

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.

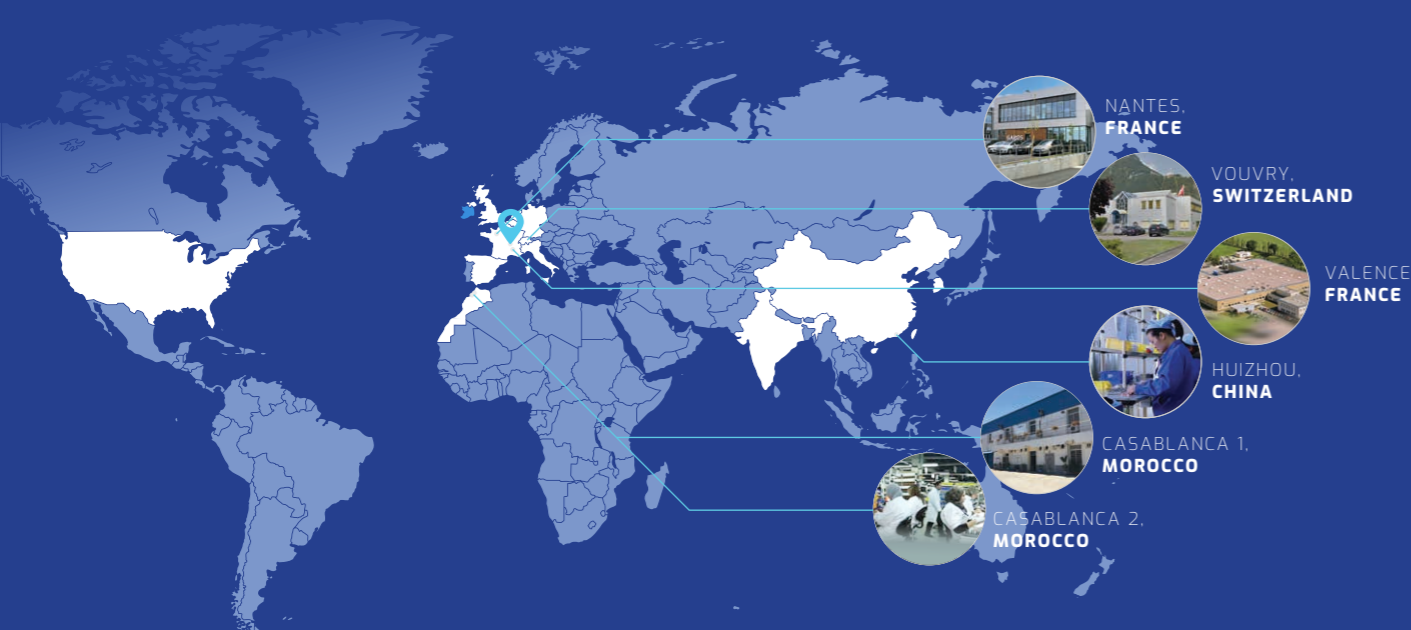
Crouzet provides **Switches and Sensors, Electromechanical Actuators, Electrical Protection Equipment, Cockpit Controls, Automation Controllers and Relays, and Instrumentation Services.**

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



📍 HEADQUARTERS

■ SALES OFFICES

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



Catalog Index



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TIMERS



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SSR



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PNEU-MATIC

TIMER RELAYS

- Analog
- Digital
- DIN Rail Mount
- Panel Mount





PRESENTS

THE NEXT INNOVATION INTO THE TIMERS MARKET



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

UNIVERSAL DIGITAL TIMER

IDEAL FOR:



HVAC



Motors



Pumps



Machinery



Lights

AND MANY MORE

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:

 Select the FUNCTION 23 basic	→	 Choose the RANGE Milliseconds to days	→
 Configure the COUNT STYLE Up/down	→	 Activate the MEMORY Yes/no	

