

AUTOMATION & CONTROL

Selection Guide



About Crouzet

Crouzet is an independent company **manufacturing mechatronic components for demanding applications in Aerospace & Transportation, Energy, Building and Machinery Industry.**

Crouzet provides **Switches and Sensors, Electromechanical Actuators, Electrical Protection Equipment, Cockpit Controls, Automation Controllers and Relays, and Instrumentation Services.**

Since 1921, Crouzet has a heritage of close collaboration with customers in the development of products, from standard components to fully customized solutions.

Crouzet's customers and partners can rely on our teams worldwide to always meet and often exceed their expectations. Driven by innovation, our experts are focused on designing and delivering the right product for the right application.

Crouzet is your trusted partner of choice to face industrial challenges of today and tomorrow.

Worldwide Presence



Our Services



DESIGN LAB

90+ years of customization, adaptation & co-design expertise at your service

When your innovation process needs more than high-quality standard products, we will answer your specific needs by offering you the best customized solution, a long-term partnership commitment and a multidisciplinary team dedicated to your project.



High-quality and efficient manufacturing



Uncompromising and highest standards



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TIMERS

MONI-
TORING
RELAYS

COUNTERS

SSR

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AUTO-
MATION
CONTRO-
LLERS

HMI'S

COMPLE-
MENTARY
PRODUCTS

PNEU-
MATIC

TIMER RELAYS

- Analog
- Digital
- DIN Rail Mount
- Panel Mount





PRESENTS

THE NEXT INNOVATION INTO THE TIMERS MARKET



The New **UDYR-LINE** timer that **FITS ALL NEEDS**

UNIVERSAL DIGITAL TIMER

IDEAL
FOR:



HVAC



Motors



Pumps



Machinery



Lights

AND
MANY
MORE

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Get To Know The New « Universal Digital Timer »



WHY A DIGITAL TIMER INSTEAD OF YOUR CLASSICAL ANALOG?

Now see your timing and get the highest precision ever

Monitor the status of the timer, see the current time, the function and timing configurations, as well as if you are receiving an input signal or if the relay output is activated.

A digital timer that allows precise timing configuration, removing the guesswork from manual adjustments. Select the exact timing, as precise as you require, without the need of special tools like a screwdriver or a smartphone.

You set the limits, with 2 great optional features

- **Password setting:** lock user access by password
- **Time limit setting:** change time only between the limits you allow

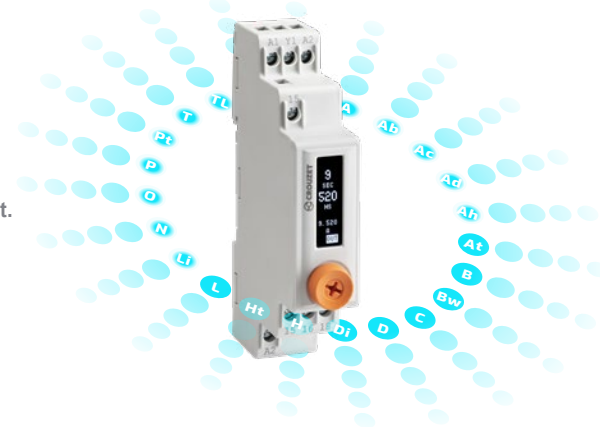
IT'S UNIVERSAL

Get the only ultra-multifunction **Up to 138 real functions**

This digital timer includes ALL the functions you need to run your applications, from the classics like **on-delay «A»** or **off-delay «C»**, to special ones like **repeat cycle «L»**. It also allows you to adapt them and **get up to 138 real operating functions in one single product.**

One timer fits all

No matter the application, this timer gets the job done. A wide time range, universal mounting connection, and the ability to accept universal voltage input makes this timer ideal for new designs or replacement of existing timers.



AS SIMPLE TO USE AS AN ANALOG TIMER

Program with or without power supply thanks to the integrated battery*

Get it ready in just a few seconds, with only these 4 easy steps:



Or go as deep as you want customizing the **advanced mode**

Crouzet, the global leader in timers, has one for any of your needs

SYR-LINE



Universal Digital

Chronos 2



Classic

SYR-LINE



High-Power

SYR-LINE



Double Output

SYR-LINE



Plug-In

TMR48



Front-Panel Analog

SYR-LINE



Front-Panel Digital

Take a look at our wide range of automation and control products at **www.crouzet.com**

Courtesy of Steven Engineering, Inc. (800) 253-9200 • sales@steveneng.com • www.stevenengineering.com

Selection Guide – Timers

Crouzet's Timers

Crouzet, specialist in Time Delay Relays, has been introducing new timer products and technologies for more than 50 years. Our timers continue to evolve with more features and functionality.

DIN RAIL MOUNT

	Type	Function	Time range	Output	Supply	
	NEW Syr-Line Universal Digital	Super Multifunction Z*	0,1 s → 100 days	1 x 8A (Changeover)	12-240V AC/DC	
	Syr-Line High-Power	Multifunction M*+ Tt A: ON-Delay L/Li: Repeat Cycle	0,1 s → 10 days	1 x 16A (Changeover)	12-240V AC/DC	
	Syr-Line Double Output	Multifunction M* + Instantaneous A: ON-Delay L/Li: Repeat Cycle	0,1 s → 10 days	2 x 8A (Changeover)	12-240V AC/DC	
	Chronos 2 Classic	Multifunction U*	0,1 s → 100 h	1 x 8A (Changeover)	12-240V AC/DC	
		Multifunction U*			24 VDC/24-240 VAC	
		Multifunction U*			24 VDC/24-240 VAC	
		Multifunction X*			24 VDC/24-240 VAC	
		A-At: ON-Delay/Summation B: Single Shot C: Off-Delay H/Ht: Interval + Memory L/Li: Repeat Cycle	0,1 s → 100 h	1 x 8A (Changeover)	24 VDC/24-240 VAC	
					24-240V AC/DC	
		Multifunction U*			24-240 VAC	
		H/Ht: Interval + Memory L/Li: Repeat Cycle A: ON-Delay			24-240 VAC	
					24-240 VAC	
					24-240 VAC	
					24-240V AC/DC	
		Q: Star-Delta Q: Star-Delta K: True Off-Delay	0,1 s → 100 h 0,6 s → 160 s	1 x 0.7A (Static) 2 x 8A (Changeover)	24-240 VAC	
					24-240 VAC	
					24-240 VAC	
					24-240V AC/DC	
					24 VDC/24-240 VAC	
					230-240/380-440 VAC	
					20-30 VDC/20-264 VAC	

Super Multifunction Z*: (A - Ab - Ac - Ad - Ah - At - B - Bw - C - D - Di - H - Ht - L - Li - O - N - P - Pt - T - TL - Tt - W) + options

Multifunction M*: (A - Ac - At - B - C - D - Di - H - Ht - N - TL)

Multifunction U*: (A - Ac - At - B - Bw - C - D - Di - H - Ht)

Multifunction X*: (Ad - Ah - N - O - P - Pt - TL - Tt)

Timer Features

- All the most popular functions: on-delay, off-delay, repeat cycle and many more
- Many Options: Analog, Digital, DIN Rail, Panel Mount, Plug-In
- DesignLab for custom adaptations, 90+ years of Engineering expertise at your service.

	Special Characteristics	Width	Mounting	Designation	Part Number
	Universal connections, Timing limits, Password protection, easy to use	17.5 mm	DIN Rail	DZ1R	DZ1R08MV1
	Protective Cover	17.5 mm	DIN Rail	BM1R	BM1R16MV1
				BA1R	BA1R16MV1
				BL1R	BL1R16MV1
	Protective Cover	17.5 mm	DIN Rail	BM2R	BM2R08MV1
				BA2R	BA2R08MV1
				BL2R	BL2R08MV1
	Spring terminal	17.5 mm	DIN Rail	MURc3	88 827 503
	-			MUR3	88 827 103
	-			MUR1	88 827 105
	-			MXR1	88 827 185
	-	17.5 mm	DIN Rail	MAR1	88 827 115
				MBR1	88 827 125
				MCR1	88 827 135
				MHR1	88 827 145
				MLR1	88 827 155
	Static Output	17.5 mm	DIN Rail	MUS2	88 827 004
				MHS2	88 827 044
				MLS2	88 827 054
				MA55	88 827 014
	-	22.5 mm	DIN Rail	RQR1	88 866 175
				RQR6	88 866 176
				TK2R1	88 865 265

Selection Guide - Timers

PANEL MOUNT

Type	Function	Time range	Output	Supply	
 NEW Syr-Line Plug-in	Multifunction U* + Ad, Instantaneous	0,5 s → 10 days	2 x 10A (Changeover)	12-240V AC/DC	
	A: ON-Delay				
	C: Off-Delay				
	L: Repeat Cycle				
	Multifunction U* + Ad, N		1 x 10A (Changeover)		
	A: ON-Delay		2 x 10A (Changeover)		
	C: Off-Delay		1 x 10A (Changeover)		
	L: Repeat Cycle				
 Syr-Line TMR48D Digital Performance	Multifunction S*	0,001 s → 9999 h	2 x 10A (Changeover)	24-240 V AC/DC	
	Multifunction F*		1 x 10A (Changeover)		
	Multifunction F*		2 x 10A (Changeover)		
	A: ON-Delay				
 Syr-Line TMR48D Digital Essential	Multifunction E*	0,001 s → 9999 h	1 x 5A (Changeover)	24 V AC/DC	
	Multifunction E*			100-240 V AC/DC	
 TMR48 Analog	A, B, C, W, G, Ac, Bw	0,02 s → 300 h	2 x 5A (Changeover)	12-240 VDC / 24-240 VAC	
	L/LI - G/Gi				
	A1, A2, H1, H2, Q1, Q2, D-Di				
	A: ON-Delay				

