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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



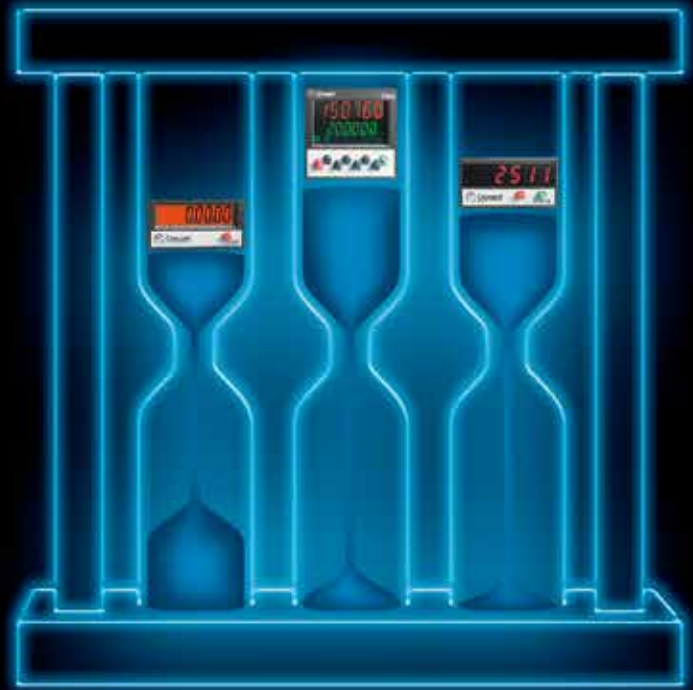
Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Counters and Ratemeters

Counting accuracy

Presentation



Crouzet Control

Expert in the design of efficient and innovative monitoring & control products, Crouzet Control, supported by an experienced worldwide team, offers a broad range of industry standard and application specific adapted products in timing, control relays and counting functions.

Crouzet Control is a brand of InnoVista Sensors™.

With operations around the globe, Crouzet Control is constantly monitoring its customers' needs. Its sales teams, technicians and designers combine all their skills to adapt products to customer specifications, both in terms of the application and cost.

Crouzet Control also ensures that its products are manufactured in compliance with quality and environmental standards (factories certified ISO 9001, 14001 and OHSAS 18001, eco-design).

With its industrial and logistic flexibility Crouzet Control is able to deliver products, whether small-scale or mass production items, in the best possible timescale.

Within this counter catalogue, Crouzet Control presents:

Over 120 recently launched ergonomic counters for better equipment integration including small formats..

New electromechanical range:

- Dual function hour counter and energy meter
- Dual function hour and impulse counter displays

New electronic range:

- Counters with backlit double LCD or two colour display
- Multi-function Counters
- Counters that integrate a Tachometer function



In addition to this catalogue, the **www.crouzet-control.com** website offers the latest tools, available as free downloads, including M3 Soft software, technical data sheets for each product and installation manuals.



InnoVista Sensors™

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

InnoVista Sensors™ is a worldwide industrial specialist of sensors, controllers and actuators for automated systems.

Through its brands, Crouzet Aerospace, Crouzet Automation, Crouzet Control, Crouzet Motors, Crouzet Switches and Systron Donner Inertial, InnoVista Sensors™ offers a wide range of reliable, efficient and customizable components dedicated to the Aerospace & Defence, Transportation and Industrial market and segments.

Thanks to the recognized expertise of its teams and a strong innovation policy, InnoVista Sensors™ brings performance enhancing solutions to its customers worldwide.

The Crouzet Control team worldwide



The basics

A counter, a ratemeter

How can they be defined in simple terms?

A **counter** can be used to count a number of actions or events.

It thus participates in production management and preventive maintenance.

A **ratemeter** can be used to display the speed of rotation of a motor in real time.

A counter, a ratemeter

To execute which actions?

Up counting, Down counting

For **up counting** or **down counting** a number of parts, events, a running time, the counter is the ideal solution. There are different types of counter with the following functions: up/down counter, batch counter, ratemeter, chronometer, multi-totalizer, elapsed time counter, impulse counter.

Informing, Displaying

A counter can allow a user to be **informed** and to **display** data and quantities easily. The data displayed can be read directly on the front panel.

Tripping, Actuating

A counter can be used to **trip** an action or an intervention on a machine. The outputs **actuate** directly and/or transmit data to the control system.

Measuring, Chronometer timing

A counter can be used to schedule preventive maintenance. The machine running time is **measured** and the duration of an action **timed with a chronometer**.

Up counting

Down counting

Informing

Displaying

Tripping

Actuating Measuring

Chronometer timing



In addition to this catalogue, the www.crouzet-control.com website offers technical data sheets for each product and installation manuals, available as free downloads.

Crouzet Control counters and ratemeters

A digital range and an electromechanical range



Counters and Ratemeters

Crouzet Control counters and ratemeters

Their features:

- For fast count applications, a high-speed counting frequency: up to **50 kHz**.
- A **two-colour or backlit LCD dual display** for ease of reading.
- Considerable space saving due to **dual-function** electromechanical and electronic ranges.
- A **complete** output operating **logic** to cover complex applications.
- **Easier maintenance** thanks to removable connectors (CTR48).
- An enhanced **multifunction** electronic range **for optimised stocks**.

Applications




Crouzet Control counters and ratemeters Where are they found?


In electrical cabinets associated with other automation functions for the following markets:

- Industrial automation systems
- Building equipment
- Industrial machines
- Medical

Tachometer systems




Speed measurement and control on shrink wrapping machine.




ELECTRONIC COUNTER
CTR24L 2511

Counting quantities




Managing quantities - Packaging by unit, batch or series of batches.




ELECTRONIC COUNTER
CTR48

Metric counting




Calculation of cut length on wood and paper machines.




ELECTRONIC COUNTER
CTR48

Position control



Managing quantities - Calculation of distance of travel.



ELECTRONIC COUNTER
CTR48

Compressors



Counting operating hours and counting the number of starts.



ELECTROMECHANICAL HOUR AND IMPULSE COUNTER CMM48

Dehumidifiers



Counting operating hours, energy consumption.



ELECTROMECHANICAL HOUR AND ENERGY COUNTER CEM48

Assembly line speed



Control of conveyor movement speed.



RATEMETER CTR24L 2511

Milling machine



Combined ratemeter and counter for controlling the position and speed of a router.



ELECTRONIC RATEMETER AND COUNTERS CTR24L 2513

Lifts



Combined impulse and hour counters - Maintenance. Start counters and operating time counters.



ELECTRONIC COUNTER CTR24L 2514

UV lamp



Counting and display of operating times. Event management, wear control.