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

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
 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	0,1 s → 10 days	1 x 16A (Changeover)	12-240V AC/DC
	A: ON-Delay L/Li: Repeat Cycle			
 Syr-Line Double Output	Multifunction M* + Instantaneous	0,1 s → 10 days	2 x 8A (Changeover)	12-240V AC/DC
	A: ON-Delay L/Li: Repeat Cycle			
 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	0,1 s → 100 h	1 x 8A (Changeover)	24 VDC/24-240 VAC
	B: Single Shot			
	C: Off-Delay			
	H/Ht: Interval + Memory	0,1 s → 100 h	1 x 0,7A (Static)	24-240V AC/DC
	L/Li: Repeat Cycle			
	Multifunction U*	0,1 s → 100 h	1 x 0,7A (Static)	24-240 VAC
	H/Ht: Interval + Memory			24-240 VAC
	L/Li: Repeat Cycle			24-240 VAC
	A: ON-Delay	0,1 s → 100 h	2 x 8A (Changeover)	24 VDC/24-240 VAC
Q: Star-Delta	230-240/380-440 VAC			
Q: Star-Delta	20-30 VDC/20-264 VAC			
K: True Off-Delay	0,6 s → 160 s			

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)

TIMERS





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
			MAS5	88 827 014
-	22.5 mm	DIN Rail	RQR1	88 866 175
			RQR6	88 866 176
			TK2R1	88 866 265

Selection Guide - Timers

PANEL MOUNT

Type	Function	Time range	Output	Supply
 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			
	A: ON-Delay			
	C: Off-Delay			
 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		1 x 10A (Changeover)	
 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
LED, IP66	48 mm	11-Pin	GDS2	GDS2R10MV2
			GDF1	GDF1R10MV2
		8-Pin	MDF1	MDF1R10MV2
			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

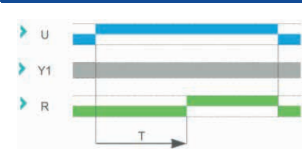
Diagrams

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

TIMERS

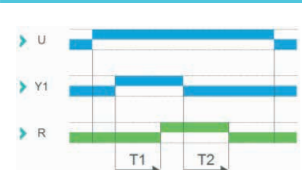
A Function

ON-Delay
After power-up, timing starts, and relay turns ON at the end of timing



Ac Function

On/Off Delay
After a signal, timing 1 starts and relay turns ON. After signal is removed, timing 2 starts and relay turns OFF



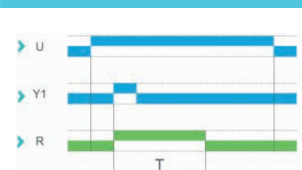
Ah Function

Triggered Flashing Cycle
After a signal, timing starts, and relay turns ON. Then timing starts again, and relay turns off



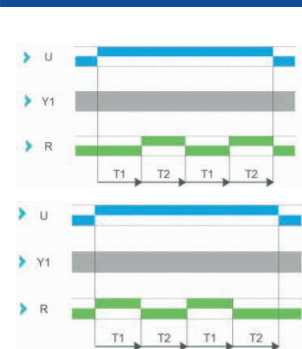
B Function

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



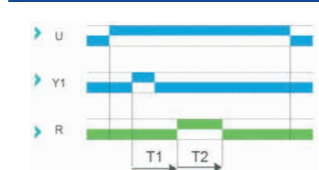
L/Li Function

Repeat Cycle
After power-up, a repetitive cycle of independent timing starts
L: Start in OFF position
Li: Start in ON position



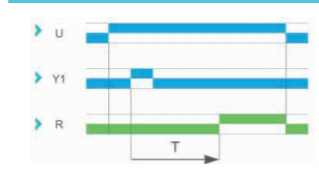
Ab Function

Delay Interval
After a signal, timing 1 starts and relay turns ON. Then timing 2 starts and relay turns off



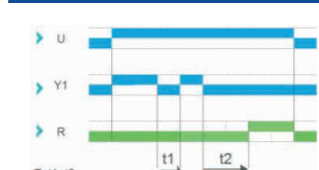
Ad Function

Delay on Start
After a signal, timing starts, and relay turns ON at the end of timing



At Function

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



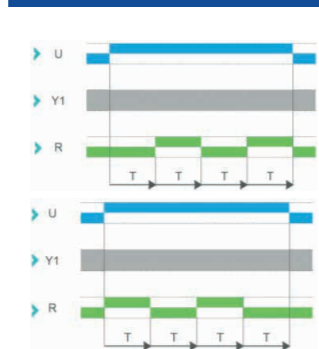
Bw Function

Pulse output
Each time a signal changes state; relay turns ON for the selected timing



D/Di Function

Flasher
After power-up, a repetitive cycle of equal timing starts
D: Start in OFF position
Di: Start in ON position



