, detection, position, inspection and automation of machine tools & manufacturing systems. They operate on a 10-30 Vdc supply and offer NPN or PNP, NO+NC outputs. They are sealed in a rugged, plastic housing with a protection degree of IP 65. All versions have short circuit and reverse polarity protection and are available in either prewired cable or connector output connection. Each unit is supplied with a sensitivity adjustment and a delay ON/OFF switch that fixes the output pulse for 100mS. This makes them ideal for detection of fast moving small metal objects. The operating distance of the sensor depends on the actuator shape and size and is strictly linked to the nature of the metal.

CE

Sensor Selection

Select the minimum ring diameter required. This enables the sensitivity adjustment to be made within normal parameters ensuring proper unit function.

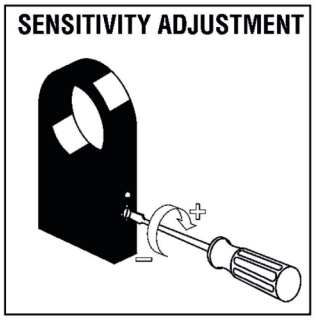
Minimum Target Size (Iron)							
Model	R05	R12	R22	R30	R44	R63	R100
Length (mm)	1.0	2.0	6.0	7.0	9.0	12	20
Diameter (mm)	0.7	1.2	3.0	4.0	5.0	6.0	12

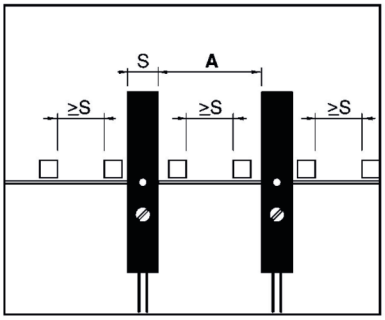
Sensitivity Adjustment

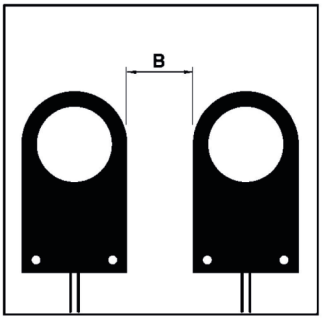
This sensor is equiped with a trimmer for sensitivity adjustment. The sensitivity increases when the trimmer is rotated in the clockwise direction and decreases when the trimmer is rotated in the counterclockwise direction. For optimum performance make the adjustment after installation to take other nearby metallic objects into consideration.

Sensor Placement

A distance equal to the width of the sensor should be left between each object that passes through the sensor. If more than one sensor is to be installed in close vicinity, the minimum distance indicated between the sensors should be observed.

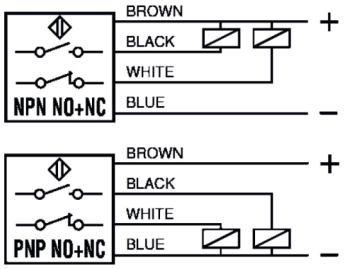


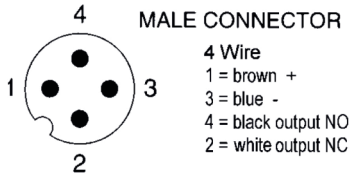




Hole Dia.	A (mm)	B (mm)
5 mm	25	10
12 mm	30	10
22 mm	60	20
30 mm	60	20
44 mm	300	250
63 mm	300	250
100 mm	600	650

WIRING





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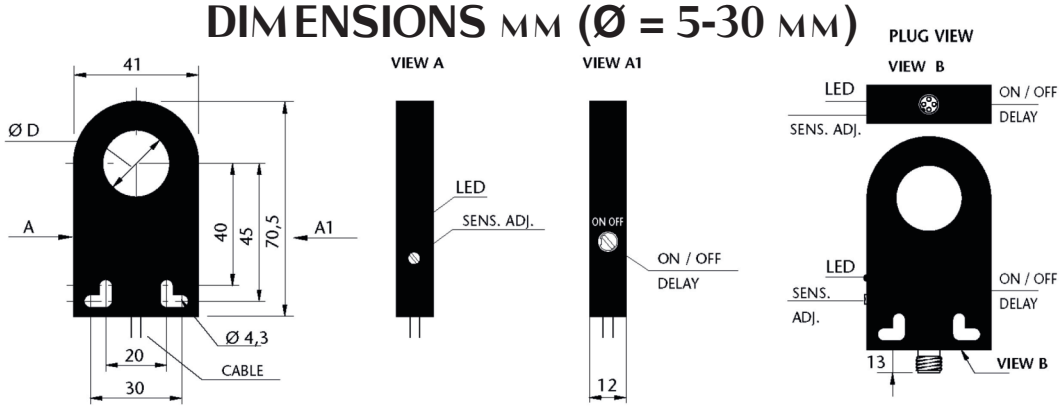
KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE PROXIMITY SENSOR — INDUCTIVE RING TYPE

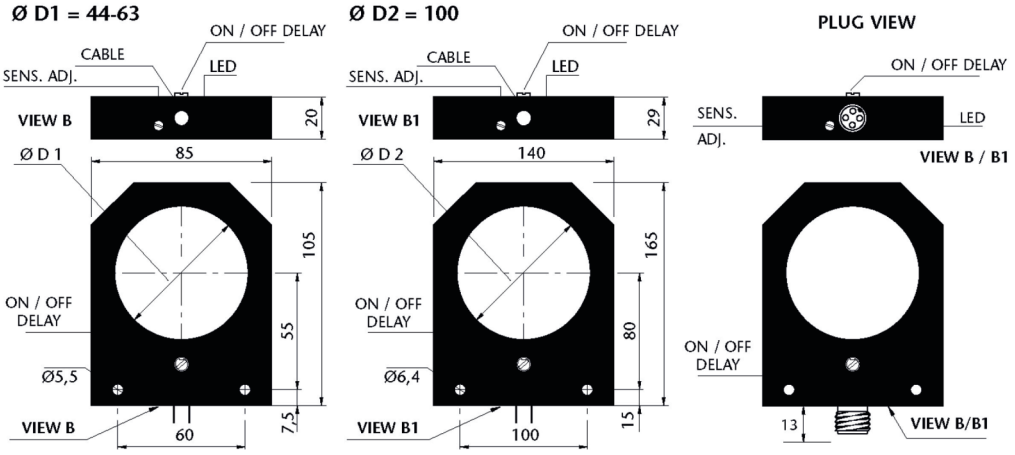
DIMENSIONS MM (Ø = 5-30 MM)



ORDERING DATA

		Model Numbers						
Output Connection		2 m Cable						
Output Function	NPN. Complementary	R05-D060-F	R12-D060-F	R22-D060-F	R30-D060-F	R44-D060-F	R63-D060-F	R100-D060-F
	PNP. Complementary	R05-D760-F	R12-D760-F	R22-D760-F	R30-D760-F	R44-D760-F	R63-D760-F	R100-D760-F
Output Connection		M-12 Connector						
Output Function	NPN. Complementary	R05-D068-F	R12-D068-F	R22-D068-F	R30-D068-F	R44-D068-F	R63-D068-F	R100-D068-F
	PNP. Complementary	R05-D768-F	R12-D768-F	R22-D768-F	R30-D768-F	R44-D768-F	R63-D768-F	R100-D768-F
Hole Diameter		**5 mm**	**12 mm**	**22 mm**	**30 mm**	**44 mm**	**63 mm**	**100 mm**
Power Supply		10 - 30 VDC						
Power Drain		< 18 mA						
Voltage Drop (on state)		< 1.8 V						
Switching Current		200 mA max.						
Short Circuit Protection		Yes						
Operating Frequency		600-1500 Hz	600-1000 Hz		600-800 Hz	250-600 Hz	100-200 Hz	100 Hz
Repeatability		< 0.3 mm						
Case		Plastic						
Flush Mounting		No						
Protection Degree		IP 65						
Operating Temperature		-25°C to +70°C						