HOUR COUNTER CTR24 2323






Counters and Ratemeters

Selection guide







Electronic counters

24 x 48 multifunction counters without preselection

Functions	Modes	Multiplication coefficient/ Decimal point	Max. counting speed
 Totalizer or Hour counter or Ratemeter	Dir/up.dn/up.up Ph/2-ph/4-ph	Yes/Yes	50 kHz
	Start/Stop	No/Yes	999,999 hrs
	sec -1/min -1	Yes/Yes	50 kHz
 Double totalizer Independent inputs (A and B)	Counting A/B/A-B/A+B AdivB/%AB	Yes/Yes	25 kHz
 Totalizer and Ratemeter Independent inputs	Dir/up.dn/up.up Ph/2-ph/4-ph	Yes/Yes	30 kHz
	sec -1/min -1		
 Double totalizer Common input	Counting (total/partial)	Yes/Yes	50 kHz
 Totalizer + Ratemeter or Totalizer + Totalizer or Totalizer + Hour or Hour + Hour	Counting + sec -1/min -1	Yes/Yes	35 kHz
	Counting		50 kHz
	Counting + Start/Stop		40 kHz
	Start/Stop	No/Yes	999,999 hrs

24 x 48 counters without preselection

Functions	Inputs/Reset	Max. counting speed	Display
 Hour	PNP/Contact	99,999.99 hrs	LCD
	NPN/Contact		
	Voltage/Contact		
 Hour	PNP/Contact	99,999.99 hrs	Orange (backlit)
	NPN/Contact		
	Voltage/Contact		
 Totalizer	Voltage/Contact	99,999,999	LCD
	PNP/Contact		
	NPN/Contact		
 Totalizer	Voltage/Contact	99,999,999	Orange (backlit)
	PNP/Contact		
	NPN/Contact		






Display	Counting capacity	Supply	Part number	Type	Page
LED	999,999	10 ⇒ 30 V $\overline{\text{---}}$	87 623 570	CTR24L - 2511	32
	0.001 s ⇒ 999,999 hrs				
	999,999				
LED	999,999	10 ⇒ 30 V $\overline{\text{---}}$	87 623 571	CTR24L - 2512	36
LED	999,999	10 ⇒ 30 V $\overline{\text{---}}$	87 623 572	CTR24L - 2513	40
LED	999,999	10 ⇒ 30 V $\overline{\text{---}}$	87 623 573	CTR24L - 2514	44
LED	999,999	10 ⇒ 30 V $\overline{\text{---}}$	87 623 574	CTR24L - 2515	48
	999,999 0.001 s ⇒ 999,999 hrs				
	0.001 s ⇒ 999,999 hrs				

Counting capacity	Supply	Part number	Type	Page
0.1 s ⇒ 99,999.99 hrs	Lithium battery	87 622 161	CTR24 - 2223	52
		87 622 162	CTR24 - 2233	52
		87 622 170	CTR24 - 2224	52
0.1 s ⇒ 99,999.99 hrs	Lithium battery	87 622 181	CTR24 - 2323	52
		87 622 182	CTR24 - 2333	52
		87 622 190	CTR24 - 2324	52
99,999,999	Lithium battery	87 610 340	CP2 - 2108	52
		87 622 061	CTR24 - 2241	56
		87 622 062	CTR24 - 2251	56
		87 622 070	CTR24 - 2242	56
99,999,999	Lithium battery	87 622 081	CTR24 - 2341	56
		87 622 082	CTR24 - 2351	56
		87 622 090	CTR24 - 2342	56

The counters and ratemeters accessories guide is available on the product data sheets which can be downloaded from the website www.crouzet-control.com






Selection guide

48 x 48 multifunction counters with preselection

	Functions	Number of preset(s)	Max. counting speed	Display
	Preselection counter Ratemeter Chronometer Multi-totalizer	1	40 KHz	Backlit LCD (orange) extra-bright 2 lines
	Preselection counter Ratemeter Chronometer Multi-totalizer Batch counter	2		
	Preselection counter Ratemeter Chronometer Multi-totalizer	1	40 KHz	Two-colour LCD (red and green) 2 lines
	Preselection counter Ratemeter Chronometer Multi-totalizer Batch counter	2		
	Preselection counter Chronometer	1	5 KHz	Backlit LCD (green) 2 lines
	Preselection counter Chronometer	2		

Electromechanical counters

Hour counters

	Dimensions (mm)	Counting capacity
	48 x 48	99,999.99
	48 x 48	999,999.99
	24 x 48	99,999.99
	15 x 32	999,999.99
		99,999.99
	Modular DIN rail 35 mm	99,999.99

Counting capacity	Outputs	Supply	Part number	Type	Page
-999,999 ⇒ 999,999	1 x 5 A changeover 1 solid state	10 ⇒ 30 V $\overline{\text{---}}$	87 621 111	CTR48	18
		24 V \sim	87 621 112	CTR48	18
		90 ⇒ 260 V \sim	87 621 115	CTR48	18
	1 x 5 A changeover 1 x 5 A N/O 2 solid state	10 ⇒ 30 V $\overline{\text{---}}$	87 621 121	CTR48	18
		24 V \sim	87 621 122	CTR48	18
		90 ⇒ 260 V \sim	87 621 125	CTR48	18
-999,999 ⇒ 999,999	1 x 5 A changeover 1 solid state	10 ⇒ 30 V $\overline{\text{---}}$	87 621 211	CTR48	18
		24 V \sim	87 621 212	CTR48	18
		90 ⇒ 260 V \sim	87 621 215	CTR48	18
	1 x 5 A changeover 1 x 5 A N/O 2 solid state	10 ⇒ 30 V $\overline{\text{---}}$	87 621 221	CTR48	18
		24 V \sim	87 621 222	CTR48	18
		90 ⇒ 260 V \sim	87 621 225	CTR48	18
-999,999 ⇒ 999,999	1 x 3 A changeover	11 ⇒ 30 V $\overline{\text{---}}$	87 629 111	CTR48E	26
		115 V \sim	87 629 113	CTR48E	26
		230 V \sim	87 629 114	CTR48E	26
	1 x 3 A changeover 1 x 3 A N/O	11 ⇒ 30 V $\overline{\text{---}}$	87 629 121	CTR48E	26
		115 V \sim	87 629 123	CTR48E	26
		230 V \sim	87 629 124	CTR48E	26