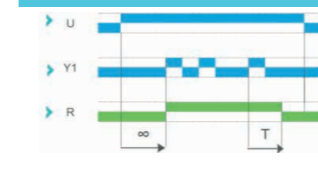
C Function

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



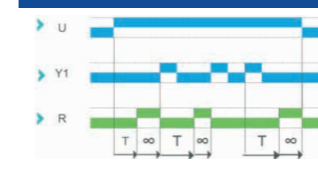
N Function

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



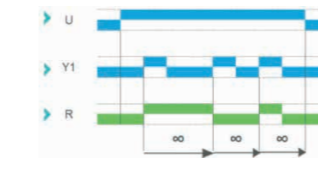
Pt Function

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



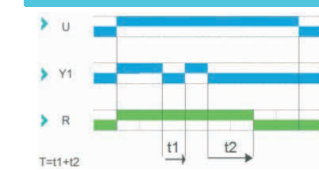
H Function

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



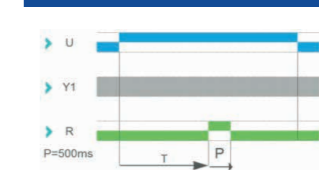
Ht Function

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



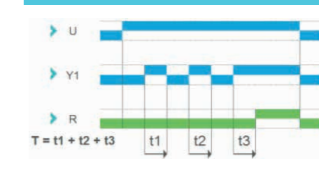
P Function

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



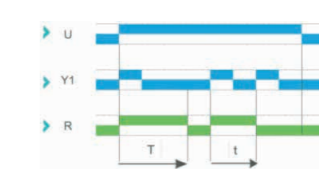
T Function

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	2 x 5A (Changeover)
	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		79 696 044
	Protected Suspension Sensor	ENR/ENRM/HNM	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

MONITORING RELAYS

	Power Supply	Width	Mounting	Designation	Part Number
DIN Rail	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		
DIN Rail	9-15 VDC	17,5 mm	DIN Rail	MUS	84 872 140
	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
	24-240 VAC/DC	35 mm		MUSF	84 872 152
	24-240V AC/DC	35 mm		DIN Rail	HUH
HIL			84 871 120		
HIH			84 871 130		
	17,5 mm		MIC	84 871 122	

	Power Supply	Width	Probe	Mounting	Designation	Part Number
DIN Rail	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	-	
	LCD	NPN		Battery
	LCD	Voltage		
	Backlight LCD	PNP		
	Backlight LCD	Voltage		
 Double Totalizer	LED	NPN or PNP	-	
	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 · 1 x 3A (Changeover)	10-30 VDC
	Backlight LCD			230 VAC
 Double Preset Chronometer	Backlight LCD	PNP/NPN/Voltage	2 · 1 x 3A (Changeover) + · 1 x 3A (N/O)	10-30 VDC
	Backlight LCD			230 VAC
 Multifunction 2* (Preset Multi-Totalizer Chronometer Ratemeter)	Backlight LCD	PNP/NPN/Voltage	2 · 1 x 5A (Changeover) + · 1 x 30 mA (SSR)	10-30 VDC
	Backlight LCD			24 VAC
	Backlight LCD			90-260 VAC
	LED	PNP/NPN/Voltage	2 · 1 x 5A (Changeover) + · 1 x 30 mA (SSR)	10-30 VDC
	LED			24 VAC
	LED			90-260 VAC
 Multifunction 3* (Double Preset Multi-Totalizer Chronometer Ratemeter Batch Counter)	Backlight LCD	PNP/NPN/Voltage	4 · 1 x 5A (Changeover) + · 1 x 5A (N/O) + · 2 x 30 mA (SSR)	10-30 VDC
	Backlight LCD			24 VAC
	Backlight LCD			90-260 VAC
	LED	PNP/NPN/Voltage	4 · 1 x 5A (Changeover) + · 1 x 5A (N/O) + · 2 x 30 mA (SSR)	10-30 VDC
	LED			24 VAC
LED			90-260 VAC	

Accessories available at:

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



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
15 x 32 mm	7 Digits	Clip	CIM15	99 793 710
				99 793 714
				99 778 805
24 x 48 mm	6 Digits	Clip	CIM24	99 778 810
		Clip		99 777 815
		Screw		99 777 810
		Clip		99 776 907
		Screw		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
 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)