Multifunction S*: (A - Ab - Ac - Ad - AMt - At - B - C - H - Ht - L - Li - T - W - D - Di)

Multifunction F*: (A - Ac - Ad - B - C - H - L - Li - D - Di)

Multifunction E*: (A - B - C - H - D - Di)

Multifunction U*: (A - Ac - At - B - Bw - C - D - Di - H - Ht)

PNEUMATIC & ATEX PNEUMATIC TIMERS

Type	Function	Information
 On Sub-base	Positive	See page 47
	Negative	
	Single Impulse	
	Adjustable Impulse	
	Adjustable Frequency	

	Special Characteristics	Width	Mounting	Designation	Part Number
	Protective Cover	35 mm	11-Pin	PU2R	PU2R10MV1
				PA2R	PA2R10MV1
				PC2R	PC2R10MV1
				PL2R	PL2R10MV1
			8-Pin	OU1R	OU1R10MV1
				OA2R	OA2R10MV1
				OC1R	OC1R10MV1
				OL1R	OL1R10MV1
	LED, IP66	48 mm	11-Pin	GDS2	GDS2R10MV2
			11-Pin	GDF1	GDF1R10MV2
			8-Pin	MDF1	MDF1R10MV2
			8-Pin	MDA2	MDA2R10MV2
	LCD, IP66	48 mm	8-Pin	MDE1	MDE1R0524U
				MDE1	MDE1R05MVA
	-	48 mm	11-Pin	TMR 48 U	88 886 016
				TMR 48 L	88 886 516
			8-Pin	TMR 48 X	88 886 116
				TMR 48 A	88 886 106

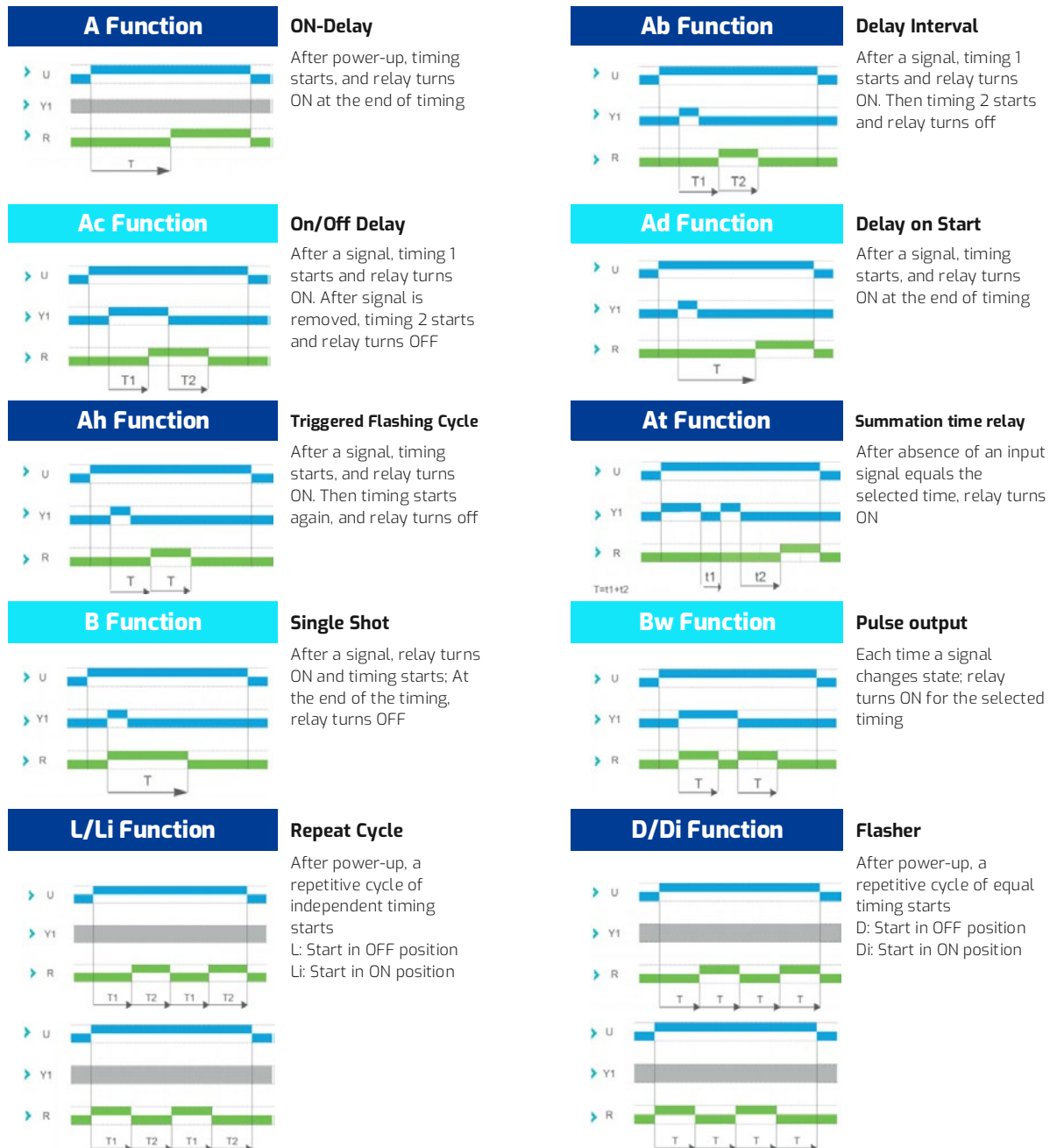
TIMERS' ACCESSORIES

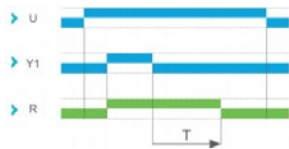
Type	Compatibility	Description	Part number
 Socket	• TMR48D • TM48 • Plug-In	8-Pin DIN Rail Base	25 622 130
		11-Pin DIN Rail Base	25 622 080
		8-Pin Screw Terminals	25 622 203
		11-Pin Screw Terminals	79 694 002
		8-Pin Solder Plug	25 622 301
		11-Pin Solder Plug	25 622 076
Adaptor	• Syr-Line • Chronos 2	DIN Rail to Panel Mount	79 237 806

Timing Functions

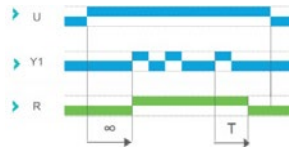
Diagrams

U: Power Supply R: Output Relay T: Timing ∞: Infinity C (Y1): Command

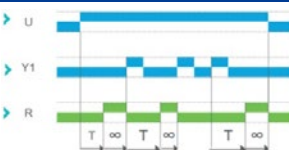


C Function**OFF-Delay**

After a signal, relay turns ON. When signal is removed, timing starts, and relay turns OFF at the end of timing

N Function**Watchdog**

After a signal, relay turns ON. When signal is sent, timing resets. If timing is completed relay turns OFF

O Function**Delayed Watchdog**

After power-up, timing starts, and relay turns ON at the end of timing. When signal is sent, timing and relay resets

Pt Function**Impulse Counter**

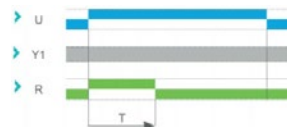
After absence of an input signal equals the selected time, relay turns ON for 500ms

Tl Function**Latching**

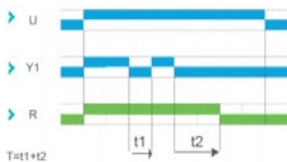
Each time a signal is sent, relay changes state

W Function**Timing after pulse of control contact**

After a signal is removed, relay turns ON and timing starts; At the end of the timing, relay turns OFF

H Function**Interval**

After power-up, relay turns ON and timing starts; At the end of the timing, relay turns OFF

Ht Function**Interval with Memory**

After absence of an input signal equals the selected time, relay turns OFF

P Function**Pulse Delay Relay**

After power-up, timing starts, and relay turns ON for 500ms at the end of timing

T Function**On-Delay: Sum of times**

After summation of an input signal equals the selected time, relay turns ON

Tt Function**Delayed Latching**

After a signal, relay turns ON and timing starts; At the end of the timing, relay turns OFF. Signal can stop timing

For more detailed diagrams or the diagrams of special functions, please visit www.crouzet.com

MONITORING RELAYS

- *Three-Phase*
- *Voltage*
- *Current*
- *Level Control*



Selection Guide – Monitoring Relays

Crouzet's Monitoring Relays

In industrial and commercial installations, every device should be monitored by a Crouzet Monitoring Relay to optimize continuity of service. The control relay enables the operator to initiate maintenance operations or corrective actions to avoid expensive production shutdowns.