Frequency	Supply	Part number	Type	Page
50 Hz \sim	20 ⇒ 30 V \sim	99 772 710	CHM48	60
	42 ⇒ 48 V \sim	99 772 711	CHM48	60
	100 ⇒ 130 V \sim	99 772 712	CHM48	60
	360 ⇒ 440 V \sim	99 772 713	CHM48	60
	187 ⇒ 264 V \sim	99 772 714	CHM48	60
60 Hz \sim	20 ⇒ 30 V \sim	99 772 718	CHM48	60
	42 ⇒ 48 V \sim	99 772 719	CHM48	60
	100 ⇒ 130 V \sim	99 772 715	CHM48	60
	360 ⇒ 440 V \sim	99 772 717	CHM48	60
	187 ⇒ 264 V \sim	99 772 716	CHM48	60
$\overline{\text{---}}$	10 ⇒ 30 V $\overline{\text{---}}$	99 772 810	CHM48	60
	36 ⇒ 80 V $\overline{\text{---}}$	99 772 811	CHM48	60
	100 ⇒ 130 V $\overline{\text{---}}$	99 772 812	CHM48	60
50 Hz \sim	20 ⇒ 30 V \sim	99 782 710	CHM24	62
	100 ⇒ 130 V \sim	99 782 712	CHM24	62
	187 ⇒ 264 V \sim	99 782 714	CHM24	62
60 Hz \sim	20 ⇒ 30 V \sim	99 782 718	CHM24	62
	100 ⇒ 130 V \sim	99 782 715	CHM24	62
	187 ⇒ 264 V \sim	99 782 716	CHM24	62
$\overline{\text{---}}$	10 ⇒ 30 V $\overline{\text{---}}$	99 782 810	CHM24	62
$\overline{\text{---}}$	4.5 ⇒ 35 V $\overline{\text{---}}$	99 792 810	CHM15	64
50 Hz \sim	24 V \sim	99 793 710	CHMDR	65
	115 V \sim	99 793 712	CHMDR	65
	230 V \sim	99 793 714	CHMDR	65
$\overline{\text{---}}$	10 ⇒ 27 V $\overline{\text{---}}$	99 793 810	CHMDR	65

The counters and ratemeters accessories guide is available on the product data sheets which can be downloaded from the website www.crouzet-control.com



Selection guide



Impulse counters

	Dimensions (mm)	Reset to zero
	15 x 32 Clip-fixing	No
	24 x 48 Clip-fixing	No
	24 x 48 Clip-fixing	Yes
	24 x 48 Screw-fixing	No
	24 x 48 Screw-fixing	Yes
	36 x 37 Screw-fixing	No
	36 x 37 Screw-fixing	Yes
	36 x 48 Screw-fixing	No
	36 x 48 Screw-fixing	Yes

Dual function 48 x 48 counters

	Functions	Reset to zero	Counting capacity
	Impulse Hour	No	9,999,999 99,999.99 hrs
			9,999,999/999,999.99 hrs
	Hour Energy	No	99,999.9 hrs 99,999.9 kWh



Counting capacity	Supply	Part number	Type	Page
9,999,999	24 V ~ - 50/60 Hz	99 778 710	CIM 15	76
	115 V ~ - 50/60 Hz	99 778 712	CIM 15	76
	230 V ~ - 50/60 Hz	99 778 714	CIM 15	76
	5 V ☰	99 778 805	CIM 15	76
	12 V ☰	99 778 806	CIM 15	76
	24 V ☰	99 778 810	CIM 15	76
999,999	24 V ~ - 50/60 Hz	99 777 710	CIM 24	70
	230 V ~ - 50/60 Hz	99 777 714	CIM 24	70
	12 V ☰	99 777 815	CIM 24	70
	24 V ☰	99 777 810	CIM 24	70
99,999	24 V ~ - 50/60 Hz	99 777 720	CIM 24	70
	230 V ~ - 50/60 Hz	99 777 724	CIM 24	70
	12 V ☰	99 777 825	CIM 24	70
	24 V ☰	99 777 820	CIM 24	70
999,999	24 V ~ - 50/60 Hz	99 776 904	CIM 24 x 48	78
	115 V ~ - 50/60 Hz	99 776 902	CIM 24 x 48	78
	230 V ~ - 50/60 Hz	99 776 901	CIM 24 x 48	78
	24 V ☰	99 776 907	CIM 24 x 48	78
	110 V ☰	99 776 905	CIM 24 x 48	78
99,999	24 V ~ - 50/60 Hz	99 776 924	CIM 24 x 48	78
	115 V ~ - 50/60 Hz	99 776 922	CIM 24 x 48	78
	230 V ~ - 50/60 Hz	99 776 921	CIM 24 x 48	78
	24 V ☰	99 776 927	CIM 24 x 48	78
999,999	24 V ~ - 50/60 Hz	99 776 604	CIM 36 x 37	72
	115 V ~ - 50/60 Hz	99 776 602	CIM 36 x 37	72
	230 V ~ - 50/60 Hz	99 776 601	CIM 36 x 37	72
	24 V ☰	99 776 607	CIM 36 x 37	72
	110 V ☰	99 776 605	CIM 36 x 37	72
99,999	24 V ~ - 50/60 Hz	99 776 613	CIM 36 x 37	72
	115 V ~ - 50/60 Hz	99 776 611	CIM 36 x 37	72
	230 V ~ - 50/60 Hz	99 776 610	CIM 36 x 37	72
	24 V ☰	99 776 616	CIM 36 x 37	72
999,999	24 V ~ - 50/60 Hz	99 776 704	CIM 36 x 48	74
	115 V ~ - 50/60 Hz	99 776 702	CIM 36 x 48	74
	230 V ~ - 50/60 Hz	99 776 701	CIM 36 x 48	74
	24 V ☰	99 776 707	CIM 36 x 48	74
	48 V ☰	99 776 736	CIM 36 x 48	74
	110 V ☰	99 776 705	CIM 36 x 48	74
99,999	24 V ~ - 50/60 Hz	99 776 713	CIM 36 x 48	74
	115 V ~ - 50/60 Hz	99 776 711	CIM 36 x 48	74
	230 V ~ - 50/60 Hz	99 776 710	CIM 36 x 48	74
	24 V ☰	99 776 716	CIM 36 x 48	74

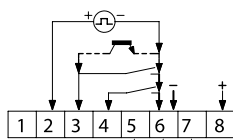
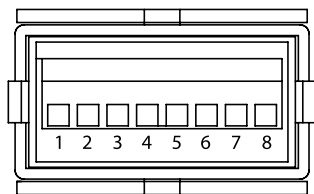
Counters and Ratemeters

Frequency	Supply	Part number	Type	Page
50 Hz ~	20 ⇨ 30 V ~	99 779 710	CMM48	68
	100 ⇨ 130 V ~	99 779 712	CMM48	68
	187 ⇨ 264 V ~	99 779 714	CMM48	68
60 Hz ~	20 ⇨ 30 V ~	99 779 718	CMM48	68
	100 ⇨ 130 V ~	99 779 715	CMM48	68
	187 ⇨ 264 V ~	99 779 716	CMM48	68
☰	10 ⇨ 30 V ☰	99 779 810	CMM48	68
50 Hz ~	115 V ~	99 780 712	CEM48	68
	230 V ~	99 780 714	CEM48	68

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Connection diagrams

CTR24 counters Connections

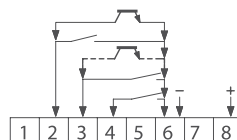
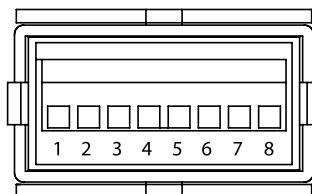