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

COUNTERS

PNEUMATIC COUNTERS

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

SOLID STATE RELAYS

- AC Voltage: Single Phase & Three Phase
- AC Voltage Multichannel
- DC Voltage
- Smart SSR



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	cRUus, CE, EAC*
	40 A	48-660 VAC		
	50 A			cRUus, CE, EAC*, VDE
	90 A			
 GN Classic Version	10 A	24-280 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	10 A		20-265 VAC	cRUus, CE, EAC*
	25 A	24-280 VAC	4-32 VDC	cRUus, CE, EAC*
	25 A		18-36V AC/DC	
	25 A	48-660 VAC	20-265 VAC	cRUus, CE, EAC*
	25 A		4-32 VDC	
	25 A	48-660 VAC	20-265 VAC	cRUus, CE, EAC*
	25 A		4-32 VDC	
	50 A	48-660 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	50 A		18-36V AC/DC	
	50 A	48-660 VAC	20-265 VAC	cRUus, CE, EAC*
	50 A		4-32 VDC	
	75 A	48-660 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	75 A		20-265 VAC	
	75 A	48-660 VAC	20-265 VAC	cRUus, CE, EAC*
	75 A		4-32 VDC	
	100 A	48-660 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	100 A		20-265 VAC	
100 A	48-660 VAC	20-265 VAC	cRUus, CE, EAC*	
100 A		4-32 VDC		
125 A	48-660 VAC	4-32 VDC	cRUus, CE, EAC*, VDE	
125 A		20-265 VAC		
 GN+ Performance Version	25 A	12-270 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	25 A		20-260 VAC/DC	
	50 A	24-500 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	50 A		20-260 VAC/DC	
	90 A	24-500 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	90 A		20-260 VAC/DC	
	125 A	24-500 VAC	4-32 VDC	cRUus, 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	84137910N
					GNA40DZH	84137450N
					GNA50DZH	84137460N
					GNA90DZH	84137480N
	Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: • Heating • Lighting	• Output Protection Included (TVS)	GN10DZL	84137000N
					GN10AZL	84137001N
					GN25DZL	84137010N
					GN25CZL	84137012N
					GN25AZL	84137011N
					GN25DZH	84137110N
					GN25AZH	84137111N
					GN50DZH	84137120N
					GN50CZH	84137122N
					GN50AZH	84137121N
					GN75DZH	84137130N
					GN75AZH	84137131N
					GN100DZH	84137140N
					GN100AZH	84137141N
GN125DZH	84137180N					
GN125AZH	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	84137210N
					GN25ARL	84137211N
					GN50DRL	84137320N
					GN50ARH	84137321N
					GN75DRH	84137330N
	Panel Mount "Hockey Puck"	Special Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous (High inductive loads) Capacitive Loads: • Miscellaneous (Strong inrush current)	• Output Protection Included (VDR) • High Immunity (Level A) • Thermal Pad Included	GNP25DZL	84138010N
					GNP25UZL	84138013N
					GNP50DZM	84138120N
					GNP50UZM	84138123N
					GNP90DZM	84138150N
					GNP90UZM	84138153N
					GNP125DZM	84138180N
					GNP125UZM	84138183N



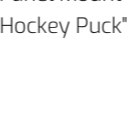
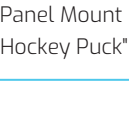
AC VOLTAGE SINGLE PHASE

Type	Output		Input	Certifications	
	Current	Voltage	Voltage		
 GNR Classic Version	20 A	24-280 VAC	4-32 VDC	cRUus, CE, EAC*	
	20 A		4-32 VDC		
	20 A		48-660 VAC		80-140 VAC
	20 A				180-280 VAC
	30 A	48-660 VAC	4-32 VDC		
	30 A		80-140 VAC		
	30 A		180-280 VAC		
	30 A	24-500 VAC	4-32 VDC		cRUus, CE, EAC*, VDE
 GNR+ Performance Version	30 A	24-500 VAC	4-32 VDC	cRUus, CE, EAC*, VDE	
	30 A		180-280 VAC		
	32 A		4-32 VDC		
	45 A		4-32 VDC		cRUus, CE, EAC*
 GNF Specialized Version	25 A	24-280 VAC	4-30 VDC	cRUus, CE, UKCA	
 GN MINI Specialized Version	20 A	24-280 VAC	4-30 VDC	cRUus, CE, UKCA	
 GNZ Specialized Version	8 A	24-280 VAC	4-32 VDC	cRUus, CE, UKCA	