DIMENSIONS MM (Ø = 44-100 MM)



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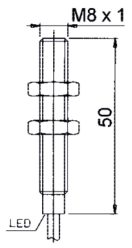
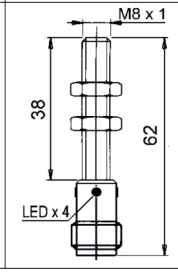
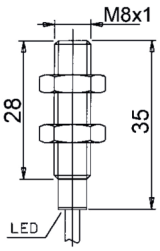
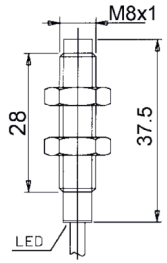
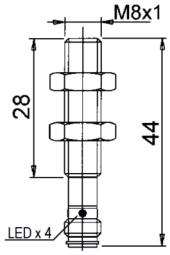
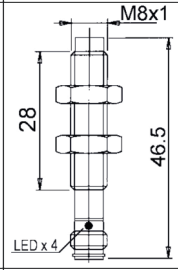
KANSON ELECTRONICS, INC.

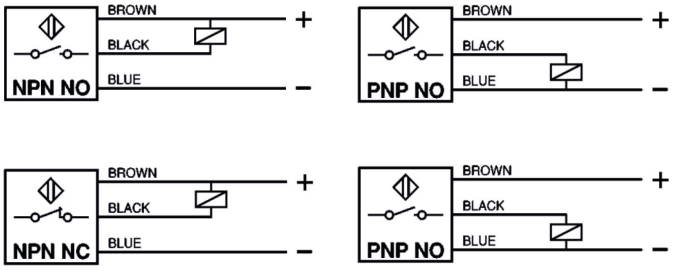
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 8MM TUBULAR

CE

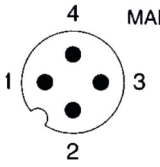
ORDERING DATA

		Model Numbers					
		Standard Series		Short Body Series			
Output Function	NPN, N.O.	T08-D310-F	T08-D318-F	T08-D310S-F	T08-D360S-F	T08-D313S-F	T08-D363S-F
	NPN, N.C.	T08-D510-F	T08-D518-F	T08-D510S-F	T08-D560S-F	T08-D513S-F	T08-D563S-F
	PNP, N.O.	T08-D410-F	T08-D418-F	T08-D410S-F	T08-D460S-F	T08-D413S-F	T08-D463S-F
	PNP, N.C.	T08-D610-F	T08-D618-F	T08-D610S-F	T08-D660S-F	T08-D613S-F	T08-D663S-F
Dimensions (mm) 8 mm Diameter Threaded Body with 2 m cable or integral connector to simplify installation. Short Body series increases miniaturization, sensing distance and power supply range.							
Operating Distance		**2 mm**		**2 mm**	**3 mm**	**2 mm**	**3 mm**
External Diameter		M 8 x 1					
Power Supply		10 - 30 VDC		6 - 30 VDC			
Max. Switching Current		200 mA					
Power Drain (24 VDC)		<12 mA					
Voltage Drop		<1.8 V					
Short Circuit Protection		Yes					
Operating Frequency		2 kHz					
Repeatability (% op. dist)		< 3 %					
Hysteresis (% op. dist)		< 10 %					
Case		Stainless Steel					
Flush Mounting		Yes		Yes	No	Yes	No
Protection Degree		IP 67					
Operating Temperature		-25˚C to +70˚C					
Output Connection		2 m Cable	M-12 Connector	2 m Cable		M-8 Connector	

WIRING



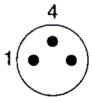
M12 connector



MALE CONNECTOR
DC 3 wire
1 = brown +
3 = blue -
4 = black output NO-NC*
2 = white output NC

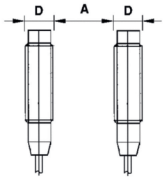
* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

M-8 connector

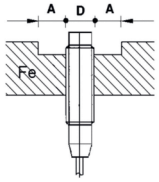


Male connector
1=brown/+
3=blue/-
4=black/output NO-NC

MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 12MM TUBULAR

KANSON ELECTRONICS, INC.

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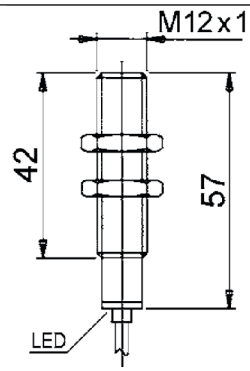
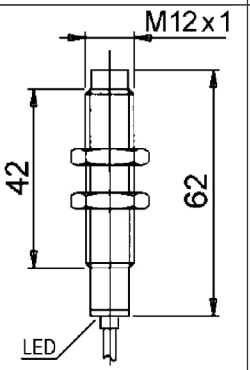
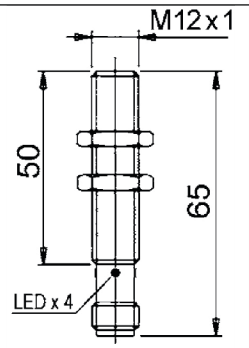
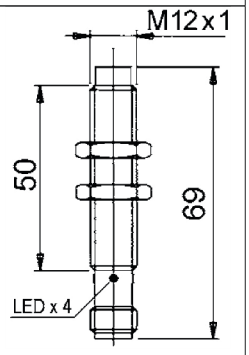
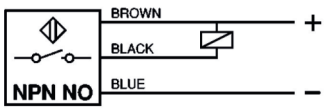
ORDERING DATA

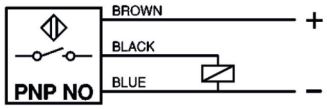
Standard 3 and 4 wire series		Model Numbers			
Output Function	NPN, N.O.	T12-D310-F	T12-D360-F	T12-D318-F	T12-D368-F
	NPN, N.C.	T12-D510-F	T12-D560-F	T12-D518-F	T12-D568-F
	PNP, N.O.	T12-D410-F	T12-D460-F	T12-D418-F	T12-D468-F
	PNP, N.C.	T12-D610-F	T12-D660-F	T12-D618-F	T12-D668-F
	NPN, Complementary	T12-D010-F	T12-D060-F	T12-D018-F	T12-D068-F
	PNP, Complementary	T12-D710-F	T12-D760-F	T12-D718-F	T12-D768-F
Dimensions (mm) 12 mm Diameter Threaded body with 2 m cable or integral connector to simplify installation.					
Operating Distance		**2 mm**	**4 mm**	**2 mm**	**4 mm**
External Diameter		M12 x 1			
Power Supply		10 – 30 VDC			
Max. Switching Current		200 mA			
Power Drain (24 VDC)		<15 mA			
Voltage Drop		<1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		1 kHz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

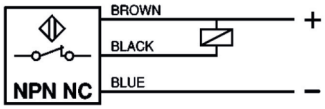
NPN, N.O.



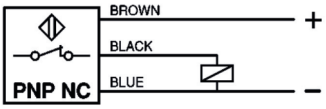
PNP, N.O.



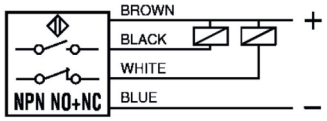
NPN, N.C.



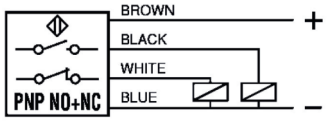
PNP, N.C.