9999h59m59s			
9999999.9s	●	●	
99999h59m	●	●	
99999.99h	●	●	

Types 2223 and 2323:

Part numbers:

- 87 622 161
- 87 622 181



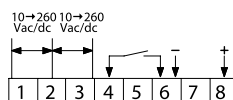
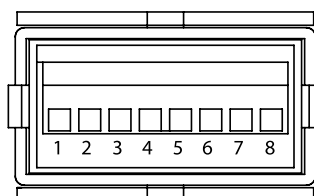
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9999999.9s	●	●	
99999h59m	●	●	
99999.99h	●	●	

Types 2233 and 2333:

Part numbers:

- 87 622 162
- 87 622 182

1. NC
2. Start/Stop input
3. Reset input
4. Enable front panel Reset
5. Mode 1 (Time selection)
6. GND/Optional backlighting - (only 23xx)
7. Mode 2 (Time selection)
8. Optional backlighting + (only 23xx)



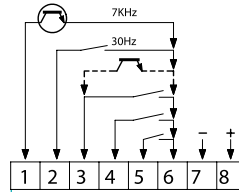
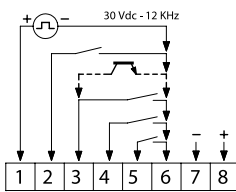
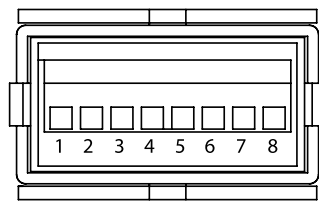
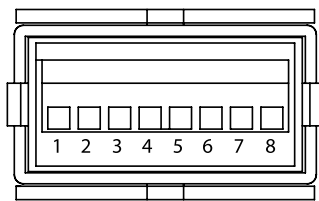
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99999h59m	●	●	
99999.99h	●	●	

Types 2224 and 2324:

Part numbers:

- 87 622 170
- 87 622 190

1. Common \sim
2. Start/Stop input
3. Reset input
4. Enable front panel Reset
5. Mode 1 (Time selection)
6. GND/Optional backlighting - (only 23xx)
7. Mode 2 (Time selection)
8. Optional backlighting + (only 23xx)



Types 2241 and 2341:

Part numbers:

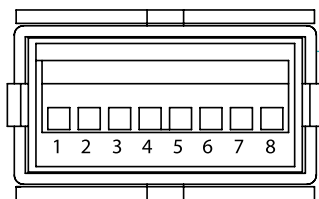
- 87 622 061
- 87 622 081

Types 2251 and 2351:

Part numbers:

- 87 622 062
- 87 622 082

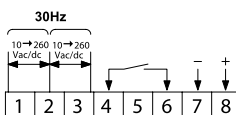
1. Fast count
2. Slow count
3. Reset input
4. Enable front panel Reset
5. Counting (counting direction)
6. GND
7. Optional backlighting - (only 23xx)
8. Optional backlighting + (only 23xx)



Types 2242 and 2342:

Part numbers:

- 87 622 070
- 87 622 090



1. Fast count
2. Common \sim
3. Reset input
4. Enable front panel Reset
5. NC
6. GND
7. Optional backlighting - (only 23xx)
8. Optional backlighting + (only 23xx)

Crouzet Control, Technology and expertise, behind every project

- **Local** support for all industrial projects.
- A **multi-skilled** team.
- A sales presence in over **40 countries**.
- A Premium offer designed to ensure the **excellence** of products and services.
- **Eco-design integrated** in Crouzet's Offer Creation Process.
- Certifications: **ISO 9001, ISO 14001, OHSAS 18001**.
- Products which **comply with international standards** (UL, CSA, EC).
- A **dynamic R&D** department.



In addition to this catalogue, the **www.crouzet-control.com** website offers the latest tools, available as free downloads, including M3 Soft software, technical data sheets for each product and installation manuals.



Data sheets

- Up counters / Down counters - 48 x 48 - CTR48 P. 18
- Up counters / Down counters - 48 x 48 - CTR48E - Essential P. 26
- Multifunction counter - LED 24 x 48 - CTR24L P. 32
- Multifunction counter with 2 totalizers - LED 24 x 48 - CTR24L P. 36
- Multifunction counter combining a totalizer and tachometer - LED 24 x 48 - CTR24L P. 40
- Multifunction counter with 2 totalizers (total an partial function) with common input - LED 24 x 48 - CTR24L P. 44
- "DUO" multifunction counter - LED 24 x 48 - CTR24L P. 48
- Hour counters without preselection - LCD 24 x 48 - CTR24 P. 52
- Totalizers without preselection - LCD 24 x 48 - CTR24 P. 56
- Hour counters 48 x 48 - CHM48 P. 60
- Hour counters 24 x 48 - CHM24 P. 62
- Hour counters 15 x 32 - CHM15 P. 64
- DIN rail mounting hour counters - CHMDR P. 65
- Dual-function counter (hour counter and watt-hour meter) 48 x 48 - CEM48 P. 66
- Dual-function counter (hour counter and impulse counter) 48 x 48 - CMM48 P. 68
- Impulse counters 24 x 48 - CIM24 P. 70
- Impulse counters 36 x 37 - CIM P. 72
- Impulse counters 36 x 48 - CIM P. 74
- Impulse counters with built-in fixing clip 15 x 32 - CIM15 P. 76
- Screw-fixing implulse counters 24 x 48 - CIM P. 78



To order:
Customer Service
Crouzet Control
Tel.: +33 (0) 475 802 102
customer.relation@crouzet.com



Electronic multifunction counters with preselection

→ Up counters / Down counters - 48 x 48 - CTR48

- Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer
- Maximum input frequency 40 kHz
- Simple parameter setting, configuration using text menus
- Easy modification of presets
- Scaling factor
- 5 A changeover relay and solid state output
- Removable connectors
- Backlit LCD display (orange) : 2 lines, 6 digits or multicoloured display (green-red)
- IP 65 sealed panel
- Option of locking the keypad, completely or partially (preset, programming)
- Accessories for 72 x 72 or 55 x 55 cut-out, DIN rail adaptor