AC VOLTAGE MULTICHANNEL

Type	Output		Input	Certifications
	Current	Voltage	Voltage	
 GN2/GN2F 2-Channel	25 A	24-280 VAC	10-30 VDC	cRUus, CE, UKCA
	25 A		4-32 VDC	
	50 A	48-660 VAC	4-32 VDC	
	50 A	48-660 VAC	10-30 VDC	
	50 A	24-510 VAC	10-30 VDC	
 GN4 4-Channel	25 A	12-280 VAC	4-32 VDC	cRUus, CE, UKCA

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
 DIN Rail 22.5 mm	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 22.5 mm	Random	Inductive Loads: • Motion • Miscellaneous
 DIN Rail 22.5 mm	Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous (High inductive loads) Capacitive Loads: • Miscellaneous (Strong inrush current)	• Output Protection Included (VDR) • High Immunity (Level A)	GNR30DCZP	GNR30DCZP	
				GNR30ACZP	GNR30ACZP	
				GNR32DCZP	GNR32DCZP	
				GNR45DCZP	GNR45DCZP	
 DIN Rail 45 mm	Zero Cross	Resistive Loads: • Heating • Lighting	• Output Protection Included (VDR) • FAST-ON terminals	GN20DFZL	84134017N	
				Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: • Heating • Lighting
 Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous	• Output Protection Included (VDR) • FAST-ON terminals	GNZ8DFZL	84132210N	
	Random			GNZ8DFRL	84132110N	

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
 Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: • Heating • Lighting	• Two SSRs in One package • Fast-ON terminals	GN225DZL	84140013N	
				GN225DFZL	84140800N	
				GN250DZL	84140603N	
				GN250DZH	84140613N	
				GN250DRH	84140631N	
 Panel Mount "Hockey Puck"	Zero Cross	Resistive Loads: • Heating • Lighting	• Four SSRs in one package	GN425DFZL	84154010N	





AC VOLTAGE THREE PHASE

Type	Output		Input	Certifications
	Current	Voltage	Voltage	
 GN3 Classic Version NEW	25 A	24-510 VAC	4-32 VDC	cRUus, CE, UKCA
	25 A			
	25 A	24-510 VAC	24-255 V AC/DC	
	50 A			
	50 A	24-510 VAC	4-32 VDC	
	50 A			
 GNR3 Classic Version NEW	25 A	24-660 VAC	4-32 VDC	cRUus, CE, UKCA
	25 A	24-660 VAC	24-255 V AC/DC	
 GNO Reverse Version NEW	25 A	24-510 VAC	12-30 VDC	cRUus, CE, UKCA
	50 A			



	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
Panel Mount "Hockey Puck"		Zero Cross	Resistive Loads: • Heating • Lighting	• Output Protection Included (TVS)	GN325DSZH	GN325DSZH
		Random	Inductive Loads: • Motion • Miscellaneous		GN325DSRH	GN325DSRH
		Special Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous (High inductive loads) Capacitive Loads: • Miscellaneous (strong inrush current)	• Output Protection Included (TVS)	GN325ASZH	GN325ASZH
		Zero Cross	Resistive Loads: • Heating • Lighting		GN350DSZH	GN350DSZH
		Random	Inductive Loads: • Motion • Miscellaneous	• Output Protection Included (RC, VDR)	GN350DSRH	GN350DSRH
		Special Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous (High inductive loads) Capacitive Loads: • Miscellaneous (Strong inrush current)	• Output Protection Included (TVS)	GN350ASZH	GN350ASZH
DIN Rail 90 mm		Zero Cross	Resistive Loads: • Heating • Lighting	• Output Protection Included (TVS)	GNR325DCZH	GNR325DCZH
		Special Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous (High inductive loads) Capacitive Loads: • Miscellaneous (strong inrush current)		GNR325ACZH	GNR325ACZH
Panel Mount "Hockey Puck"		Special Zero Cross	Resistive Loads: • Heating • Lighting Inductive Loads: • Motion • Miscellaneous (High inductive loads) Capacitive Loads: • Miscellaneous (strong inrush current)	• Output Protection Included (RC, VDR) • Start/Stop/Reverse in the same product	GN025DSRL	GN025DSRL
					GN050DSRL	GN050DSRL