ELECTRICAL MONITORING

Type	Function	Measuring Range	Output	
 Three-Phase	Voltage	220-480 VAC	1 x 5A (Changeover)	
	Voltage	208-480 VAC		
	Voltage Absence	120-277 VAC	2 x 5A (Changeover)	
	Sequence Absence	208-440 VAC		
	Sequence Absence	208-480 VAC	1 x 5A (Changeover)	
	Sequence Absence Undervoltage			
	Sequence Absence Imbalance			
	Sequence Absence Voltage Imbalance			
	Sequence Absence Voltage Imbalance	220-480 VAC		
 Single phase	Voltage	9-15 VDC	1 x 5A (Changeover)	
	Voltage	0.2-60V AC/DC	2 x 5A (Changeover)	
	Voltage	20-80V AC/DC	1 x 5A (Changeover)	
	Voltage	65-260V AC/DC		
	Voltage		15-600V AC/DC	
	Voltage			
	Current	2-500 mA	2 x 5A (Changeover)	
	Current	0.1-10 A		
	Current	2-20 A		

LEVEL CONTROL

Type	Function	Measuring Range	Output	
 Level	Pump up or down	5 – 100 kΩ	1 x 8A (Changeover)	
	Pump up or down	250Ω - 1 MΩ	1 x 8A (Changeover)	
	Pump up or down	250Ω - 1 MΩ	2 x 5A (Changeover)	

ACCESSORIES

Type	Description	Compatibility	Part Number
 Probes	Electrode Holder	ENR/ENRM/HNM	79 696 044
	Protected Suspension Sensor		79 696 043
	Electrode & Holder 200°C		79 696 014

Monitoring Relay Features

- Protect AC motors, HVAC Systems, Pumps, Conveyors, Packaging Machines and other loads.
- Many Options: Three-phase and single phase, voltage, current, level monitoring
- UL and CE certified

	Power Supply	Width	Mounting	Designation	Part Number
	220-480 VAC	17,5 mm	DIN Rail	H3US	84 873 220
	208-480 VAC			M3US	84 873 222
	120-277 VAC	35 mm		H3USN	84 873 221
	208-440 VAC	17,5 mm		MWS2	84 873 021
	208-480 VAC	17,5 mm		MWG	84 873 022
				MWU	84 873 023
				MWA	84 873 024
				MWUA	84 873 025
	220-480 VAC	35 mm		HWUA	84 873 026
		9-15 VDC		17,5 mm	DIN Rail
24-240 VAC/DC		35 mm	HUL	84 872 120	
20-80 VAC/DC		17,5 mm	MUS	84 872 141	
65-260 VAC/DC			MUS	84 872 142	
			MUSF	84 872 152	
24-240 VAC/DC		35 mm	HUH	84 872 130	
		24-240V AC/DC	35 mm	DIN Rail	
	17,5 mm		HIH		84 871 130
			MIC		84 871 122

	Power Supply	Width	Probe	Mounting	Designation	Part Number
	24-240 VAC/DC	22,5 mm	Resistive	DIN Rail	ENR	84 870 200
		22,5 mm			ENRM	84 870 210
		35 mm			HNM	84 870 700

COUNTERS

- *Electrical*
- *Electromechanical*
- *Preset*
- *Multifunction*



Selection Guide – Counters

Crouzet's Counters

Count the number of parts, events, or actions or the running time of equipment, to inform or trigger an action or intervention. Very useful for scheduling preventive maintenance on machines or production lines.

ELECTRONIC COUNTERS

	Function	Visualization	Inputs	Output	Power Supply
	Hour Counter	LCD	PNP	-	10-260 VAC/DC
		LCD	NPN		Battery
		LCD	Voltage		
		Backlight LCD	PNP		
		Backlight LCD	Voltage		
	Totalizer	LCD	PNP	-	10-260 VAC/DC
		LCD	NPN		Battery
		LCD	Voltage		10-260 VAC/DC
		Backlight LCD	PNP		
		Backlight LCD	Voltage		
	Double Totalizer	LED	NPN or PNP	-	10-30 VDC
		LED	NPN or PNP (Common Input)		
	Multifunction 1* (Totalizer Hour Counter Ratemeter)	LED	NPN or PNP	-	10-30 VDC
	Preset Chronometer	Backlight LCD	PNP/NPN/Voltage	1	10-30 VDC
		Backlight LCD		· 1 x 3A (Changeover)	230 VAC
	Double Preset Chronometer	Backlight LCD	PNP/NPN/Voltage	2	10-30 VDC
		Backlight LCD		· 1 x 3A (Changeover) + · 1 x 3A (N/O)	230 VAC
	Multifunction 2* (Preset Multi-Totalizer Chronometer Ratemeter)	Backlight LCD	PNP/NPN/Voltage	2	10-30 VDC
		Backlight LCD		· 1 x 5A (Changeover) +	24 VAC
		Backlight LCD		· 1 x 30 mA (SSR)	90-260 VAC
		LED	PNP/NPN/Voltage	2	10-30 VDC
		LED		· 1 x 5A (Changeover) +	24 VAC
		LED		· 1 x 30 mA (SSR)	90-260 VAC
	Multifunction 3* (Double Preset Multi-Totalizer Chronometer Ratemeter Batch Counter)	Backlight LCD	PNP/NPN/Voltage	4	10-30 VDC
		Backlight LCD		· 1 x 5A (Changeover) +	24 VAC
		Backlight LCD		· 1 x 5A (N/O) + · 2 x 30 mA (SSR)	90-260 VAC
		LED	PNP/NPN/Voltage	4	10-30 VDC
		LED		· 1 x 5A (Changeover) +	24 VAC
		LED		· 1 x 5A (N/O) + · 2 x 30 mA (SSR)	90-260 VAC

Counter Features

- Great visualization, either by LCD screen, LED screen or Mechanical Dials
- Hour Counters, Totalizers (Impulse Counters), Preselection, Chronometer, Ratemeter
- Many Options: Electronic and Electromechanical, Clip or Screw Mounting, different sizes and supply

	Size	Digits	Fixing	Designation	Part Number
	24 x 48 mm	7 Digits	Clip	CTR24	87 622 161
					87 622 162
					87 622 170
					87 622 181
					87 622 190
	24 x 48 mm	8 Digits	Clip	CTR24	87 622 061
					87 622 062
					87 622 070
					87 622 081
					87 622 090
	24 x 48 mm	7 Digits	Clip	CTR24L	87 623 572
		8 Digits			87 623 573
	24 x 48 mm	6 Digits	Clip	CTR24L	87 623 570
	48 x 48 mm	6 Digits	Clip	CTR48E	87 629 111
					87 629 114
	48 x 48 mm	6 Digits	Clip	CTR48E	87 629 121
					87 629 124
	48 x 48 mm	6 Digits	Clip	CTR48	87 621 111
					87 621 112
					87 621 115
					87 621 211
					87 621 212
					87 621 215
	48 x 48 mm	6 Digits	Clip	CTR48	87 621 121
					87 621 122
					87 621 125
					87 621 221
					87 621 222
					87 621 225

COUNTERS

Selection Guide – Counters

ELECTROMECHANICAL

	Function	Visualization	Input	Output	Power Supply	
	Hour Counter	Mechanical Dial	-	-	4.5-35 VDC	
	Hour Counter	Mechanical Dial	-	-	10-30 VDC	
		Mechanical Dial			20-30 VAC (50 Hz)	
		Mechanical Dial			187-264 VAC (50 Hz)	
	Hour Counter	Mechanical Dial	-	-	10-30 VDC	
		Mechanical Dial			20-30 VAC (50 Hz)	
		Mechanical Dial			100-130 VDC (50 Hz)	
		Mechanical Dial			100-130 VDC (60 Hz)	
		Mechanical Dial			187-264 VAC (50 Hz)	
		Mechanical Dial			187-264 VAC (60 Hz)	
	Hour Counter	Mechanical Dial	-	-	10-30 VDC	
		Mechanical Dial			24 VAC (50 Hz)	
		Mechanical Dial			230 VAC (50 Hz)	
	Totalizer	Mechanical Dial	-	-	5 VDC	
		Mechanical Dial			24 VDC	
		Mechanical Dial			24 VAC	
	Totalizer	Mechanical Dial	-	-	12 VDC	
		Mechanical Dial			24 VDC	
		Mechanical Dial			24 VDC	
		Mechanical Dial			24 VAC	
		Mechanical Dial			24 VAC	
		Mechanical Dial			110 VDC	
		Mechanical Dial			115 VAC	
		Mechanical Dial			230 VAC	
		Mechanical Dial			230 VAC	

	Size	Digits	Fixing	Designation	Part Number
	15 x 32 mm	7 Digits	Clip	CHM15	99 792 810
	24 x 48 mm	7 Digits	Clip	CHM24	99 782 810
					99 782 710
					99 782 714
	48 x 48 mm	8 Digits	Clip	CHM48	99 772 810
		7 Digits			99 772 710
					99 772 712
					99 772 715
		5 Digits			99 772 714
	6 Digits	99 772 716			
	35mm	7 Digits	DIN Rail	CHMDR	99 793 810
					99 793 710
					99 793 714
	15 x 32 mm	7 Digits	Clip	CIM15	99 778 805
					99 778 810
					99 778 710
	24 x 48 mm	6 Digits	Clip	CIM24	99 777 815
					99 777 810
			Screw		99 776 907
			Clip		99 777 710
			Screw		99 776 904
			Screw		99 776 905
			Screw		99 776 902
			Clip		99 777 714
			Screw		99 776 901

Selection Guide – Counters

ELECTROMECHANICAL

	Function	Visualization	Input	Output	Power Supply	
	Totalizer	Mechanical Dial	-	-	24 VDC	
		Mechanical Dial			24 VAC	
		Mechanical Dial			110 VDC	
		Mechanical Dial			115 VAC	
		Mechanical Dial			230 VAC	
	Totalizer	Mechanical Dial	-	-	24 VDC	
		Mechanical Dial			48 VDC	
		Mechanical Dial			110 VDC	
		Mechanical Dial			230 VAC	
	Totalizer (+ Reset)	Mechanical Dial	-	-	24 VDC	
		Mechanical Dial			24 VDC	
		Mechanical Dial			24 VAC	
		Mechanical Dial			24 VAC	
		Mechanical Dial			115 VAC	
		Mechanical Dial			230 VAC	
		Mechanical Dial			230 VAC	
	Totalizer (+ Reset)	Mechanical Dial	-	-	24 VDC	
		Mechanical Dial			230 VAC	
	Totalizer (+ Reset)	Mechanical Dial	-	-	24 VDC	
		Mechanical Dial			24 VAC	
		Mechanical Dial			115 VAC	
		Mechanical Dial			230 VAC	
		Mechanical Dial			230 VAC	
	Totalizer Hour Counter	Mechanical Dial	-	-	10-30 VDC	
		Mechanical Dial			20-30 VAC (50 Hz)	
		Mechanical Dial			100-130 VAC (50 Hz)	
		Mechanical Dial			100-130 VAC (60 Hz)	
		Mechanical Dial			187-264 VAC (50 Hz)	