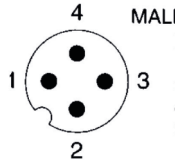
NPN, Complementary



PNP, Complementary



M12 connector



* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

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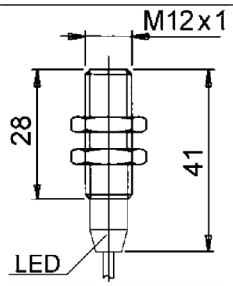
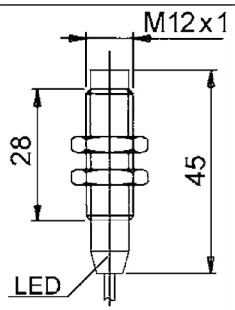
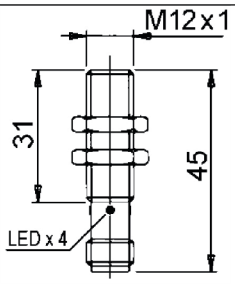
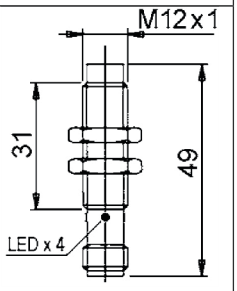
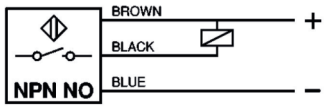
ORDERING DATA

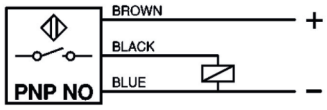
Extended Sensing 3 and 4 wire series		Model Numbers			
Output Function	NPN, N.O.	XT12-D310-F	XT12-D360-F	XT12-D318-F	XT12-D368-F
	NPN, N.C.	XT12-D510-F	XT12-D560-F	XT12-D518-F	XT12-D568-F
	PNP, N.O.	XT12-D410-F	XT12-D460-F	XT12-D418-F	XT12-D468-F
	PNP, N.C.	XT12-D610-F	XT12-D660-F	XT12-D618-F	XT12-D668-F
	NPN, Complementary	XT12-D010-F		XT12-D018-F	
	PNP, Complementary	XT12-D710-F		XT12-D718-F	
Dimensions (mm) 12 mm Diameter Extended operating distance series increases miniaturization and sensing distance.					
Operating Distance		**4 mm**	**8 mm**	**4 mm**	**8 mm**
External Diameter		M12 x 1			
Power Supply		10 - 30 VDC			
Max. Switching Current		200 mA			
Power Drain (24 VDC)		<15 mA			
Voltage Drop		<1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		1 kHz	600 Hz	1 kHz	600 Hz
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Stainless Steel			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

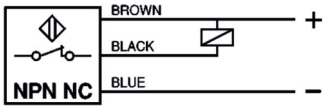
NPN, N.O.



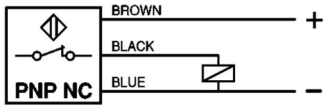
PNP, N.O.



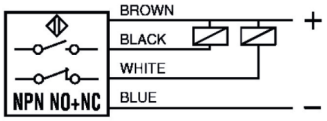
NPN, N.C.



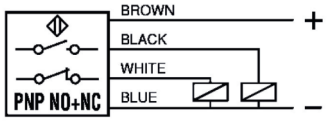
PNP, N.C.



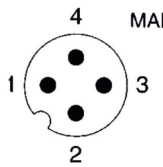
NPN, Complementary



PNP, Complementary



M12 connector



MALE CONNECTOR
DC 3 wire
1 = brown +
3 = blue -
4 = black output NO-NC*
2 = white output NC

* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

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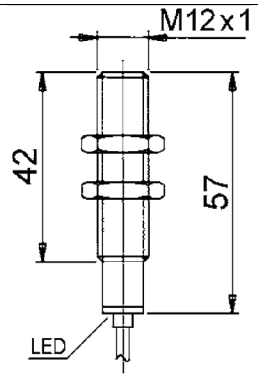
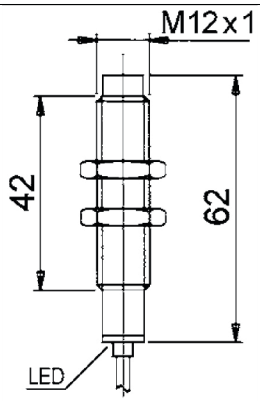
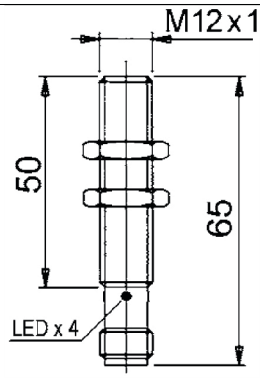
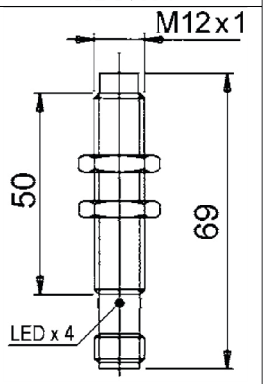
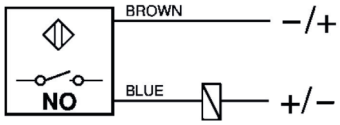
ORDERING DATA

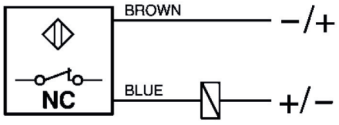
DC 2 wire series		Model Numbers			
Output Function	N.O.	T12-D810-F	T12-D860-F	T12-D818-F	T12-D868-F
	N.C.	T12-D910-F	T12-D960-F	T12-D918-F	T12-D968-F
Dimensions (mm) 12 mm Diameter Simple 2 wire connection.					
Operating Distance		**2 mm**	**4 mm**	**2 mm**	**4 mm**
External Diameter		M12 x 1			
Power Supply		10 – 55 VDC			
Max. Switching Current		100 mA			
Min. Switching Current		1.5 mA			
Residual Current		<0.6 mA			
Voltage Drop (sensor ON)		<6.5 V			
Short Circuit Protection		Yes			
Operating Frequency		1 kHz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

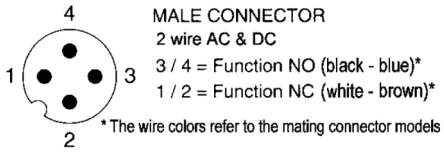
N.O.



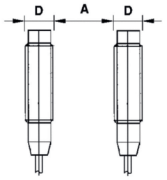
N.C.



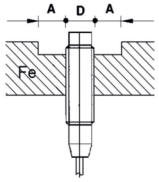
M12 connector



MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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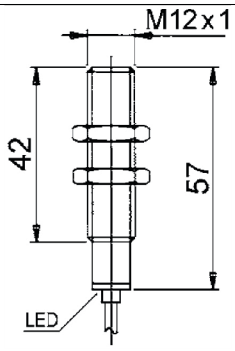
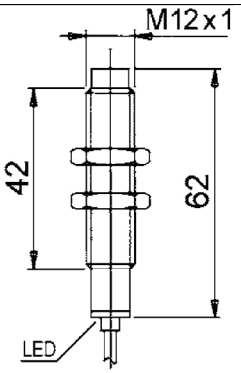
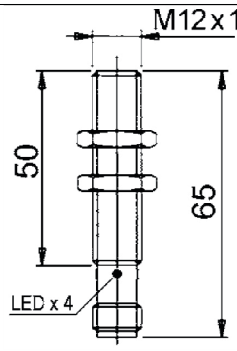
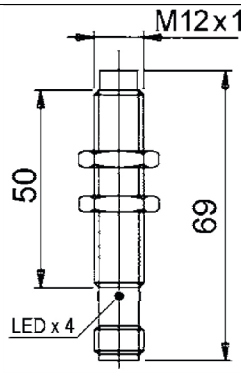
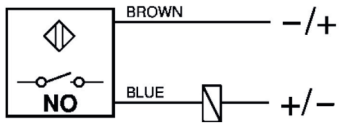
CE