DC VOLTAGE



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



Load Diagnostic: Smart SSR

Type	Output		Input Voltage	Certifications
	Current	Voltage		
 GN Smart Load Detection	50 A	24-600 VAC	4-32 VDC	cRUus, CE, EAC*, VDE
	35 A	50-265 VAC		
	50 A	150-510 VAC	8-30 VDC	
	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
	Heatsink screw mounting kit, for SSRs with Hockey Puck shape	26532001
	Heatsink screw mounting kit, for 3-phase SSRs	26532002
 Adapters For DIN Rail	DIN Rail Adaptor for SSRs with Hockey Puck shape	26532764N
 Thermal Pads For Heatsink Mounting	Pre-cut thermal pad	26532720N
	Self-adhesive thermal pad	26532722N

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
 Panel Mount "Hockey Puck"	DC Switching	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 Switching	DC Loads: • Heating • Motion • Lighting • Miscellaneous	• Output Protection Included (TVS*)	GND10DH	84137850N
					GND40DM	84137870N

	Mounting	Switching	Usage (Load Type)	Comments	Designation	Part Number
 Panel Mount "Hockey Puck"	DC Switching	Zero Cross	Current Detection	-	GNS50DAZH	84136120N
		Zero Cross	Load Detection	-	GNS35DDZH	84139150N
					GNS50DDZH	84139120N
					GNS75DDZH	84139130N
 Module On GNR/GNR+	-	-	Current Detection	-	GNS40DDDR	84050040N
			Current & Diagnostic		GNS40FDDR	84050043N

ACCESSORIES

Type	Description	P/N
 Screws For Heatsink Mounting	Screw Mounting Kit for Single & Dual-Phase SSR	26532001
	Screw Mounting Kit for 3-Phase SSR	26532002
 Thermal Grease For Heatsink Mounting	Thermal Grease	26532003
 Label For SSR Identification	Label for SSR Identification	26532004
 Connectors	GN2, 4-Pin, 4 pole 90° & 270° set-screw connector	26532005
	GN2, 4-Pin, 4 pole 270° set-screw connector	26532006



AUTOMATION CONTROLLERS

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





Automation Controllers Selection Guide

	Simple & small applications	Simple standalone applications	Connectivity needed	High-end & niche applications	Remote applications
	<p>Slim Logic Controller</p> <p><i>Millenium Slim</i></p>	<p>Logic Controller</p> <p><i>Millenium 3</i></p>	<p>Communicating Logic Controller</p> <p><i>Millenium Exo</i></p>	<p>Nano-PLC</p> <p><i>em4 NANOPLC</i></p>	<p>Telecontroller</p> <p><i>em4 ALERT</i></p>
INPUTS & OUTPUTS	Memory Capacity	1000 FB	500 FB	1000 FB	2000 FB
	Number of I/Os	8	Up to 50	Up to 44	Up to 46
	Analog Inputs (CPU)	4	6	8	12
	4-20mA Inputs (CPU)	N/A	N/A	N/A	4
	High-Speed Digital Inputs	15 KHz	6 KHz	15 KHz	60 KHz
COMMUNICATION	Ethernet Embedded	NO	NO	YES	N/A
	Modbus Interface	N/A	N/A	SLAVE	MASTER/SLAVE
	Bluetooth Communication	YES	N/A	YES	YES
	Mobile Communication (3G)	N/A	N/A	N/A	N/A
	Datalog Number of Values	8 VALUES	N/A	16 VALUES	24 VALUES
	Event Number of Values	N/A	N/A	12 VALUES	24 VALUES
	CROUZET SOFT (FBD-SFC)	MILLENIUM SOFT (LD-FBD-SFC)	CROUZET SOFT (FBD-SFC)		

LD: Ladder
 FBD: Function Block Diagram
 SFC: Sequential Function Chart

AUTO-MATION CONTROL-LERS

CROUZET Virtual Display is compatible with Slim, Millenium EVO, em4 and em4 Alert

THE SMALLEST LOGIC CONTROLLER EVER

Thousands of applications in your hand



MILLENIMUM SLIM

The smallest logic controller ever!