PNEUMATIC COUNTERS

	Function	Visualization	Information
	Totalizer	Mechanical Dial	See page 47
	Totalizer (+ Reset)		

	Size	Digits	Fixing	Designation	Part Number
	36 x 37 mm	6 Digits	Screw	CIM36X37	99 776 607
					99 776 604
					99 776 605
					99 776 602
					99 776 601
	36 x 48 mm	6 Digits	Screw	CIM36X48	99 776 707
					99 776 736
					99 776 705
					99 776 701
	24 x 48 mm	5 Digits	Clip	CIM24	99 777 820
			Screw		99 776 927
			Clip		99 777 720
			Screw		99 776 924
			Screw		99 776 922
			Clip		99 777 724
			Screw		99 776 921
	36 x 37 mm	5 Digits	Screw	CIM36X37	99 776 616
					99 776 610
	36 x 48 mm	5 Digits	Screw	CIM36X48	99 776 716
					99 776 713
					99 776 715
					99 776 710
	48 x 48 mm	1 x 7 Digits + 1 x 8 Digits	Clip	CMM48	99 779 810
		2 x 7 Digits			99 779 710
					99 779 712
					99 779 715
					99 779 714

SOLID STATE RELAYS

- AC Voltage: Single Phase
- DC Voltage
- Load Diagnostic: Smart SSR
- Accessories



Selection Guide – SSR

Crouzet's Solid State Relays

A series of multipurpose Solid State Relays, in both panel mount and DIN Rail mount.

To switch DC loads from 10 to 40 A / 5 to 200 VDC, and switch AC loads from 25 A to 125 A / 24 to 660 VAC.

AC VOLTAGE: SINGLE PHASE

Type	Output		Input	Certifications	
	Current	Voltage	Voltage		
 GNA Essential Version	25 A	24-280 VAC	4-32 VDC	сґUus, CE, EAC*	
	40 A	48-660 VAC		сґUus, CE, EAC*, VDE	
	50 A				
	90 A				
 GN Classic Version	10 A	24-280 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	10 A		20-265 VAC	сґUus, CE, EAC*	
	25 A	24-280 VAC	4-32 VDC	сґUus, CE, EAC*	
	25 A		18-36V AC/DC		
	25 A		20-265 VAC		
	25 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	25 A		20-265 VAC	сґUus, CE, EAC*	
	50 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	50 A		18-36V AC/DC	сґUus, CE, EAC*	
	50 A		20-265 VAC		
	75 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	75 A		20-265 VAC	сґUus, CE, EAC*	
	100 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	100 A		20-265 VAC	сґUus, CE, EAC*	
	125 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	125 A		20-265 VAC	сґUus, CE, EAC*	
	25 A	24-280 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	25 A		90-260 VAC		
	50 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	50 A		90-260 VAC		
	75 A	48-660 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
 GN+ Performance Version	25 A	12-270 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	25 A		20-260 VAC/DC		
	50 A	24-500 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	50 A		20-260 VAC/DC		
	90 A	24-500 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	90 A		20-260 VAC/DC		
	125 A	24-500 VAC	4-32 VDC	сґUus, CE, EAC*, VDE	
	125 A		20-260 VAC/DC		

Solid State Relays Features

- Removable covers and output protection included
- Smart load diagnostic versions
- Resistive, Inductive and Capacitive loads

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
	Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: Heating	• To use in simple applications	GNA25DZL GNA40DZH GNA50DZH GNA90DZH	84137910N 84137450N 84137460N 84137480N
	Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: Heating Lighting	• Output Protection Included (TVS)	GN10DZL GN10AZL GN25DZL GN25CZL GN25AZL GN25DZH GN25AZH GN50DZH GN50CZH GN50AZH GN75DZH GN75AZH GN100DZH GN100AZH GN125DZH GN125AZH	84137000N 84137001N 84137010N 84137012N 84137011N 84137110N 84137111N 84137120N 84137122N 84137121N 84137130N 84137131N 84137140N 84137141N 84137180N 84137181N
	Panel Mount "Hockey Puck"	Random (Instantaneous)	Inductive Loads: Motion Miscellaneous (high inductive loads, very strong magnetising currents, overvoltages)	• Output Protection Included (RC Snubber)	GN25DRL GN25ARL GN50DRL GN50ARH GN75DRH	84137210N 84137211N 84137320N 84137321N 84137330N
	Panel Mount "Hockey Puck"	Special Zero Cross	Resistive Loads: Heating Lighting Inductive Loads: Motion Miscellaneous Capacitive Loads: Miscellaneous	• Output Protection Included (VDR) • High Immunity (Level A) • Thermal Pad Included	GNP25DZL GNP25UZL GNP50DZM GNP50UZM GNP90DZM GNP90UZM GNP125DZM GNP125UZM	84138010N 84138013N 84138120N 84138123N 84138150N 84138153N 84138180N 84138183N

SSR

AC VOLTAGE: SINGLE PHASE

Type	Output		Input	Certifications	
	Current	Voltage	Voltage		
 GNR Classic Version	20 A	24-280 VAC	4-32 VDC	с҂Uus, CE, EAC*	
	20 A	48-660 VAC	4-32 VDC		
	20 A		80-140 VAC		
	20 A		180-280 VAC		
	30 A	48-660 VAC	4-32 VDC	с҂Uus, CE, EAC*	
	30 A		80-140 VAC		
	30 A		180-280 VAC		
	30 A	24-500 VAC	4-32 VDC	с҂Uus, CE, EAC*, VDE	
 GNR+ Performance Version	30 A	24-500 VAC	4-32 VDC	с҂Uus, CE, EAC*, VDE	
	30 A		180-280 VAC		
	32 A		4-32 VDC		
	45 A		4-32 VDC	с҂Uus, CE, EAC*	

DC VOLTAGE

Type	Output		Input	Certifications	
	Current	Voltage	Voltage		
 GNAD Essential Version	10 A	5-200 VDC	4-32 VDC	с҂Uus, CE	
	20 A	5-100 VDC			
	40 A	5-55 VDC			
 GND Classic Version	10 A	5-200 VDC	4-32 VDC	с҂Uus, CE	
	40 A	5-60 VDC			

LOAD DIAGNOSTIC: SMART SSR

Type	Output		Input	Certifications	
	Current	Voltage	Voltage		
 GN Smart Load Detection	50 A	24-600 VAC	4-32 VDC	с҂Uus, CE	
	35 A	50-265 VAC	8-30 VDC	с҂Uus, CE, EAC*, VDE	
	50 A	150-510 VAC			
	75 A				
 GNR Smart Module Load Detection	40 A	-	4-32 VDC	CE, EAC*	
	40 A		24-45 VDC		

ACCESSORIES

Type	Description	P/N
 Heatsinks For Panel Mount SSRs	0.9 °C/W Thermal Resistance	26532752N
	1.1 °C/W Thermal Resistance	26532753N
	1.2 °C/W Thermal Resistance	26532754N
	1.75 °C/W Thermal Resistance	26532755N
	2.2 °C/W Thermal Resistance	26532756N
 Adaptors For DIN Rail	DIN Rail Adapter for Single & Dual-Phase SSR	26532764N

* AVAILABLE SOON

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
	DIN Rail 22.5mm	Zero Cross	Resistive Loads: Heating Lighting	• Output Protection Included	GNR20DCZL	GNR20DCZL
					GNR20DCZH	GNR20DCZH
					GNR20BCZH	GNR20BCZH
					GNR20ACZH	GNR20ACZH
					GNR30DCZH	GNR30DCZH
					GNR30BCZH	GNR30BCZH
					GNR30ACZH	GNR30ACZH
	DIN Rail 22.5mm	Random	Inductive Loads: Motion, Miscellaneous	• Output Protection Included (RC Snubber)	GNR25DCRH	GNR25DCRH
	DIN Rail 22.5mm	Zero Cross	Resistive Loads: Heating, Lighting Inductive Loads: Motion, Miscellaneous Capacitive Loads: Miscellaneous	• Output Protection Included (VDR) • High Immunity (Level A)	GNR30DCZP	GNR30DCZP
					GNR30ACZP	GNR30ACZP
					GNR32DCZP	GNR32DCZP
	DIN Rail 45mm				GNR45DCZP	GNR45DCZP

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
	Panel Mount "Hockey Puck"	DC Switching	DC Loads: Heating, Motion, Lighting, Miscellaneous	• To use in simple applications	GNAD10DH	84137650N
					GNAD20DM	84137660N
					GNAD40DL	84137670N
	Panel Mount "Hockey Puck"	DC Switching	DC Loads: Heating, Motion, Lighting, Miscellaneous	• Output Protection Included (TVS*)	GND10DH	84137850N
					GND40DM	84137870N

SSR

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
	Panel Mount "Hockey Puck"	Zero Cross	Current Detection	-	GN550DAZH	84136120N
	Panel Mount "Hockey Puck"	Zero Cross	Load Detection	-	GN535DDZH	84139150N
	Module On GNR/GNR+	-	Current Detection	-	GN550DDZH	84139120N
					GN575DDZH	84139130N
	Module On GNR/GNR+	-	Current & Diagnostic	-	GN540DDDR	84050040N
					GN540FDDR	84050043N

Type	Description	P/N
 Thermal Pads For Heatsink Mounting	Pre-cut thermal pad	26532720N
	Self-adhesive thermal pad	26532722N
 Screws For Heatsink Mounting	Screw Mounting Kit for Single & Dual-Phase SSR	26 532 001
 Thermal Grease For Heatsink Mounting	Thermal Grease	26 532 003
 Label For SSR identification	Label for SSR Identification	26 532 004