Part numbers

Type	Functions	Preset	Voltages	Output	Code
Orange backlight LCD display	Counter, Tachometer, Chronometer, Preselection multi-totalizer	1	10 → 30 V $\overline{\text{---}}$	1 changeover relay, 1 solid state	87621111
	Counter, Tachometer, Chronometer, Preselection multi-totalizer	1	24 V \sim	1 changeover relay, 1 solid state	87621112
	Counter, Tachometer, Chronometer, Preselection multi-totalizer	1	90 → 260 V \sim	1 changeover relay, 1 solid state	87621115
	Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer	2	10 → 30 V $\overline{\text{---}}$	1 changeover relay, 1 NO relay, 2 solid state	87621121
	Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer	2	24 V \sim	1 changeover relay, 1 NO relay, 2 solid state	87621122
	Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer	2	90 → 260 V \sim	1 changeover relay, 1 NO relay, 2 solid state	87621125
Multicoloured LCD display (green-red)	Counter, Tachometer, Chronometer, Preselection multi-totalizer	1	10 → 30 V $\overline{\text{---}}$	1 changeover relay, 1 solid state	87621211
	Counter, Tachometer, Chronometer, Preselection multi-totalizer	1	24 V \sim	1 changeover relay, 1 solid state	87621212
	Counter, Tachometer, Chronometer, Preselection multi-totalizer	1	90 → 260 V \sim	1 changeover relay, 1 solid state	87621215
	Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer	2	10 → 30 V $\overline{\text{---}}$	1 changeover relay, 1 NO relay, 2 solid state	87621221
	Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer	2	24 V \sim	1 changeover relay, 1 NO relay, 2 solid state	87621222
	Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer	2	90 → 260 V \sim	1 changeover relay, 1 NO relay, 2 solid state	87621225

Accessories

Description	Code
Adaptor for 72 x 72 mm cut-out	26546842
Adaptor for 55 x 55 mm cut-out	26546846
DIN rail adaptor	26546841

General characteristics

Environmental characteristics

Supply	10 → 30 V $\overline{\text{---}}$ / 24 V \sim / 90 → 260 V \sim
Relative humidity (no condensation)	EN 60068-2-30 40/93% RLF
Altitude	0 < 2000 m
Certifications	UL - cULus (pending) - CE
Vibration resistance in 3 axes	10-55 Hz / 1 min / XYZ EN 60068-2-6: 30 min. in each direction
Connection by screw terminals	Removable
Protection	Conforming to standard EN 60529 IP65 for panel / IP20 for connections
Front panel watertight seal	✓
Temperature limits use (°C)	-20 → +65
Temperature limits stored (°C)	-25 → +75
Weight (g)	150 $\overline{\text{---}}$ version 250 \sim version

General characteristics

Reset to zero or to preset	On panel: if not locked during programming Electrical: automatic, voltage or solid state (NPN or PNP depending on programming)
Minimum pulse time	Impulse counter: < 15 ms Chronometer: 500 μ s
Option to protect against reset from front panel	✓
Scale factor (each input pulse is multiplied by this figure)	00.0001 → 99.9999
Scaling factor (each input impulse is divided by this value)	01.0000 → 99.9999
Decimal point selectable for ease of reading	0 0.0 0.00 0.000 0.0000 0.00000
Sensor supply version \sim	24 V $\overline{\text{---}}$ -20/+15% 50 mA
Programming and current value backed up via EEPROM memory	✓ Service life 10 years

Operating characteristics

Functions	Preselection counter, Tachometer, Chronometer, Multi-totalizer, Batch counters, Totalizer
Number of presets	1 or 2
Display	LCD with orange backlighting/Multicoloured LCD (green-red)
Height digits (mm)	LCD 9
Display details	- 999 999 → 999 999

Input characteristics

Inputs	2 counter inputs 1 reset input, 1 gate input
Input modes	Dir: Directional AS: up/dn AA: up/up PP: phase PP2: phase 2 PP4: phase 4
Input type	Voltage or solid state
High level	8 V $\overline{\text{---}}$ → 30 V $\overline{\text{---}}$
Low level	0 → 2 V $\overline{\text{---}}$

Solid state output characteristics

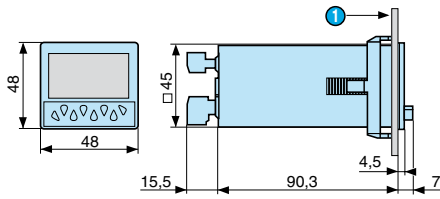
Maximum current	30 mA
Max. voltage	10 → 30 V $\overline{\text{---}}$ for the $\overline{\text{---}}$ version 24 V $\overline{\text{---}}$ -20/+15%

Relay output characteristics

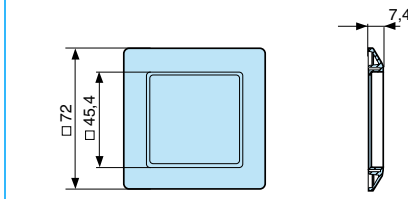
Changeover relay	✓
NO contact	Depending on version
Maximum current	5 A
Minimum current	10 mA
Maximum voltage	30 V $\overline{\text{---}}$ / 250 V \sim
Min. voltage	5 V \sim
Response time	< 13 ms
Mechanical life (operations)	20 x 10 ⁶
Number of operations to 5 A	5 x 10 ⁴
Output modes: maintained or pulsed	0.01 → 99.99 s

Dimensions (mm)

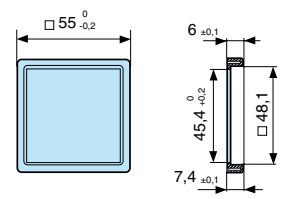
26546842 - Adaptor for 72 x 72 mm cut-out



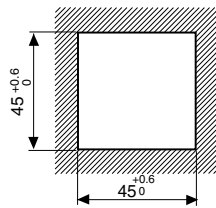
1 10.5 max.



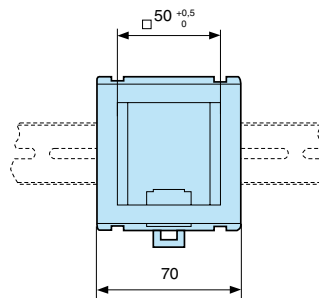
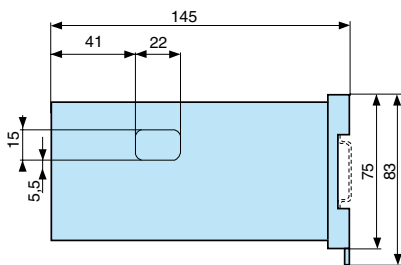
26546846 - Adaptor for 55 x 55 mm cut-out



Panel cut-out

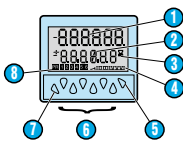


26546841 - DIN rail adaptor



Principles

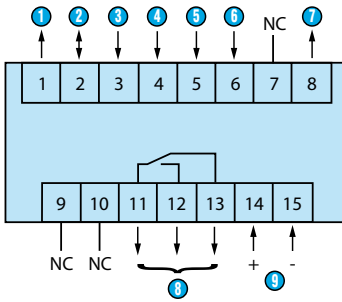
Display and buttons



- 1 Current value
- 2 Selected value
- 3 Chronometer display
- 4 Active output indication
- 5 Prog/mode button
- 6 Preset control buttons
- 7 Button required for programming parameters
- 8 Shows which value is displayed