ORDERING DATA

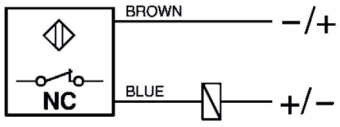
AC 2 wire series		Model Numbers			
Output Function	N.O.	T12-A110-F	T12-A160-F	T12-A118-F	T12-A168-F
	N.C.	T12-A210-F	T12-A260-F	T12-A218-F	T12-A268-F
Dimensions (mm) 12 mm Diameter Simple 2 wire connection.					
Operating Distance		**2 mm**	**4 mm**	**2 mm**	**4 mm**
External Diameter		M12 x 1			
Power Supply		20 – 250 VAC			
Max. Switching Current		300 mA			
Min. Switching Current		5 mA			
Max. Peak Current for 20 ms		1.5 A			
Residual Current		< 1 mA			
Voltage Drop		<6.0 V			
Operating Frequency		12 Hz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

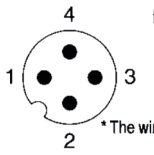
N.O.



N.C.

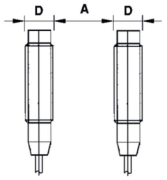


M12 connector

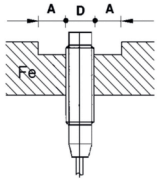


MALE CONNECTOR
2 wire AC & DC
3 / 4 = Function NO (black - blue)*
1 / 2 = Function NC (white - brown)*
* The wire colors refer to the mating connector models

MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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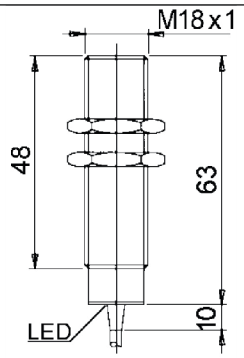
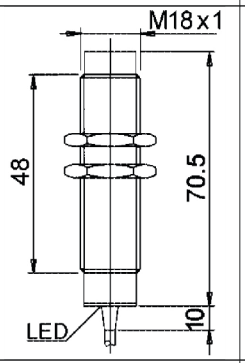
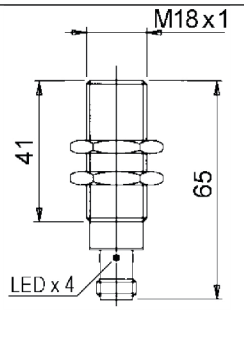
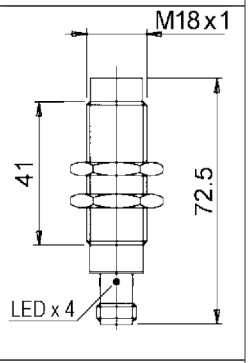
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 18MM TUBULAR

KANSON ELECTRONICS, INC.

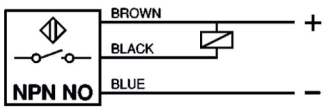
CE

ORDERING DATA

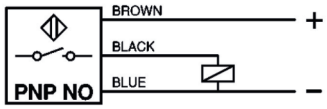
Standard 3 and 4 wire series		Model Numbers			
Output Function	NPN, N.O.	T18-D310-F	T18-D360-F	T18-D318-F	T18-D368-F
	NPN, N.C.	T18-D510-F	T18-D560-F	T18-D518-F	T18-D568-F
	PNP, N.O.	T18-D410-F	T18-D460-F	T18-D418-F	T18-D468-F
	PNP, N.C.	T18-D610-F	T18-D660-F	T18-D618-F	T18-D668-F
	NPN, Complementary	T18-D010-F	T18-D060-F	T18-D018-F	T18-D068-F
	PNP, Complementary	T18-D710-F	T18-D760-F	T18-D718-F	T18-D768-F
Dimensions (mm) 18 mm Diameter Threaded body with 2 m cable or integral connector to simplify installation.					
Operating Distance		**5 mm**	**8 mm**	**5 mm**	**8 mm**
External Diameter		M18 x 1			
Power Supply		10 - 30 VDC			
Max. Switching Current		200 mA			
Power Drain (24 VDC)		<15 mA			
Voltage Drop		<1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		1 kHz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

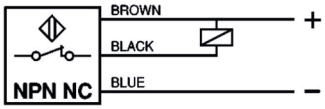
NPN, N.O.



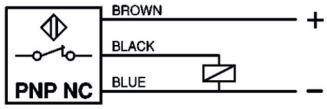
PNP, N.O.



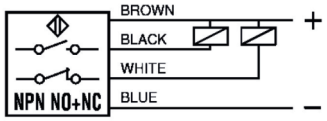
NPN, N.C.



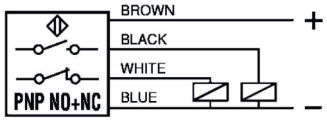
PNP, N.C.



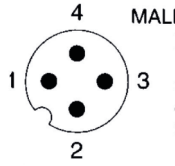
NPN, Complementary



PNP, Complementary



M12 connector



* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

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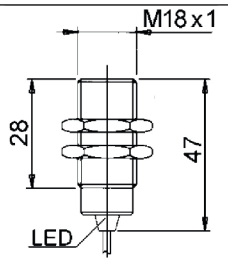
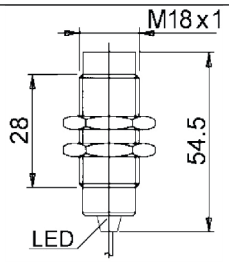
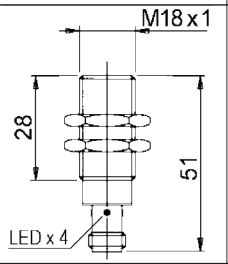
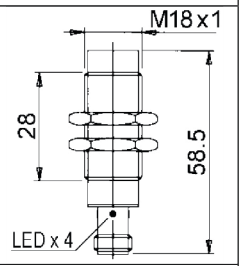
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 18MM TUBULAR

KANSON ELECTRONICS, INC.

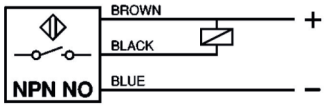
CE

ORDERING DATA

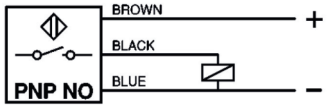
Extended Sensing 3 and 4 wire series		Model Numbers			
Output Function	NPN, N.O.	XT18-D310-F		XT18-D318-F	
	NPN, N.C.	XT18-D510-F		XT18-D518-F	
	PNP, N.O.	XT18-D410-F		XT18-D418-F	
	PNP, N.C.	XT18-D610-F		XT18-D618-F	
	NPN, Complementary	XT18-D010-F	XT18-D060-F	XT18-D018-F	XT18-D068-F
	PNP, Complementary	XT18-D710-F	XT18-D760-F	XT18-D718-F	XT18-D768-F
Dimensions (mm) 18 mm Diameter Extended operating distance series increases miniaturization and sensing distance.					
Operating Distance		**8 mm**	**16 mm**	**8 mm**	**16 mm**
External Diameter		M18 x 1			
Power Supply		10 - 30 VDC			
Max. Switching Current		200 mA			
Power Drain (24 VDC)		<15 mA			
Voltage Drop		<1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		400 Hz	200 Hz	400 Hz	200 Hz
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Stainless Steel			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

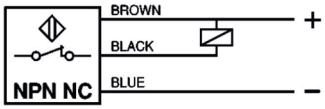
NPN, N.O.