AUTOMATION CONTROLLERS

- *Logic Controllers*
- *Communicating Logic Controllers*
- *Nano-PLCs*
- *Telecontrollers*



CONNECTED AUTOMATION

*The communicating logic controller for all
your small-scale automation projects*



MILLENIUM EVO HAS 4 WAYS OF COMMUNICATION TO:

(Ethernet, Modbus, USB, Bluetooth)

REMOTE CONTROL WITH CROUZET VIRTUAL DISPLAY



Access EVO's front control face from your PC, laptop or mobile

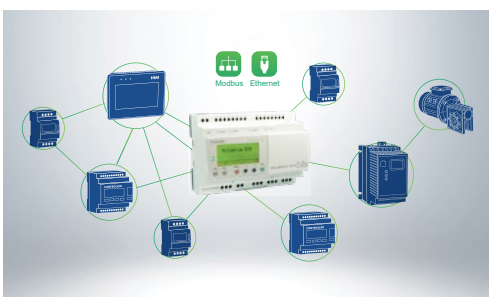
- > Use **Bluetooth** technology to save time and easily program difficult to access controllers
- > View front face in real-time and change available parameters
- > Program transfer
- > Datalog via smartphone

CONTINUOUSLY MONITOR YOUR APPLICATION



- > With **datalog** function, measure and record key parameters of your installation,
- > Periodically receive **datalogs** in /csv file, by email or by **FTP**
- > Program regular email notifications (choose events to monitor, get status updates or alarms notifications)

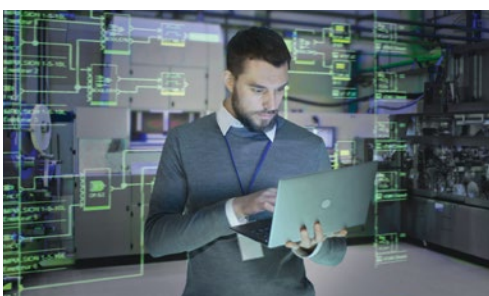
INTERACT WITH OTHER DEVICES VIA ETHERNET AND MODBUS



Easily exchange between your different equipments with:

- > **Modbus**
- > **Ethernet**

PROGRAMM EVERYWHERE ON YOUR LOCAL NETWORK



Visual programming and vast of pre-programmed function blocks to drag and drop into your application, make the new version of Crouzet Soft the most intuitive and easiest to use, even for first-time users.

Free software download on www.crouzet.com

Selection Guide – Automation

Crouzet's Automation Controllers

Automation for everyone! Easy to use and powerful Automation Controllers, adaptable for all kinds of projects - from the simplest to complex applications. Crouzet's Automation Controllers offer free software and are easy and intuitive to use, even for programming novices.

TELECONTROLLER - EM4 ALERT

em4 Alert has a built-in GSM modem to connect to any cellular network to control and monitor

Type	Total I/Os	Convertible Inputs		Output Types			
		To Digital	To Analog	Digital	PWM	Analog	
 Telecontroller 3G Version	26 • 16 Inputs • 10 Outputs	16 • 12 to Classical Digital • 4 to Classical Digital or 60 KHz High-Speed)	12 • 8 to 0-10 VDC or 0-VCC • 4 to 20 mA or 0-10 VDC	8 • 6 x 8A • 2 x 6A	2 • 0.5A Static	-	
 Starter Kit 3G Version							
 Expansion Digital	10 • 6 Inputs • 4 Outputs	6 • Classical Digital	6 • 0-10 VDC or 0-VCC	4 • 2 x 8A • 2 x 6A	-	-	
 Expansion Analog			6 • 0-10 VDC or 4 to 20 mA	-	2 • 0.5A Static	2 • 0-10 VDC	

NANO-PLC - EM4

The PLC made simple, PLC performance with logic controller simplicity, for high-end applications

Type	Total I/Os	Convertible Inputs		Output Types			
		To Digital	To Analog	Digital	PWM	Analog	
 Nano-PLC Local / Standalone	26 • 16 Inputs • 10 Outputs	16 • 12 to Classical Digital • 4 to Classical Digital or 60 KHz High-Speed)	12 • 8 to 0-10 VDC or 0-VCC • 4 to 20 mA or 0-10 VDC	8 • 6 x 8A • 2 x 6A	2 • 0.5A Static	-	
 Starter Kit Local / Standalone							
 Nano-PLC Ethernet Version	26 • 16 Inputs • 10 Outputs	16 • 12 to Classical Digital • 4 to Classical Digital or 60 KHz High-Speed)	12 • 8 to 0-10 VDC or 0-VCC • 4 to 20 mA or 0-10 VDC	8 • 6 x 8A • 2 x 6A	2 • 0.5A Static	-	
 Starter Kit Ethernet Version							
 Expansion Digital	10 • 6 Inputs • 4 Outputs	6 • Classical Digital	6 • 0-10 VDC or 0-VCC	4 • 2 x 8A • 2 x 6A	-	-	
 Expansion Analog			6 • 0-10 VDC or 4 to 20 mA	-	2 • 0.5A Static	2 • 0-10 VDC	

Automation Controller Features

- Graphic Programming language (FBD) and several ways of communication (3G, Ethernet, Modbus...)
- Many Options: 10-12 I/Os, 24-26 I/Os, Expandable. Digital/Analog Inputs. Relay/PWM outputs, etc.
- DesignLab for custom adaptations, 90+ years of Engineering expertise at your service

	Embedded Communication	Embedded Screen	Power Supply	Comments	Designation	Part Number
	3G Cellular Network	✓	24 VDC	Embedded GSM Modem	B26-3GS	88 981 123
				em4 Alert + Antenna + Software + USB interface + USB cable	B26-3GS Starter Kit	88 981 126
	-	-	24 VDC	To control power actuators (valves, pumps...)	E10R	88 982 113
				To control analog actuators (controlled valve, controlled pump...)	E10A	88 982 213

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	Embedded Communication	Embedded Screen	Power Supply	Comments	Designation	Part Number
	-	✓	24 VDC	To use in local applications	B26	88 981 103
				em4 + Software + USB interface + USB cable	B26 Starter Kit	88 981 106
	Ethernet TCP/IP	✓	24 VDC	Embedded Ethernet Communication	B26 ET	88 981 133
				em4 + Software + Ethernet RJ45 cable	B26 ET Starter Kit	88 981 136
	-	-	24 VDC	To control power actuators (valves, pumps...)	E10R	88 982 113
				To control analog actuators (controlled valve, controlled pump...)	E10A	88 982 213

Selection Guide – Automation

COMMUNICATING LOGIC CONTROLLER - MILLENIUM EVO

Millenium EVO, the communicating logic controller for all your small-scale automation projects

Type	Total I/Os	Convertible Inputs		Output Types			
		To Digital	To Analog	Digital	PWM	Analog	
 Screen Option Local / Standalone	24 · 16 Inputs · 8 Outputs	16 · 12 to Classical Digital · 4 to Classical Digital or 15 KHz High-Speed)	8 · To 0-10 VDC or 0-VCC	8 · 6 x 8A · 2 x 6A	-	-	
 Blind Option Local / Standalone							
 Starter Kit Local / Standalone							
 Screen Option Ethernet Version	24 · 16 Inputs · 8 Outputs	16 · 12 to Classical Digital · 4 to Classical Digital or 15 KHz High-Speed)	8 · To 0-10 VDC or 0-VCC	8 · 6 x 8A · 2 x 6A	-	-	
 Blind Option Ethernet Version							
 Starter Kit Ethernet Version							
 Expansion Digital	10 · 6 Inputs · 4 Outputs	6 · Classical Digital	-	4 · 2 x 8A · 2 x 6A	-	-	
 Expansion Analog			4 · 0-10 VDC or 4 to 20 mA	-	2 · 0.5A Static	2 · 0-10 VDC	

ACCESSORIES - EM4, EM4 ALERT & MILLENIUM EVO

Enhance your controllers by adding our multiple accessories

Type	Compatibility	Description	Part Number
 Interfaces For USB, Modbus or Bluetooth Communication	· em4: Nano-PLC · em4 Alert: Telecontroller · Millenium EVO: Communicating Logic Controller	USB programming	88 980 110
		Modbus - Polarization	88 980 123
		Modbus - No Polarization	88 980 122
		Bluetooth	88 980 112
		Bluetooth + PC Dongle	88 980 116
 Antenna For Cellular Network Communication	· em4 Alert: Telecontroller	Antenna 3M	88 980 160

	Embedded Communication	Embedded Screen	Power Supply	Comments	Designation	Part Number
	-	✓	24 VDC	-	XDP24	88 975 101
				-	XBP24	88 975 001
				Millenium EVO + Bluetooth Interface + Bluetooth Receiver	XDP24 Starter Kit	88 975 901
	Ethernet TCP/IP	✓	24 VDC	Embedded Ethernet Communication	XDP24-E	88 975 111
				Embedded Ethernet Communication	XBP24-E	88 975 011
				Millenium EVO + Bluetooth Interface + Bluetooth Receiver	XDP24-E Starter Kit	88 975 911
	-	-	24 VDC	To control power actuators (valves, pumps...)	XRP10	88 975 201
				To control analog actuators (controlled valve, controlled pump...)	XAP10	88 975 303

**AUTO-
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LLERS**

Programming and Control Software - em4, em4 Alert & Millenium EVO

The most powerful and easy-to-use software of the market, download and simulate for free



Crouzet Soft

Try it now....
IT'S FREE!



Crouzet Virtual Display

Try it now....
IT'S FREE!