Connections

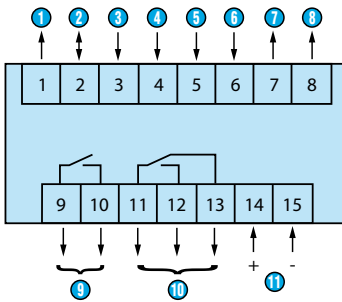
87621111 / 211



- ① Sensor voltage supply (* UB interconnected)
- ② GND (0 V $\overline{\text{---}}$)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Gate input
- ⑦ Output 1 - 10-30 V $\overline{\text{---}}$ /30 mA
- ⑧ 11-12-13: Output 1
- ⑨ 14-15: Supply

Output: 5 A/250 V \sim /AC: 24 V \sim

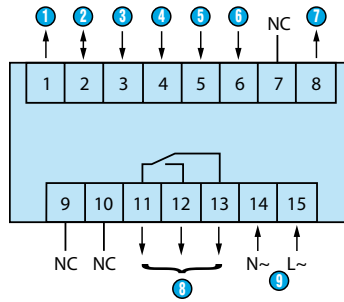
87621121 / 221



- ① Sensor voltage supply (* UB interconnected)
- ② GND (0 V $\overline{\text{---}}$)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Gate input
- ⑦ Output 1: 10-30 V $\overline{\text{---}}$ /30 mA
- ⑧ Output 2: 10-30 V $\overline{\text{---}}$ /30 mA
- ⑨ 9-10: Output 1
- ⑩ 11-12-13: Output 2
- ⑪ 14-15: Supply

Output: 5 A/250 V \sim / AC: 90 \rightarrow 260 V $\overline{\text{---}}$

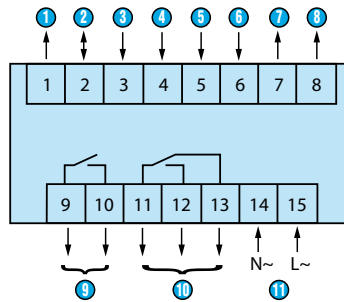
87621112 / 212



- ① Sensor voltage supply
- ② GND (0 V $\overline{\text{---}}$)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Gate input
- ⑦ Output 1 - 24 V $\overline{\text{---}}$ /30 mA
- ⑧ 11-12-13: Output 1
- ⑨ 14-15: Supply

Output: 5 A/250 V \sim /AC: 24 V \sim

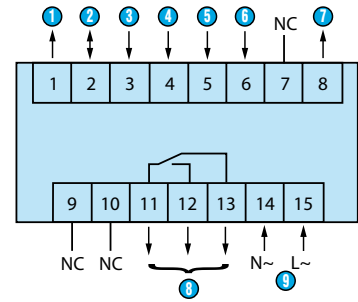
87621122 / 222



- ① Sensor voltage supply
- ② GND (0 V $\overline{\text{---}}$)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Gate input
- ⑦ Output 1: 24 V $\overline{\text{---}}$ /30 mA
- ⑧ Output 2: 24 V $\overline{\text{---}}$ /30 mA
- ⑨ 9-10: Output 1
- ⑩ 11-12-13: Output 2
- ⑪ 14-15: Supply

Output: 5 A/250 V \sim / AC: 90 \rightarrow 260 V $\overline{\text{---}}$

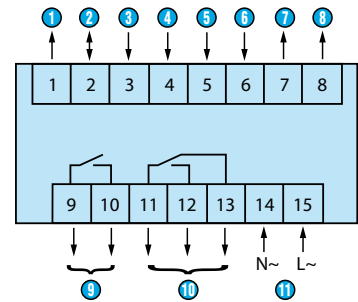
87621115 / 215



- ① Sensor voltage supply
- ② GND (0 V $\overline{\text{---}}$)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Gate input
- ⑦ Output 1 - 24 V $\overline{\text{---}}$ /30 mA
- ⑧ 11-12-13: Output 1
- ⑨ 14-15: Supply

Output: 5 A/250 V \sim / AC: 24 V \sim

87621125 / 225

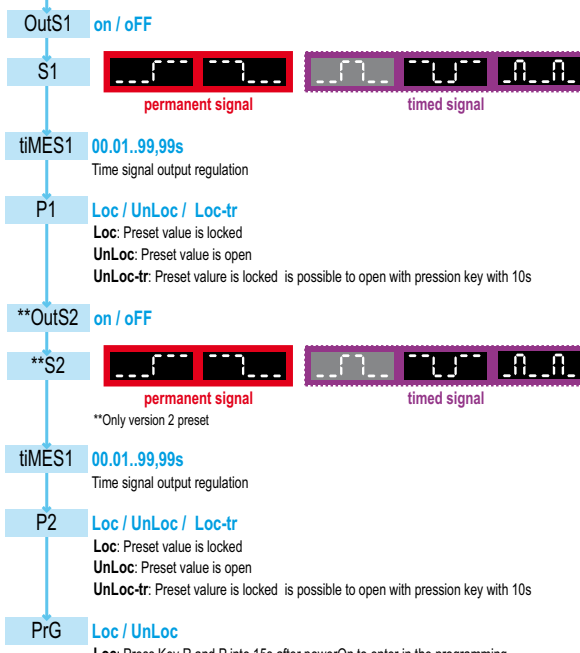
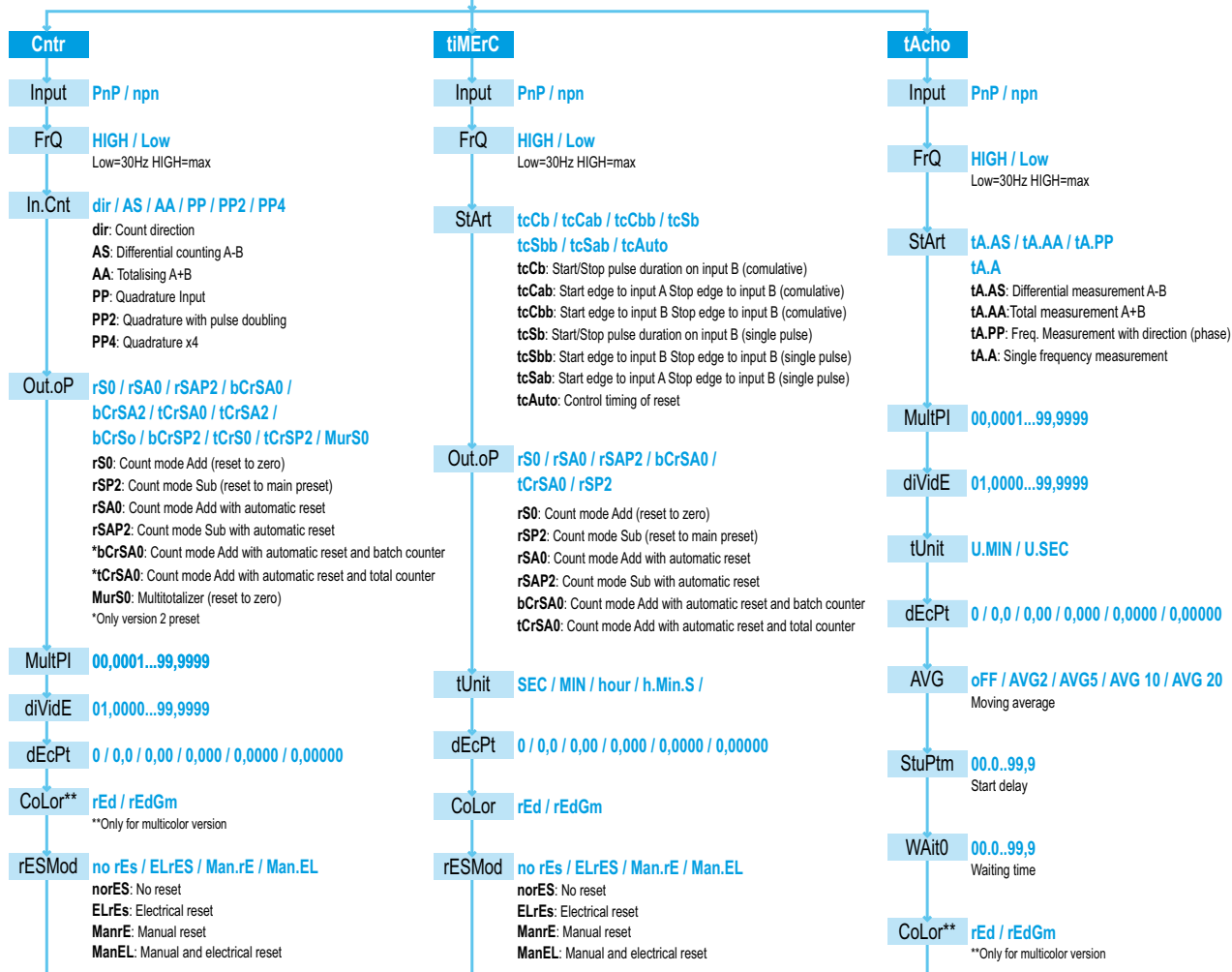
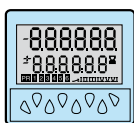