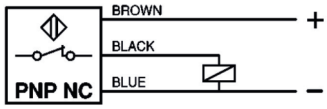
PNP, N.O.



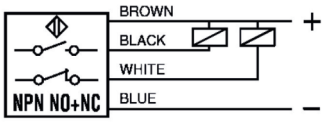
NPN, N.C.



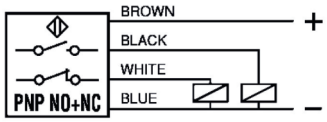
PNP, N.C.



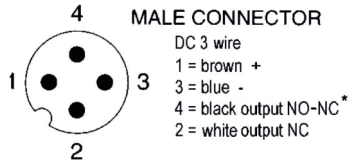
NPN, Complementary



PNP, Complementary



M12 connector



* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

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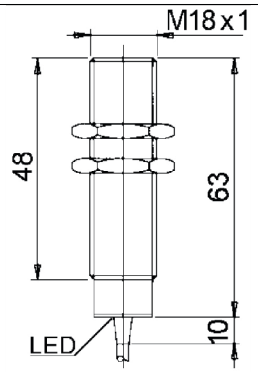
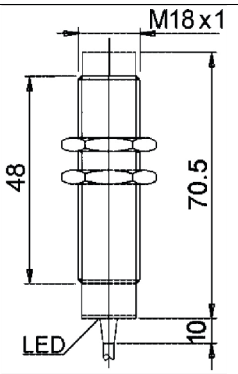
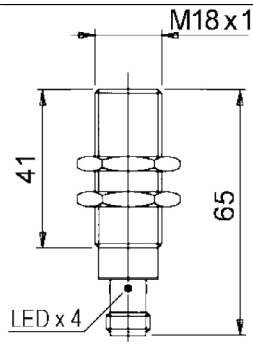
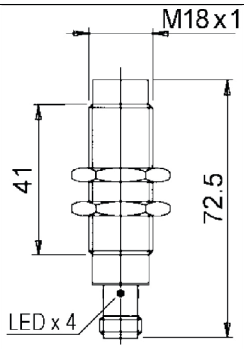
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 18MM TUBULAR

KANSON ELECTRONICS, INC.

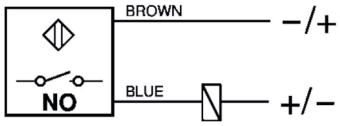
CE

ORDERING DATA

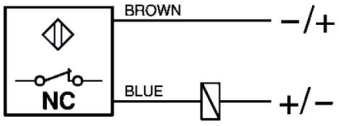
DC 2 wire series		Model Numbers			
Output Function	N.O.	T18-D810-F	T18-D860-F	T18-D818-F	T18-D868-F
	N.C.	T18-D910-F	T18-D960-F	T18-D918-F	T18-D968-F
Dimensions (mm) 18 mm Diameter Simple 2 wire connection.					
Operating Distance		**5 mm**	**8 mm**	**5 mm**	**8 mm**
External Diameter		M18 x 1			
Power Supply		10 - 55 VDC			
Max. Switching Current		100 mA			
Min. Switching Current		1.5 mA			
Residual Current		<0.6 mA			
Voltage Drop (sensor ON)		<6.5 V			
Short Circuit Protection		Yes			
Operating Frequency		1 kHz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

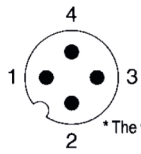
N.O.



N.C.

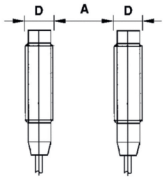


M12 connector

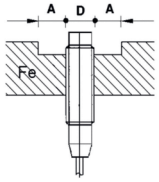


MALE CONNECTOR
2 wire AC & DC
3 / 4 = Function NO (black - blue)*
1 / 2 = Function NC (white - brown)*
* The wire colors refer to the mating connector models

MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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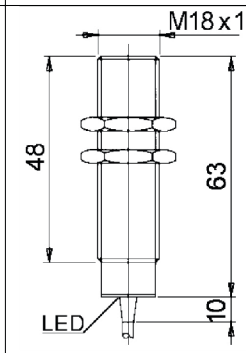
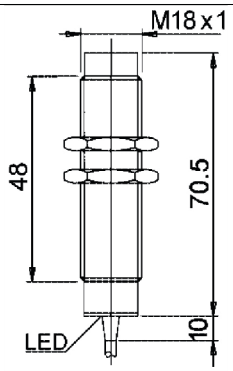
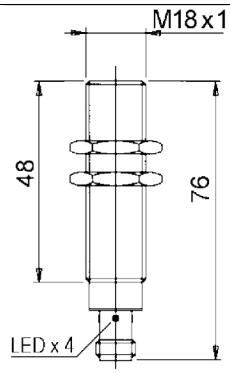
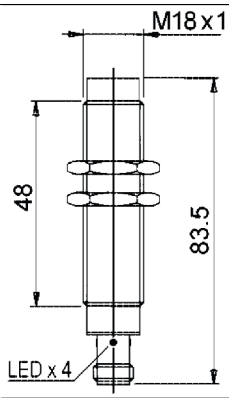
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 18MM TUBULAR

KANSON ELECTRONICS, INC.

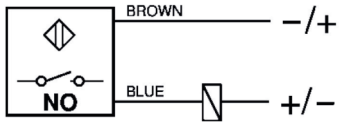
CE

ORDERING DATA

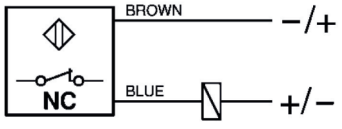
AC 2 wire series		Model Numbers			
Output Function	N.O.	T18-A110-F	T18-A160-F	T18-A118-F	T18-A168-F
	N.C.	T18-A210-F	T18-A260-F	T18-A218-F	T18-A268-F
Dimensions (mm) 18 mm Diameter Simple 2 wire connection.					
Operating Distance		**5 mm**	**8 mm**	**5 mm**	**8 mm**
External Diameter		M18 x 1			
Power Supply		20 - 250 VAC			
Max. Switching Current		300 mA			
Min. Switching Current		5 mA			
Max. Peak Current for 20 ms		1.5 A			
Residual Current		< 1 mA			
Voltage Drop		<6.0 V			
Operating Frequency		12 Hz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

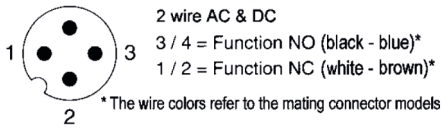
N.O.



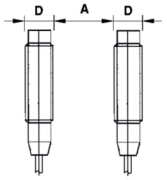
N.C.



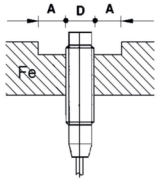
M12 connector



MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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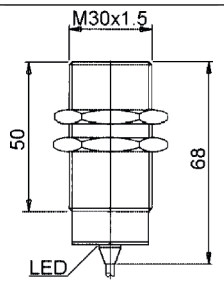
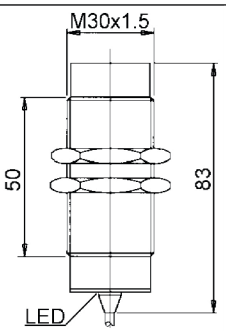
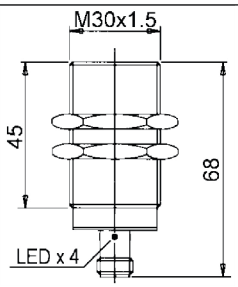
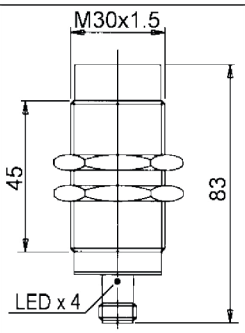
INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 30MM TUBULAR

KANSON ELECTRONICS, INC.