Selection Guide – Automation

LOGIC CONTROLLER - MILLENIUM 3

Millenium 3, the logic controller of choice for 10+ years

Type	Total I/Os	Convertible Inputs		Output Types			
		To Digital	To Analog	Digital	PWM	Analog	
 Non-Expandable Short - With Screen	12 I/Os • 8 Inputs • 4 Outputs	8	4	4 Relay	-	-	
				4 Static	1		
				4 Relay	-		
				4 Static	1		
 Non-Expandable Short - No Screen		8	4	4 Relay	-	-	
			-				
 Starter Kit Short - With Screen		8	4	4 Relay	-	-	
 Expandable Short - With Screen	10 I/Os • 6 Inputs • 4 Outputs	6	4	4 Relay	-	-	
				4 Static	1		
			-	4 Relay	-		
 Expandable Long - With Screen	26 I/Os • 16 Inputs • 10 Outputs	16	6	10 Relay	-	-	
				10 Static	4		
			-	10 Relay	-		
 Expansion Short - Digital	6 I/Os • 4 Inputs • 2 Outputs	4	-	2 Relay	-	-	
 Expansion Long - Digital	10 I/Os • 6 Inputs • 4 Outputs	6	-	4 Relay	-	-	

More versions available at www.crouzet.com

ACCESSORIES - MILLENIUM 3

Enhance your logic controllers by adding our multiple accessories

Type	Compatibility	Description	Part Number
 Prog Cable Via USB	• Millenium 3: Logic Controller	USB Programming Cable	88 970 109
 Memory Cartridge Memory Storage	• Millenium 3: Logic Controller	Memory Cartridge	88 970 108
 Connectors Pluggable	• Millenium 3: Logic Controller	For 12 I/Os version	88 970 310
		For 20 I/Os version	88 970 311
		For 26 I/Os version	88 970 312

	Embedded Communication	Embedded Screen	Power Supply	Comments	Designation	Part Number
			12 VDC			88 974 045
						88 974 046
	-	✓	24 VDC	-	CD12	88 974 041
						88 974 042
			100-240 VAC			88 974 043
	-	-	24 VDC		CB12	88 974 021
			100-240 VAC			88 974 023
	-	✓	24 VDC	CD12, Programming Cable, CD with Software	CD12 Starter Kit	88 974 080
			100-240 VAC			88 974 081
	-	✓	24 VDC	More I/Os are possible by adding an expansion	XD10	88 974 141
			24 VDC			88 974 142
			100-240 VAC			88 974 143
	-	✓	12 VDC	More I/Os are possible by adding an expansion	XD26	88 974 165
			24 VDC			88 974 161
			24 VDC			88 974 162
			100-240 VAC			88 974 163
	-	-	24 VDC		XR06	88 970 211
			100-240 VAC			88 970 213
	-	-	24 VDC		XR10	88 970 221
			100-240 VAC			88 970 223

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Programming Software - Millenium 3

The most powerful and easy-to-use software of the market, download and simulate for free



M3Soft

Try it now....
IT'S FREE!

CROUZET VIRTUAL DISPLAY

Access your controller screen and control buttons at a distance in real-time and change parameters from any of your PC's or mobile devices, either by

- **Bluetooth**
- **Ethernet network or**
- **USB**



Selection Guide - Automation

	Logic Controller	Communicating Logic Controller	Nano-PLC	Telecontroller
				
	500 FB	1000 FB	2000 FB	2000 FB
INPUTS & OUTPUTS	Up to 50	Up to 44	Up to 46	Up to 46
	6	8	12	12
	N/A	N/A	4	4
	6 KHz	15 KHz	60 KHz	60 KHz
	NO	YES	YES	N/A
COMMUNICATION	N/A	SLAVE	MASTER/SLAVE	MASTER/SLAVE
	N/A	YES	YES	YES
	N/A	N/A	N/A	YES
	N/A	16 WORDS	24 WORDS	24 WORDS
	N/A	16 VALUES	24 VALUES	24 VALUES
	N/A	12 VALUES	24 VALUES	24 VALUES
MILLENIUM SOFT (LD-FBD-SFC)		CROUZET SOFT (FBD-SFC)		

LD: Ladder

FBD: Function Block Diagram

SFC: Sequential Function Chart

Crouzet Virtual Display is compatible with em4, em4 Alert and Millenium EVO

HMI's

- Performance
- Essential
- 4", 7", 10"
- Ethernet



Selection Guide – HMI's

Crouzet's HMI's

Crouzet HMI's are perfectly suited to be used with the whole range of Crouzet's Automation Controllers, thanks to the several ways of communication, and the pre-configured communication drivers that simplify the configuration.

PERFORMANCE

	Size	Type	Supply	Resolution	ROM	RAM	
	4 inch HMI	Touch Screen HMI only	24 VDC	480x272	128 Mbyte	128 Mbyte	
	4 inch Kits	Cable Kit HMI + Cable for Controller Millenium3					
		Starter Kit (+Logic Controller M3) HMI + Controller Millenium3 XD10R + Cable Starter Kit (+Logic Controller MEVO) HMI + Controller Millenium EVO XDP24-E + Cable					
	7 inch Screen	Touch Screen HMI Only	24 VDC	800x480	128 Mbyte	128 Mbyte	
	7 inch Kits	Cable Kit HMI + Cable for Controller Millenium3					
		Starter Kit (+Logic Controller M3) HMI + Controller Millenium3 XD26R + Cable					
		Starter Kit (+Logic Controller MEVO) HMI + Controller Millenium EVO XDP24-E + Cable					
		Starter Kit (+Nano-PLC em4) HMI + Controller em4 Ethernet + Cable					
	10 inch HMI	Touch Screen HMI Only	24 VDC	1024x768	512 Mbyte	256 Mbyte	
	10 inch Kits	Cable Kit HMI + Cable for Controller Millenium3					
		Starter Kit (+Nano-PLC em4) HMI + Controller em4 Ethernet + Cable					

ESSENTIAL

	Size	Type	Supply	Resolution	ROM	RAM	
	4 inch HMI	Touch Screen HMI Only	24 VDC	480x272	128 Mbyte	128 Mbyte	
	4 inch Kit	Cable Kit HMI + Cable for Controller Millenium3					
	7 inch Screen	Touch Screen HMI Only	24 VDC	800x480	128 Mbyte	128 Mbyte	
	7 inch Kit	Cable Kit HMI + Cable for Controller Millenium3					

HMI Features

- Easy-to-use graphic software & pre-configured communication drivers
- Many Options: 4.3", 7" and 9.7", Essential and Performance versions
- Several ways of communication: Ethernet, Modbus, SLin/SLout

	Communication	CAN Bus	Designation	Part Number
• 1 x Port Ethernet • 1 x Port COM1 RS232 • 1 x Port COM2 RS485		-	CTP104 -E	88 970 554
			CTP104 -E Cable Kit	88 970 553
			CTP104 -E Starter Kit	88 970 555
			CTP104 -E Starter Kit	88 970 558
• 1 x Port Ethernet • 1 x Port COM1 RS232 • 1 x Port COM2 RS485		-	CTP107 -E	88 970 564
			CTP107 -E Cable Kit	88 970 563
			CTP107 -E Starter Kit	88 970 566
			CTP107 -E Kit	88 970 568
			CTP107 -E Starter Kit	88 970 567
• 2 x Ports Ethernet • 1 x Port COM1 RS232 • 1 x Port COM2 RS485 • 1 x Port COM3 RS232 or RS485		CANopen Protocol	CTP110 -E	88 970 574
			CTP110 -E Cable Kit	88 970 573
			CTP110 -E Kit	88 970 577

HMI'S

	Communication	CAN Bus	Designation	Part Number
• 1 x Port COM1 RS232 or RS485 • 1 x Port COM3 RS485 • 1 x Port Ethernet		-	CT104	88 970 524
			CT104 Cable Kit	88 970 523
• 1 x Port COM1 RS232 or RS485 • 1 x Port COM3 RS485		-	CT107	88 970 534
			CT107 Cable Kit	88 970 533

Selection Guide – HMI's

Connect HMI with Controller: Cables and Expansions/Interfaces Needed

PERFORMANCE

Size	Product
 4 inch HMI's	4": CTP104 -E
	4": CTP104 -E
	4": CTP104 -E
	4": CTP104 -E

For Connection Via Modbus (RTU)			
Cable		Controller Expansion/Interface	
	Modbus Cable (88 980 171)		Modbus Interface (88 980 122 or 88 980 123)
	M3 Modbus Cable (88 970 503)		Modbus Expansion XN06 (88 972 250)

 7 inch & 10 inch HMI's	7": CTP107 -E 10": CTP110 -E
	7": CTP107 -E 10": CTP110 -E
	7": CTP107 -E 10": CTP110 -E
	7": CTP107 -E 10": CTP110 -E

	Modbus Cable (88 980 172)		Modbus Interface (88 980 122 or 88 980 123)
	M3 Modbus Cable (88 970 504)		Modbus Expansion XN06 (88 972 250)

ESSENTIAL

Size	Product
 4 inch & 7 inch HMI's	4": CT104 7": CT107
	4": CT104 7": CT107
	4": CT104 7": CT107
	4": CT104 7": CT107

For Connection Via Modbus (RTU)			
Cable		Controller Expansion/Interface	
	Modbus Cable (88 980 171)		Modbus Interface (88 980 122 or 88 980 123)
	M3 Modbus Cable (88 970 503)		Modbus Expansion XN06 (88 972 250)

For Connection Via Ethernet (TCP/IP)			
Cable		Controller Expansion/Interface	
		X	Not Possible (Telecontroller em4 Alert Without Ethernet Communication)
	Ethernet cable (88 970 508)	✓	No Interface needed (Direct Connection to Controller)
			Ethernet Expansion XN05 (88 970 270)

		X	Not Possible (Telecontroller em4 Alert Without Ethernet Communication)
	Ethernet cable (88 970 508)	✓	No Interface needed (Direct Connection to Controller)
			Ethernet Expansion XN05 (88 970 270)