01. SPACE REDUCTION



The smallest logic controller ever, in a **17.5mm body** that fits in any panel or machine

02. MULTIPURPOSE



Replace several products in your control panel with this **highly configurable, pocket-sized** logic controller

03. INTERCONNECTIVITY



Give wireless capabilities to your applications via **Bluetooth** communication

04. SIMPLICITY



Easiest-to-use software and **Virtual Display** on your smartphone or PC.
+ Quick start with no cables
+ Fast maintenance



A MULTITUDE OF APPLICATIONS IN YOUR HAND

With our free **Virtual Display App** you get access to plenty of **pre-programmed applications** and the possibility to create and configure your own with **CrouzetSoft**, the easiest-to-use automation programming software available in the market.


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.








SLIM LOGIC CONTROLLER – MILLENIUM SLIM

MilleniumSlim, The smallest logic controller ever! For all your standalone small-scale applications

Type	Total I/Os	Convertible Inputs				Output Types	
		Digital	Analog	PWM	High-Speed	Digital	PWM
 Slim Controller Kit	8 I/Os · 4 Inputs · 4 Outputs	4 · Classical Digital	-	-	-	4 · 6A Relay	-
			4 · 0-10 VDC or 0-VCC	2 · 10 Hz to 1 KHz	2 · 5 KHz	4 · 6A Relay	-
			-	-	-	4 · 0.5A Static	-

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	12 I/Os · 8 Inputs · 4 Outputs	8	4	4 Relay	-	-
				4 Relay	-	
 Starter Kit Short - With Screen	12 I/Os · 8 Inputs · 4 Outputs	8	4	4 Relay	-	-
				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	-	-
				2 Relay	-	
 Expansion Long - Digital	10 I/Os · 6 Inputs · 4 Outputs	6	-	4 Relay	-	-
				4 Relay	-	

More versions available at www.crouzet.com

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	Embeddted Screen	Power Supply	Comments	Designation	Part Number
Bluetooth	Virtual only		110-240 VAC	<ul style="list-style-type: none"> 17.5 mm body DIN Rail & panel mount Bluetooth programming 	CB8R (AC)	88 983 903*
			24 VDC		CB8R (DC)	88 983 901*
			24 VDC		CB8S (DC)	88 9839 02*

* **88 983 903** (kit: 88 983 003 + connectors) - * **88 983 901** (kit: 88 983 001 + connectors) - * **88 983 902** (kit: 88 983 002+ connectors)









	Embeddted Communication	Embeddted Screen	Power Supply	Comments	Designation	Part Number
-	-	✓	12 VDC	-	CD12	88 974 045
			88 974 046			
			24 VDC			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

AUTO-
MATION
CONTROL-
LERS

Selection Guide - Automation

COMMUNICATING LOGIC CONTROLLER - MILLENIUM EVO





Millenium EVO, the logic controller of choice for all your projects requiring communication



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 8 A · 2 x 6 A	-	-
 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 8 A · 2 x 6 A	-	-
 Blind Option Ethernet Version						
 Starter Kit Ethernet Version						
 Expansion Digital	10 · 6 Inputs · 4 Outputs	6 · Classical Digital	-	4 · 2 x 8 A · 2 x 6 A	-	-
 Expansion Analog			4 · 0-10 VDC or 4 to 20 mA	2 · 0.5 A Static		

	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

AUTOMATION CONTROLLERS

ACCESSORIES







Type	Compatibility	Description	P/N
 USB Dongle	· Slim · Millenium 3	Bluetooth, CE, FCC and IC certified	88 980 124
 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

Type	Compatibility	Description	P/N
 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

Selection Guide - Automation





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 8 A · 2 x 6 A	2 · 0.5 A 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 8 A · 2 x 6 A	2 · 0.5 A 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 8 A · 2 x 6 A	-	-
 Expansion Analog			6 · 0-10 VDC or 4 to 20 mA	-	2 · 0.5 A Static	2 · 0-10 VDC

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 8 A · 2 x 6 A	2 · 0.5 A 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 8 A · 2 x 6 A	-	-
 Expansion Analog			6 · 0-10 VDC or 4 to 20 mA	-	2 · 0.5 A Static	2 · 0-10 VDC




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

	Embeddded Communication	Embeddded Screen	Power Supply	Comments	Designation	Part Number
	3G Cellular Network	✓	24 VDC	Embedded GSM Modem	B26-3GS	88 981 123
	-	✓	24 VDC	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
	-	✓	24 VDC	To control analog actuators (controlled valve, controlled pump...)	E10A	88 982 213