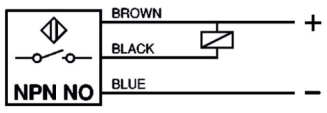
CE

ORDERING DATA

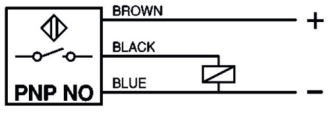
Standard 3 and 4 wire series		Model Numbers			
Output Function	NPN, N.O.	T30-D310-F	T30-D360-F	T30-D318-F	T30-D368-F
	NPN, N.C.	T30-D510-F	T30-D560-F	T30-D518-F	T30-D568-F
	PNP, N.O.	T30-D410-F	T30-D460-F	T30-D418-F	T30-D468-F
	PNP, N.C.	T30-D610-F	T30-D660-F	T30-D618-F	T30-D668-F
	NPN, Complementary	T30-D010-F	T30-D060-F	T30-D018-F	T30-D068-F
	PNP, Complementary	T30-D710-F	T30-D760-F	T30-D718-F	T30-D768-F
Dimensions (mm) 30 mm Diameter Threaded body with 2 m cable or integral connector to simplify installation.					
Operating Distance		**10 mm**	**15 mm**	**10 mm**	**15 mm**
External Diameter		M30 x 1.5			
Power Supply		10 – 30 VDC			
Max. Switching Current		200 mA			
Power Drain (24 VDC)		<15 mA			
Voltage Drop		<1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		300 Hz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

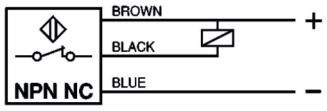
NPN, N.O.



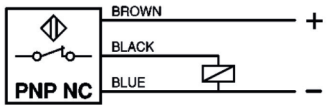
PNP, N.O.



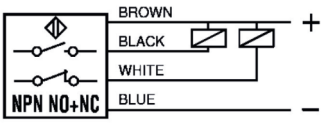
NPN, N.C.



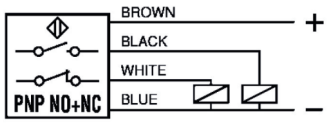
PNP, N.C.



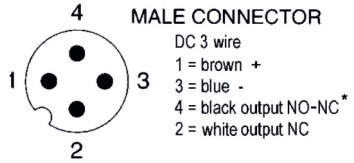
NPN, Complementary



PNP, Complementary



M12 connector



* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

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INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 30MM TUBULAR

KANSON ELECTRONICS, INC.

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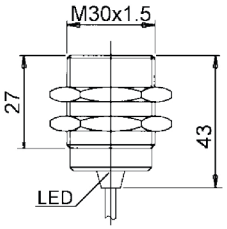
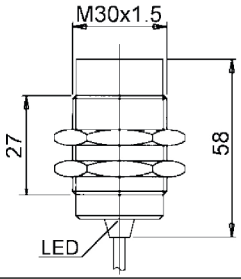
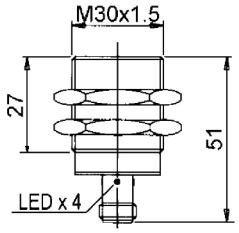
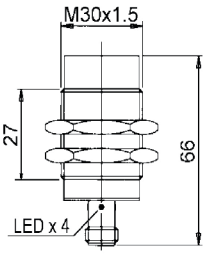
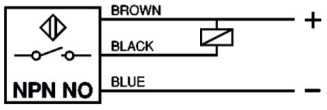
ORDERING DATA

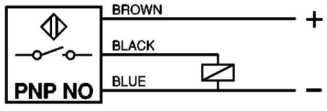
Extended Sensing 3 and 4 wire series		Model Numbers			
Output Function	NPN, N.O.	XT30-D310-F		XT30-D318-F	
	NPN, N.C.	XT30-D510-F		XT30-D518-F	
	PNP, N.O.	XT30-D410-F		XT30-D418-F	
	PNP, N.C.	XT30-D610-F		XT30-D618-F	
	NPN, Complementary		XT30-D060-F		XT30-D068-F
	PNP, Complementary		XT30-D760-F		XT30-D768-F
Dimensions (mm) 30 mm Diameter Extended operating distance series increases miniaturization and sensing distance.					
Operating Distance		**15 mm**	**20 mm**	**15 mm**	**20 mm**
External Diameter		M30 x 1.5			
Power Supply		10 – 30 VDC			
Max. Switching Current		200 mA			
Power Drain (24 VDC)		<15 mA			
Voltage Drop		<1.8 V			
Short Circuit Protection		Yes			
Operating Frequency		300 Hz	200 Hz	300 Hz	200 Hz
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

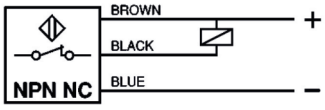
NPN, N.O.



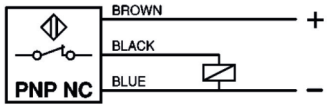
PNP, N.O.



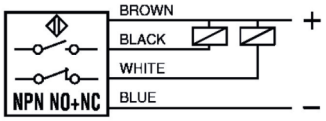
NPN, N.C.



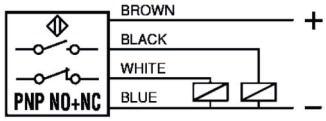
PNP, N.C.



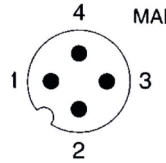
NPN, Complementary



PNP, Complementary



M12 connector



MALE CONNECTOR
DC 3 wire
1 = brown +
3 = blue -
4 = black output NO-NC*
2 = white output NC

* In the 3 wire sensors the output pins 2 & 4 are internally wired together.

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INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 30MM TUBULAR

KANSON ELECTRONICS, INC.

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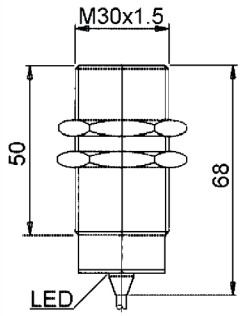
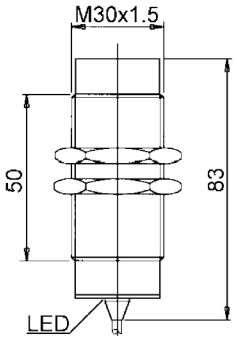
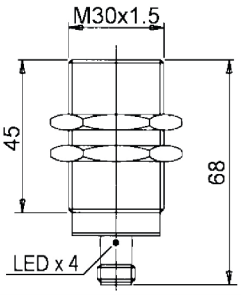
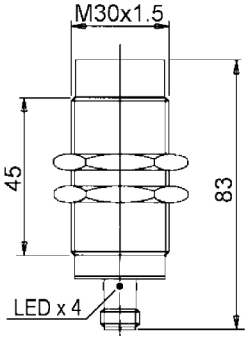
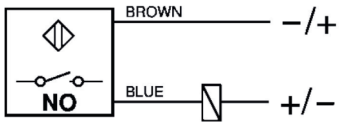
ORDERING DATA

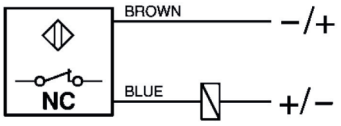
DC 2 wire series		Model Numbers			
Output Function	N.O.	T30-D810-F	T30-D860-F	T30-D818-F	T30-D868-F
	N.C.	T30-D910-F	T30-D960-F	T30-D918-F	T30-D968-F
Dimensions (mm) 30 mm Diameter Simple 2 wire connection.					
Operating Distance		**10 mm**	**15 mm**	**10 mm**	**15 mm**
External Diameter		M30 x 1.5			
Power Supply		10 – 55 VDC			
Max. Switching Current		100 mA			
Min. Switching Current		1.5 mA			
Residual Current		<0.6 mA			
Voltage Drop (sensor ON)		<6.5 V			
Short Circuit Protection		Yes			
Operating Frequency		300 Hz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

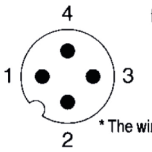
N.O.