For Connection Via Ethernet (TCP/IP)			
Cable		Controller Expansion/Interface	
		X	Not Possible (Telecontroller em4 Alert Without Ethernet Communication)
	Ethernet cable (88 970 508)	✓	No Interface needed (Direct Connection to Controller)
			Ethernet Expansion XN05 (88 970 270)

Controller	
	+ Telecontroller em4 Alert
	+ Nano-PLC em4
	+ Communicating Logic Controller Millenium EVO
	+ Logic Controller Millenium3

	+ Telecontroller em4 Alert
	+ Nano-PLC em4
	+ Communicating Logic Controller Millenium EVO
	+ Logic Controller Millenium3

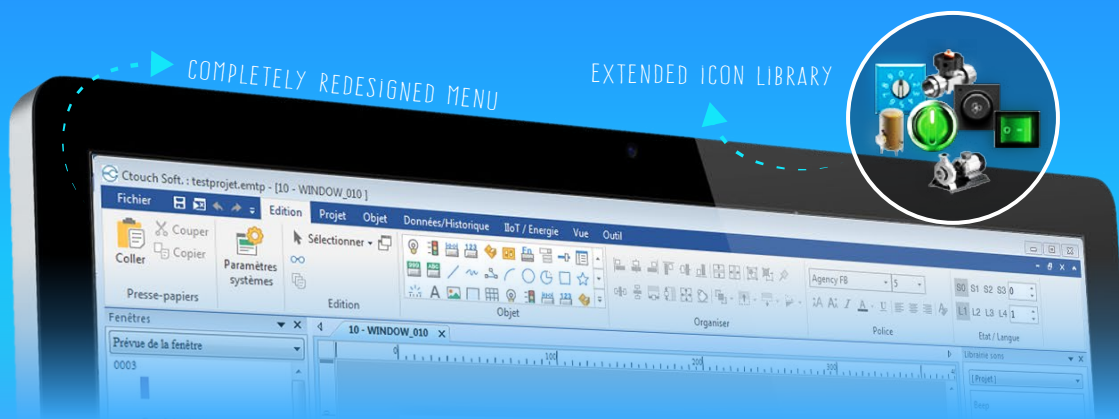
Controller	
	+ Telecontroller em4 Alert
	+ Nano-PLC em4
	+ Communicating Logic Controller Millenium EVO
	+ Logic Controller Millenium3

HMI'S

CROUZET TOUCH SOFT

NEW UPGRADE!

Get the newest version of **Crouzet Touch Soft** for free and play around with our most intuitive and well designed user interface yet



IMAGINE AND CONCEIVE YOUR PROJECT IN AN EASY WAY

- Manage all your HMI project from Crouzet Touch Utility Manager
- A wide range of tools to help you develop the perfect project
- Dedicated communication drivers for em4 and Millenium 3 allowing simple addressing and label management
- Import existing MTP HMI programmes into the new Crouzet Touch Soft
- It's available in english, french, italian, german, spanish



KEY FEATURES

FUNCTION BAR

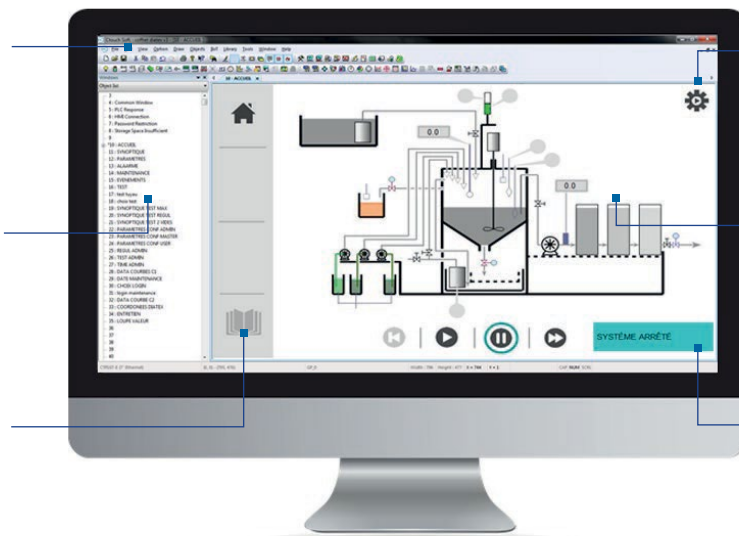
- › With simple icons

ORGANISE YOUR PROJECT

- › Tree and display all object names

CUSTOMISE YOUR APPLICATION

- › Create your own library and import pictures



ENHANCED SECURITY

- › By creating access levels for users

CREATE AND DESIGN

- › Main window makes it easy to create any functional object

LABEL TAG

- › Allows use of up to 8 different languages

ASSOCIATED FEATURES



EMAIL & CSV

Send e-mails with datalog files (csv) from a data sampling and when an event is triggered



ENHANCED SECURITY

Enhanced security mode to manage users and classes easily with dedicated system pages.



EASY DIAGNOSER

Analysing and diagnosing communication between HMI and PLC



PASS THROUGH

Allows connection of the PLC to the HMI allowing debugging of the system.



RECIPE IMPORT / EXPORT

Creating and managing recipes is much easier using the «recipe view» object and system registers available in Crouzet Touch software.



COMBO BUTTON

Execute multiple commands with one button.



EASY SIMULATOR

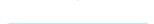
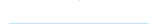
Allows online / offline simulation of your HMI application.



VNC

Allows network connection to the HMI via VNC client on PC or mobile phone.

Selection Guide - HMI's

	Essential		Performance		
	 CT104	 CT107	 CPT104-E	 CPT 107-E	 CPT110-E
Size	4,3" 	7" 	4,3" 	7" 	9,7" 
Resolution	480 x 272 	800 x 480 	480 x 272 	800 x 480 	1024 x 768 
Brightness	400 cd/m ² 	300 cd/m ² 	400 cd/m ² 	400 cd/m ² 	350 cd/m ² 
Processor	A8 - 600 MHz 	A8 - 600 MHz 	A8 - 600 MHz 	A8 - 600 MHz 	A8 - GHz 
Storage memory	128 MByte 	128 MByte 	128 MByte 	128 MByte 	512 MByte 
RAM memory	128 MByte 	128 MByte 	128 MByte 	128 MByte 	256 MByte 
USB	Host USB 2.0 	Host USB 2.0 	Host USB 2.0 	Host USB 2.0 	Host USB 2.0 
Ethernet	1 RJ45,10/ 100Mbit/s 	1 RJ45,10/ 100Mbit/s 	1 RJ45,10/ 100Mbit/s 	1 RJ45,10/ 100Mbit/s 	2 RJ45,10/ 100Mbit/s 
RS 232	COM 1 	COM 1 	COM 1 	COM 1 	COM 1 / COM 3 
RS 485	COM 1 / COM 3 	COM 2 	COM 1 	COM 1 	COM 2 / COM 3 
CAN	N/A 	N/A 	N/A 	N/A 	YES 

CROUZET Touch Soft

COMPLEMENTARY PRODUCTS

- *Power Supplies*
- *Temperature Sensors*
- *Signal Converters*
- *Faceplates*



Selection Guide – Complementary

Crouzet's Complementary Products

Crouzet offers complementary products such as a high-performance range of power supplies, signal converters, temperature sensors and probes, many adapted especially for use with Crouzet Automation Controllers and Timers.

POWER SUPPLIES

Compact offer of 24 VDC DIN-Rail Power Supplies with high efficiency (up to 90%)

NEW



Type	Output Power	Output Voltage	Output Current	Width	
Modular AC to DC	10W	24 VDC	0.42 A	18 mm	
	30W		1.25 A	36 mm	
	60W		2.5 A	54 mm	
	100W		4.2 A	72 mm	

TEMPERATURE & SIGNAL CONVERTERS

Temperature & Signal Converters designed for simple & direct connection to Crouzet's Automation Controllers



Type	Range	Input	Output	Part Number
 Temperature to Voltage	-20 → +150 °C	Pt1000 3-wire	0-10 VAC	88 950 150
	-40 → +40 °C	Pt100 3-wire		88 950 151
	0 → +100 °C			88 950 152
	0 → +250 °C			88 950 153
	0 → +300 °C	Thermocouple J		88 950 154
	0 → +600 °C	Thermocouple K		88 950 155
 Current to Voltage	4 x 0-20 mA		4 x 0-10 VAC	88 950 108
 PWM to Voltage	1 x 24 VDC (120 Hz max)		1 x 0-10 VAC	88 950 112



FACEPLATES

Designed for Crouzet's Automation Controllers



Type	Compatibility	Size	Part Number
IP40 Protection	10-12 I/Os Controllers	110 x 108 mm	88 970 809
	24-26 I/Os Controllers	155 x 108 mm	88 970 810
IP67 Protection	10-12 I/Os Controllers	91 x 97.7 mm	89 750 160
	24-26 I/Os Controllers	162 x 97.7 mm	89 750 161
	24-26 I/Os Controllers + Expansions	257.4 x 97.7 mm	89 750 162

Features

- Designed for a wide range of industrial and building applications
- Many Options: Power supplies, signal converters, temperature sensors, temperature probes
- Adapted to be used with other Crouzet products

	Mounting	Input Voltage	Output	Adjustable Output	Part Number
	DIN Rail	100-240 VAC	1	No	89 451 001
			1	Yes (24-28 VDC)	89 451 003
			2		89 451 006
			2		89 451 010

TEMPERATURE SENSORS

Probes designed for simple & direct connection to Crouzet's Automation Controllers

	Type	Range	Power Supply	Output	Part Number
	Air Sensor	-10°C +40°C	24 VDC	0 → 10 V / 4-20mA	89 750 190
	Duct Probe	-10°C +60°C			89 750 191
	External Probe	-10°C + 40°C			89 750 192
	Remote/ Submersible	-10°C + 110°C			89 750 193
	NTC1 (AS Probe)	-25 → +85 °C	-	10 kΩ @ 25 °C	89 750 180
	NTC2 (PVC Probe)	-25 → +85 °C			89 750 174
	NTC2 (POM Probe)	-20 → +105 °C			89 750 185
	NTC2 (Stainless Steel Probe)	-35 → +120 °C			89 750 182
	NTC3 (Silicone Probe)	0 → +180 °C		100 kΩ @ 25 °C	89 750 186

COMPLE-
MENTARY
PRODUCTS

PNEUMATIC COMPONENTS

- *Logic Gates*
- *Timers & Counters*
- *Pressure & Position Detectors*
- *Man/Machine Interfaces*



Selection Guide – Pneumatics

Crouzet's Pneumatic Components

For more than 50 years now, Crouzet has offered a wide range of pneumatic products for simple automation systems using compressed air, without a source of electricity. Suitable for numerous applications, especially in hazardous/explosive environments (ATEX).