CROUZET SOFT

The Easiest-To-Use Automation Software on the Market

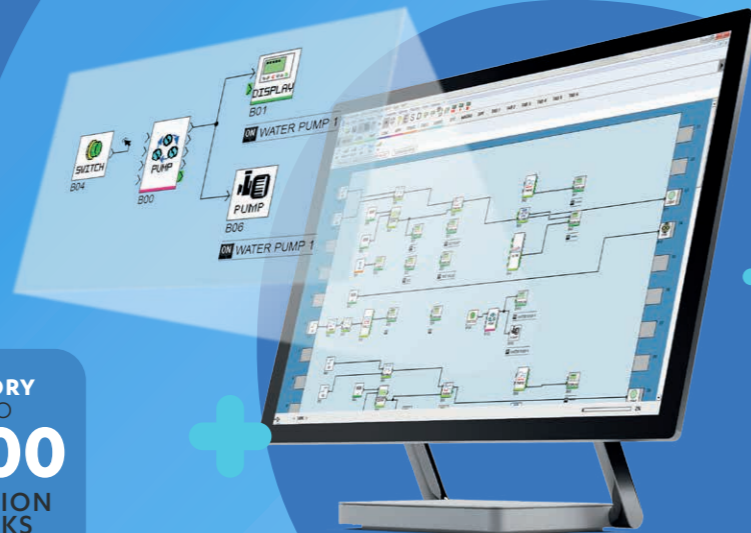
Powerful software for all kind of projects, from the simplest to very complex applications, designed to be easy even for non-programmers,

-  **Visual Programming**
-  **Learn while you play!**
-  **You are in control of your application**

SIMPLY EASY

MORE THAN
120
FUNCTION
BLOCKS

MEMORY
UP TO
2000
FUNCTION
BLOCKS



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**



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

ESSENTIAL

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

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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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





Communication	CAN Bus	Designation	Part Number
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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





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

 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



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)

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

	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)

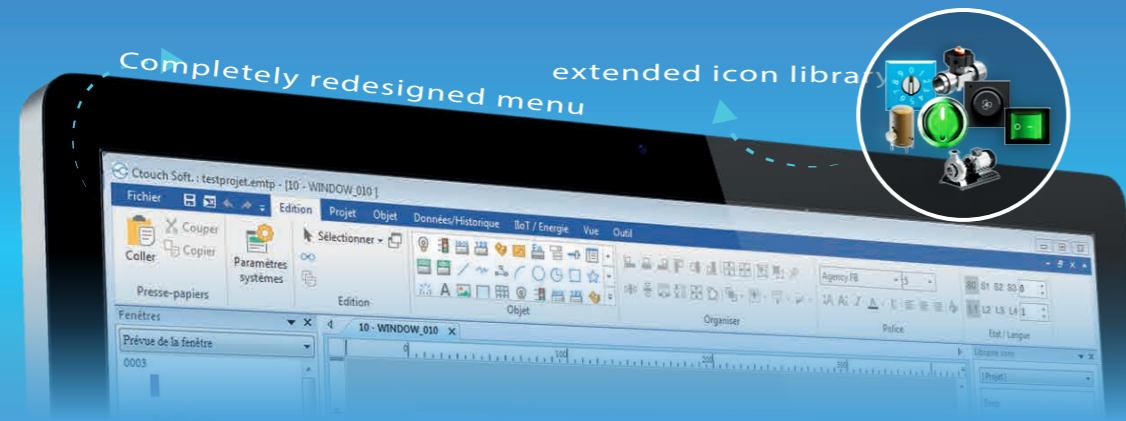
 + Telecontroller em4 Alert
 + Nano-PLC em4
 + Communicating Logic Controller Millenium EVO
 + Logic Controller Millenium3

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

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%)

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			88 950 151
	0 → +100 °C	Pt100 3-wire		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

COMPLEMENTARY 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 NI/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 NI/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 NI/min	2.7 mm	Blue	81 540 001	81 540 015
150 NI/min		Green	81 541 001	81 541 015
200 NI/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 NI/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	-






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 NI/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 NI/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
0.3 → 1.2 bar	Max. 200 mb			81 512 502
-0.3 → -0.8 bar	Max. 250 mb			81 513 501
				81 513 522




Flow at 4 bar	Hysteresis	Orifice Ø	Standard P/N	ATEX P/N
170 NI/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 NI/min	80 mb	81 505 110	81 505 111
		81 502 110	81 502 111
		81 508 110	-




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	-

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