N.C.

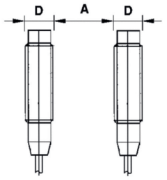


M12 connector

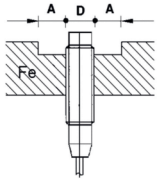


MALE CONNECTOR
2 wire AC & DC
3 / 4 = Function NO (black - blue)*
1 / 2 = Function NC (white - brown)*
* The wire colors refer to the mating connector models

MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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INDUSTRIAL SOLID STATE INDUCTIVE PROXIMITY SENSOR 30MM TUBULAR

KANSON ELECTRONICS, INC.

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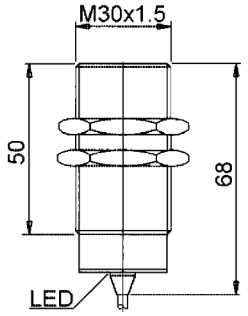
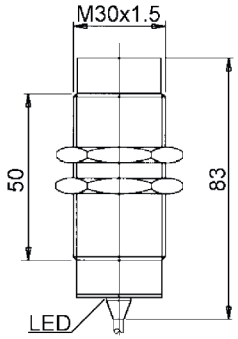
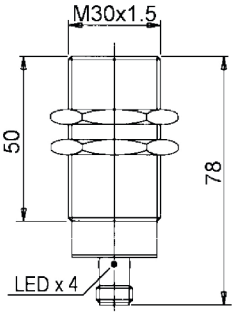
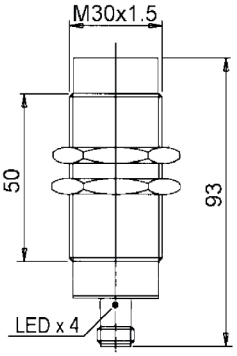
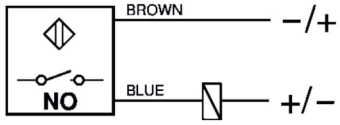
ORDERING DATA

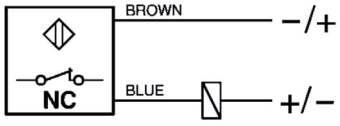
AC 2 wire series		Model Numbers			
Output Function	N.O.	T30-A110-F	T30-A160-F	T30-A118-F	T30-A168-F
	N.C.	T30-A210-F	T30-A260-F	T30-A218-F	T30-A268-F
Dimensions (mm) 30 mm Diameter Simple 2 wire connection.					
Operating Distance		**10 mm**	**15 mm**	**10 mm**	**15 mm**
External Diameter		M30 x 1.5			
Power Supply		20 – 250 VAC			
Max. Switching Current		300 mA			
Min. Switching Current		5 mA			
Max. Peak Current for 20 ms		1.5 A			
Residual Current		< 1 mA			
Voltage Drop		<6.0 V			
Operating Frequency		12 Hz			
Repeatability (% op. dist)		< 3 %			
Hysteresis (% op. dist)		< 10 %			
Case		Nickel-Plated Brass			
Flush Mounting		Yes	No	Yes	No
Protection Degree		IP 67			
Operating Temperature		-25˚C to +70˚C			
Output Connection		2 m Cable		M-12 Connector	

WIRING

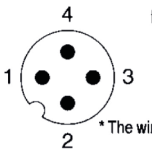
N.O.



N.C.

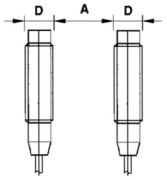


M12 connector

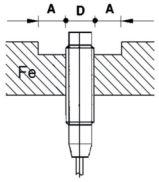


MALE CONNECTOR
2 wire AC & DC
3 / 4 = Function NO (black - blue)*
1 / 2 = Function NC (white - brown)*
* The wire colors refer to the mating connector models

MOUNTING



Side by side mounting
A ≥ 2D



Non flush mounting
A ≥ 2D

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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE PROXIMITY SENSOR

MODEL 1221 LIMIT STYLE

The **Model 1221** proximity sensor is designed to function in conjunction with the Model 1262 motion detector and as such provides a MSHA approved motion monitoring system. It is a 3 wire limit switch style sensor with end sensing location. The unit features an LED indicator and a normally open NPN output.

SPECIFICATIONS

INPUT

VOLTAGE:	10-26VDC, 10% ripple allowed
SUPPLY CURRENT:	≤20mA
TRANSIENT PROTECTION:	MOV

OUTPUT

MAXIMUM LOAD CURRENT:	100mA (continuous)

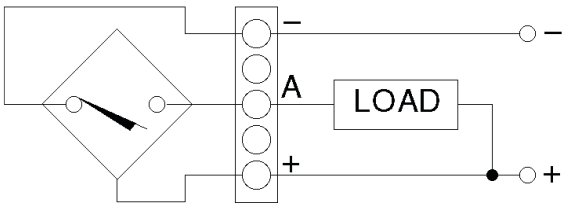
SENSING

SENSING DISTANCE:	14.29mm (0.56in)
REPEATABILITY:	±5mm (0.02in)
HYSTERESIS:	3.18mm (0.12in)
TARGET SIZE:	40mm x 40mm mild steel
SWITCHING FREQUENCY:	1.0kHz maximum
RANGE DERATING:	Chrome-nickel 0.9
	Brass 0.5
	Aluminum 0.45
	Copper 0.4

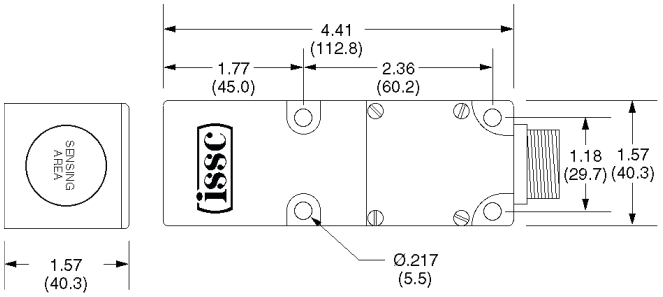
PHYSICAL

OPERATING TEMP:	-20° to 65° C (-4° to 149° F)
ENVIRONMENTAL RATING:	NEMA 1, 3, 4, 6, 12, 13, IP67
HOUSING:	Polycarbonate

WIRING



DIMENSIONS INCH (MM)



ORDERING DATA

1221-1-A-1-A	**The 1221 is currently only available as an end sensing, NPN sinking, normally open output, 10-26VDC unit.**

800-233-9354 or 931-796-3050 / Fax: 931-796-3956 / Web: http://www.issc-kanson.com

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KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE PROXIMITY SENSOR

MODEL 1250 LIMIT STYLE

The **Model 1250** is a limit style proximity switch using the same proven detection circuitry as our 1248A. Featuring a 20-250 V AC/DC universal input voltage and a simple two-wire connection. It is available with end, right, or left sensing. Other options are a normally open or normally closed output and either an interanl terminal block or a factory installed connector.