LOGIC GATES

	Connection	Function	Logic	Operating Pressure	
	On Sub-base	OR	$S = a + b$	2 → 8 bar	
		AND	$S = a . B$		
		YES (Buffer)	$S = a$		
	Threshold on sub-base	YES (Buffer)	$S = a$	2 → 8 bar	
		NOT (Inverter)	$S = \bar{a}$		
		NOT (Inverter)	$S = \bar{a}$		
	Plug-In Ø 4 mm	OR	$S = a + b$	2 → 8 bar	
		AND	$S = a . B$		
	Plug-In Ø 6 mm	OR	$S = a + b$	2 → 8 bar	
		AND	$S = a . B$		

PNEUMATIC TIMERS

	Connection	Function	Timing	Operating Pressure	
	On Sub-base	Positive	0,1 → 15 s	2 → 8 bar	
		Positive	0,1 → 30 s		
		Positive	0,1 → 60 s		
		Negative	0,1 → 15 s		
		Negative	0,1 → 30 s		
		Negative	0,1 → 60 s		
		Single impulse generator	0,4 s		
		Adjustable impulse generator	0,1 → 30 s		
		Adjustable frequency generator	0,02 → 8 Hz		

PNEUMATIC COUNTERS

	Function	Digits	Size	Fixing	
	Totalizer	6 Digits	24 x 48 mm	Screw	
	Totalizer (+ Reset)	4 Digits	24 x 48 mm	Screw	

Pneumatic Components Features

- Suitable for medical equipment, railway applications, packaging machines, industrial machines, etc.
- Many Options: human/machine interface, logic components, valves, pressure switches...
- DesignLab for custom adaptations, 90+ years of Engineering expertise at your service

	Flow at 6 bars	Orifice Ø	Color	Standard P/N	ATEX P/N
	170 NL/min	2.7 mm	Blue	81 521 501	81 521 508
			Green	81 522 501	81 522 505
			Yellow	81 501 025	81 501 031
	170 NL/min	2.7 mm	Orange	81 503 025	81 503 028
			Light Gray	81 504 025	81 504 035
			Dark Gray	81 506 025	81 506 027
	170 NL/min	2.7 mm	Blue	81 540 001	81 540 015
	150 NL/min		Green	81 541 001	81 541 015
	200 NL/min	4 mm	Blue	81 540 005	81 540 017
			Green	81 541 005	81 541 017

	Flow at 6 bars	Orifice Ø	Panel Mount Adapter	Standard P/N	ATEX P/N
	170 NL/min	2.7 mm	79 451 698	81 503 710	81 503 728
			79 451 903	81 503 720	81 503 729
			-	81 503 725	81 503 731
			79 451 698	81 506 710	81 506 714
			79 451 903	81 506 720	81 506 721
			-	81 506 725	81 506 727
			-	81 507 540	81 507 543
			79 451 904	81 507 720	81 507 724
			79 451 905	81 506 940	81 506 945

	Supply Pressure	Pressure to break	Pressure to make	Standard P/N	ATEX P/N
	2 → 8 bar	> 0.3 bar	> 1.4 bar	99 766 001	-
	2 → 8 bar	> 0.3 bar	> 1.4 bar	99 766 002	-

PNEU-MATIC

Selection Guide – Pneumatics

POSITION DETECTORS (LOW FORCE)

Connection	Function	Operating Pressure	Permissive Fluids	
 Barb	NO	3 → 8 bar	Air, Inert Gas	
	NC			

POSITION DETECTORS (MINIATURE & COMPACT)

Connection	Function	Operating Pressure	Control	
 Silenced Exhaust Ø 4	NC	0.1 → 8 bar	Simple Plunger	
	NC		Lever + Plastic Roller	
	NC		Roller Lever	
	NC		Plastic Lever One-Way	
 Plug-In Ø 4	NC	0.1 → 8 bar	Rotary Head	
	NC	0.1 → 8 bar	Roller Plunger	
 BSP 1/8	NC	0.1 → 8 bar	Rotary Head	
	NC	0.1 → 8 bar	Rotary Head + Roller Lever	

PRESSURE SWITCHES (VACUUM)

Connection	Actuator	Output	Permissive Fluids	
 Plug-In Ø 4	Pressure (+ Override)	Electrical (5A - 220-230 V)	Air, Inert Gas, Liquids	
	Pressure			
	Low Pressure			
	Vacuum			

PRESSURE SWITCHES (ADJUSTABLE)

Connection		Adjustment Range	Output	Accuracy	
 On Sub-base		50 → 500 mb	Pneumatic: Positive	4% @ 2 → 8 b	
		0.1 → 2.5 b			
		2 → 8 b			
		50 → 500 mb	Pneumatic: Negative	4% @ 2 → 8 b	
		0.1 → 2.5 b			
		2 → 8 b			

VACUUM SWITCHES (ADJUSTABLE)

Connection	Adjustment Range	Output	
 On Sub-base	- 0.1 → -0.9	Pneumatic: Positive	
	- 0.1 → -0.9	Pneumatic: Negative	
	- 0.1 → -0.9	Electrical	

	Flow at 4 bar	Activation Force at 4 bar	Orifice Ø	Standard P/N	ATEX P/N
	100 NL/min	< 0,5 N	2 mm	81 290 501	81 290 506
				81 290 001	81 290 006

	Flow at 6 bar	Activation Force at 6 bar	Orifice Ø	Standard P/N	ATEX P/N
	200 NL/min	18 N	2.7mm	81 921 501	-
				81 921 701	-
				81 921 702	-
				81 921 707	-
	200 Nm³/h	2.5 daN	3mm	81 922 010	-
				81 922 401	-
				81 922 210	-
				81 922 205	-

	Switching Pressure Adjustment	Hysteresis	Protection	Mounting	Standard P/N
	2 → 8 bar	1 bar @ 6 bar	IP20	DIN Rail	81 513 552
					81 512 502
	0.3 → 1.2 bar	Max. 200 mb			81 513 501
	-0.3 → -0.8 bar	Max. 250 mb			81 513 522

	Flow at 4 bar	Hysteresis	Orifice Ø	Standard P/N	ATEX P/N
	170 NL/min	320mb @ 2 → 8 b	2.5mm	81 505 140	81 505 141
				81 505 150	81 505 151
				81 505 160	81 505 164
				81 502 140	81 502 141
				81 502 150	81 502 151
				81 502 160	81 502162

	Flow at 6 bar	Hysteresis	Standard P/N	ATEX P/N
	170 NL/min	80 mb	81 505 110	81 505 111
			81 502 110	81 502 111
			81 508 110	-

PNEU-MATIC

Selection Guide – Pneumatics

VACUUM GENERATORS

	Connection	Operating Pressure	Standard P/N	ATEX P/N
	On Sub-base	2 → 8 bar	81 535 301	81 535 303
	Plug-In Ø 4	2 → 8 bar	81 545 001	81 545 012
	Plug-In Ø 6	2 → 8 bar	81 545 005	81 545 013

PNEUMATIC INDICATORS

	Connection	Color	Operating Pressure	Standard P/N	ATEX P/N
	Plug-In Ø 4	Red	2 → 8 bar	84 150 201	84 150 214
		Green		84 150 202	84 150 215
		Yellow		84 150 203	84 150 216
		Blue		84 150 204	84 150 217

VALVES FOR MANUAL ACTUATORS

	Connection	Version	Type	Operating Pressure	
	On adaptor Ø 4	NC	Valve 3/2	0 → 8 bar	
		NO			
		NC + NO			
		NC + NC			

SAFETY START MODULES

	Connection	Pneumatic Relay	Type	Operating Pressure	
	Semi-Rigid Tubing Ø4	Type III A	Two-Hand	0 → 8 bar	
		Type III B			

ACTUATORS FOR MANUALLY OPERATED VALVES

	Connection	Function	Type	Color	Standard P/N
	Ø 22 mm	Flush Push Contact	Push Button	Red	24 678 129
		Flush Push Contact		Green	24 678 128
		Flush Push Contact		Black	24 678 127
	Ø 22 mm	Emergency Stop	Mushroom Push Button	Red	24 678 173
		Emergency Stop		Black	27 678 172
		Emergency Stop Push/Turn		Red	24 678 171
	Ø 22 mm	Symmetrical Actuator	Rotary (2-Position)	Black	24 678 174
		Long Lever		Black	24 678 175
		Long Lever	Rotary (3-Position)	Black	24 678 177
		Long Lever (Spring to center)		Black	24 678 179

	Flow at 6 bars	Orifice Diameter	Control Force	Standard P/N	ATEX P/N
	112 NI/min	2 mm	12.6 N	89 543 105	-
				89 543 005	-
				89 543 305	-
				89 543 205	-

	Max. Delay	Orifice Diameter	Standard P/N	ATEX P/N
	0.2 s	2.5 mm	81 580 504	-
			81 580 503	-

PNEU-
MATIC

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