- ① Sensor voltage supply
- ② GND (0 V $\overline{\text{---}}$)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Gate input
- ⑦ Output 1: 24 V $\overline{\text{---}}$ /30 mA
- ⑧ Output 2: 24 V $\overline{\text{---}}$ /30 mA
- ⑨ 9-10: Output 1
- ⑩ 11-12-13: Output 2
- ⑪ 14-15: Supply

Output: 5 A/250 V \sim / AC: 90 \rightarrow 260 V $\overline{\text{---}}$

Applications

Programming diagram



Counter

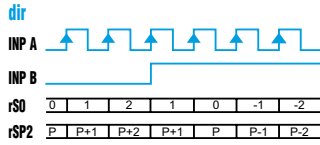
Output operation modes	rSo / rSP2 bCrS0 bCrSP2 tCrS0 tCrSP2 MurS0	rSA0	rSAP2 bCrSA0 bCrSA2 tCrSA0 tCrSA2
dir	40 kHz	5.2 kHz	4.2 kHz
AS	20 kHz	4.4 kHz	4.2 kHz
AA			
PP	20 kHz	2.2 kHz	2.1 kHz
PP2			
PP4	15 kHz	1.1 kHz	1.0 kHz

Tachometer

tA.A	
tA.AS	40 kHz
tA.AA	
Quad	20 kHz

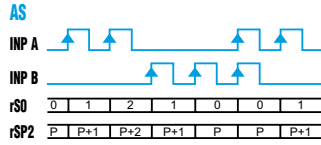
Curves

Counter: dir



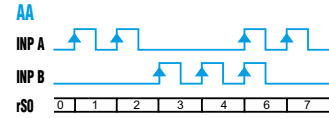
Inp A: counter input
 Inp B: count direction
 rS0: Display 0 → Preset
 rSP2: Display Preset → 0

Counter: AS



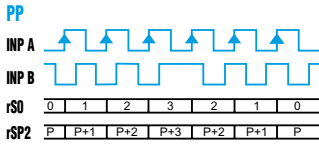
Inp A: Add. counter input 1
 Inp B: sub. counter input 2
 rS0: Display 0 → Preset
 rSP2: Display Preset → 0

Counter: AA



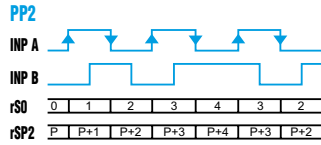
Inp A: Add. counter input 1
 Inp B: sub. counter input 2
 rS0: Display 0 → Preset

Counter: PP



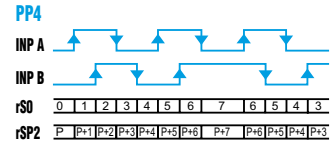
A 90° B
 Inp A: Counter input
 Counting on an edge
 Inp B: Reversal of direction
 rS0: Display 0 → Preset
 rSP2: Display Preset → 0

Counter: PP2



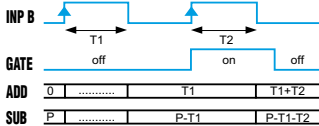
A 90° B
 Inp A: Counter input
 Counting on a rising edge and on a falling edge
 Inp B: Reversal of direction
 rS0: Display 0 → Preset
 rSP2: Display Preset → 0

Counter: PP4



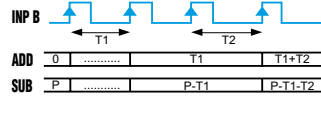
A 90° B
 Inp A: Counter input
 Counting on a rising edge and on a falling edge
 Inp B: Counter input
 Counting on a rising edge and on a falling edge, reversal of direction
 rS0: Display 0 → Preset
 rSP2: Display Preset → 0

Chronometer: Start tcCb



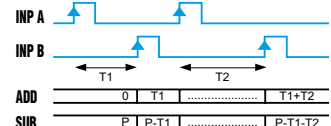
Inp A: No function
 Inp B: On/Off
 Cumulative time counting
 Add: Display 0 → Preset
 Sub: Display Preset → 0

Chronometer: Start tcCbb



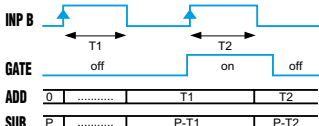
Inp A: No function
 Inp B: On/Off
 Cumulative time counting
 Add: Display 0 → Preset
 Sub: Display Preset → 0

Chronometer: Start tcCAb



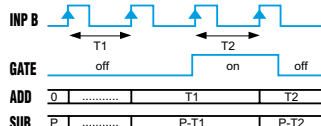
Inp A: On
 Inp B: Off
 Cumulative time counting
 Add: Display 0 → Preset
 Sub: Display Preset → 0

Chronometer: Start tcSb



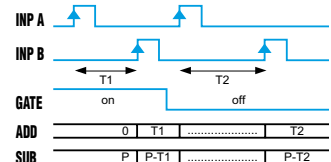
Inp A: No function
 Inp B: On/Off
 Individual time counting while B is active, automatic reset before each new count
 Add: Display 0 → Preset
 Sub: Display Preset → 0