PROXIMITY SWITCH

SPECIFICATIONS

INPUT

VOLTAGE:	20-250VAC/DC
FREQUENCY:	50/60Hz or DC
LEAKAGE:	≤2mA
TRANSIENT PROTECTION:	MOV

OUTPUT

MAXIMUM LOAD CURRENT:	500mA (continuous)
VOLTAGE:	≤9V (with resistive load maximum load current)
MAXIMUM INRUSH CURRENT:	7A
MINIMUM CURRENT LOAD:	5mA

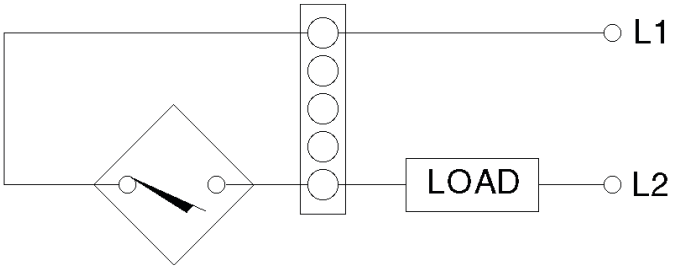
SENSING

SENSING DISTANCE:	12.7mm (0.5in)
TARGET SIZE:	40mm x 40mm mild steel
SWITCHING FREQUENCY:	166Hz maximum

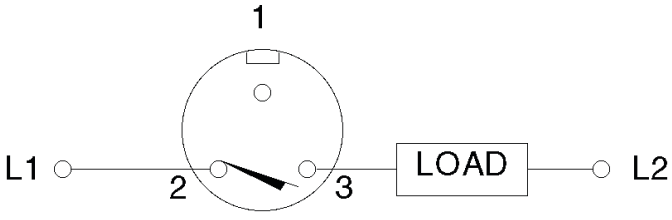
PHYSICAL

OPERATING TEMP:	-25° to 70° C (-13° to 158° F)
ENVIRONMENTAL RATING:	NEMA 1, 3, 4, 6, 12, 13, IP67
HOUSING:	Polycarbonate
TERMINATION:	Internal teminal block or external 3-pin connector

WIRING



WIRING FOR INTERNAL TERMINAL STRIP



WIRING WITH EXTERNAL CONNECTOR

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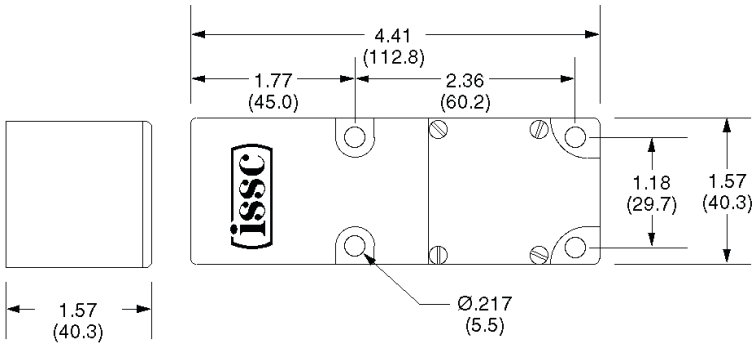
KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE PROXIMITY SENSOR

MODEL 1250 LIMIT STYLE

DIMENSIONS INCH (MM)



ORDERING DATA

ORDERING CODE **1250 - 1 - A - 1**

BASIC MODEL NUMBER

1250

LOCATION OF SENSING AREA

1	End
2	Right
3	Left

OUTPUT

A	Normally open
B	Normally closed

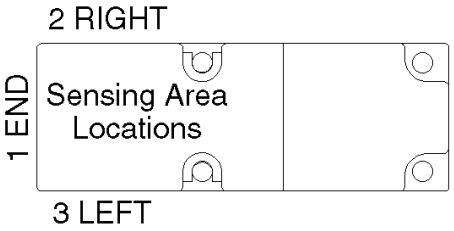
TERMINATION

1	Terminal block (internal)
2	3 pin connector

APPLICABLE ACCESSORIES

See accessory section for details

Connector cable (2m)	RP-503



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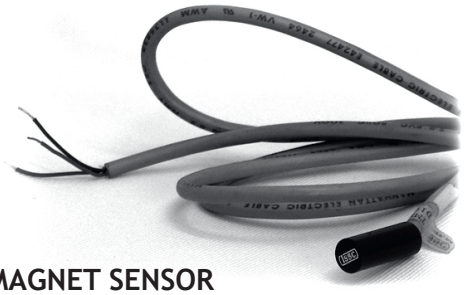
KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE PROXIMITY SENSOR MODEL TMS-D TUBULAR

The **Model TMS-D** is a compact, tubular magnet switch. It offers high sensitivity to magnetic fields and high switching speeds. Many types of magnets, including electromagnets, can be used for actuation. Sourcing (PNP) and sinking (NPN) are available options in either normally open or normally closed configurations. Reverse polarity protection is built into all models.



MAGNET SENSOR

SPECIFICATIONS

INPUT

VOLTAGE: 9-26VDC, 10% ripple allowed
SUPPLY CURRENT: ≤20mA @ 24VDC

OUTPUT

MAXIMUM LOAD CURRENT: 100mA (continuous)
VOLTAGE DROP: ≤2VDC

SENSING

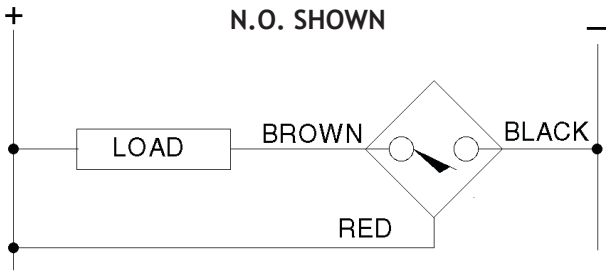
SENSING DISTANCE: Up to 1 in.
FIELD STRENGTH TO ACTUATE: ≥30 Gauss
SWITCHING FREQUENCY: 166Hz maximum

PHYSICAL

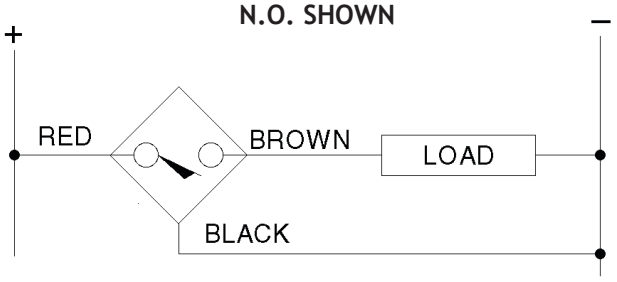
OPERATING TEMP: -40° to 85° C (-40° to 185° F)
ENVIRONMENTAL RATING: NEMA 1, 3, 4, 6, 12, 13, IP67
HOUSING: Diallyl Phthalate
TERMINATION: 2m PVC insulated cable 3x24 AWG

WIRING

SINKING CONFIGURATION
N.O. SHOWN



SOURCING CONFIGURATION
N.O. SHOWN



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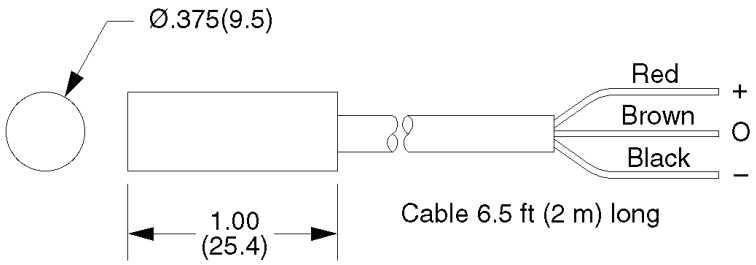
KANSON ELECTRONICS, INC.

INDUSTRIAL SOLID STATE PROXIMITY SENSOR MODEL TMS-D TUBULAR

DIMENSIONS INCH (MM)



ORDERING DATA

BASIC MODEL NUMBER

TMS-D

PART NUMBER

TMS-D101	N.C. NPN sinking output
TMS-D102	N.O. NPN sinking output
TMS-D103	N.C. PNP sinking output
TMS-D104	N.O. PNP sinking output

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