Chronometer: Start tcSbb



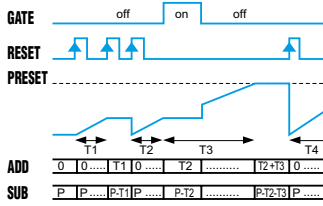
Inp A: No function
 Inp B: On/Off
 Individual time counting, automatic reset before each new count
 Add: Display 0 → Preset
 Sub: Display Preset → 0

Chronometer: Start tcSAb



Inp A: On
 Inp B: Off
 Individual time counting, automatic reset before each new count
 Add: Display 0 → Preset
 Sub: Display Preset → 0

Chronometer: Start tcAuto



Inp A: No function
 Inp B: No function
 Time counting command via Reset (manual or electrical)
 Add: Display 0 → Preset
 Sub: Display Preset → 0
 The Gate input has a display memory function

Tachometer: Start tA.A

INP A	0	F _{A0}	F _{A1}	F _{A2}	0	x
Display	0	0	F _{A0}	F _{A1}	F _{A2}	0

Inp A: Frequency input
 Inp B: No function

Tachometer: Start tA.AS

INP A	0	F _{A0}	F _{A1}	F _{A2}	0	x
INP B	0	0	F _{B0}	F _{B1}	F _{B2}	x
Display	0	0	F _{A0}	F _{A0} -F _{B0}	F _{A1} -F _{B1}	-F _{B2}

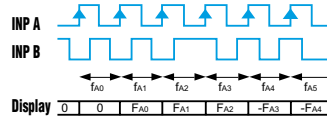
Inp A: Frequency input 1
 Inp B: Frequency input 2
 Formula: A - B

Tachometer: Start tA.AA

INP A	0	F _{A0}	F _{A1}	F _{A2}	0	x
INP B	0	0	F _{B0}	F _{B1}	F _{B2}	x
Display	0	0	F _{A0}	F _{A0} +F _{B0}	F _{A1} +F _{B1}	F _{B2}

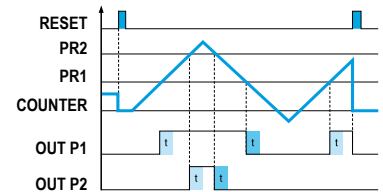
Inp A: Frequency input 1
 Inp B: Frequency input 2
 Formula: A + B

Tachometer: Start tA.PP

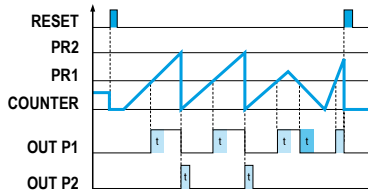


A 90° B
 Inp A: Frequency input 1
 Inp B: Reversal of direction

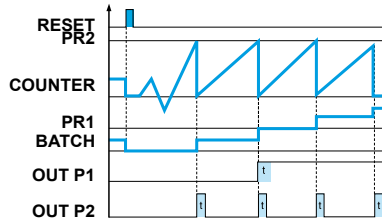
Output operation: OutoP rS0



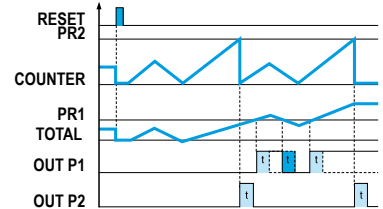
Output operation: OutoP rSA0



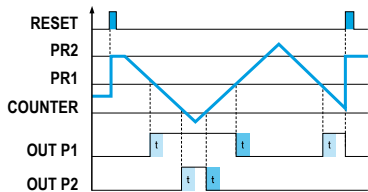
Output operation: OutoP bCrSA0



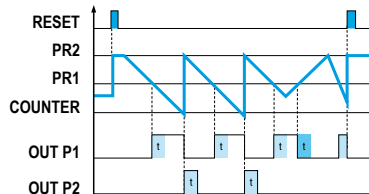
Output operation: OutoP tCrSA0



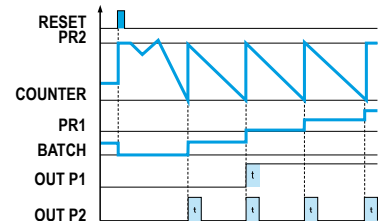
Output operation: OutoP rSP2



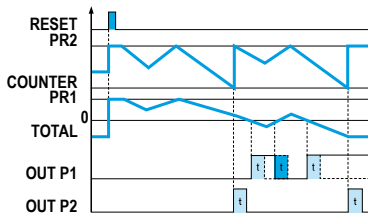
Output operation: OutoP rSAP2



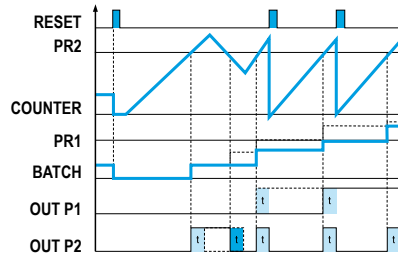
Output operation: OutoPbCrSA2



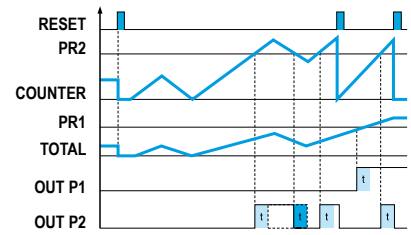
Output operation: OtoP tCrSA2



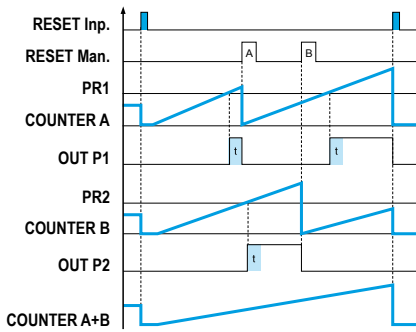
Output operation: OtoP bCrS0



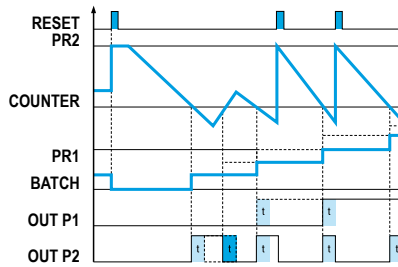
Output operation: OtoP tCrS0



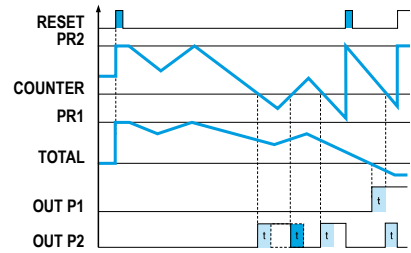
Output operation: OtoP MurS0 (AA)



Output operation: OtoP bCrSP2



Output operation: OtoP tCrSP2



Output operation: OtoP MurS0 (AS)

