





APPLICATIONS

WHERE ARE CHRONOS TIMERS FOUND?

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

- Food industry
- Industrial automation systems
- Lighting
- Building equipment
- HVAC
- Small or large industrial machines

<p>Packaging</p>  <p>Controlling heat sealing times on blister packs, packaging bags, etc.</p> <p>TIMER MAR1, MUR1, MXR1</p>	<p>Illuminated signs</p>  <p>Managing flashing on illuminated signs.</p> <p>TIMER MLR</p>
<p>Ice maker</p>  <p>Managing the duration of refrigeration.</p> <p>TIMER TUR1, MUR, MAR</p>	<p>Lighting for mobile homes</p>  <p>Managing the duration of outdoor lighting of a mobile home if the light switch is left switched on.</p> <p>TIMED IMPULSE RELAY MXR</p>

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CONTROL

THE BASICS

Crouzet,

a brand of Custom Sensors & Technologies, is a specialist in electromechanical, electronic technology, and software engineering. Based on Crouzet's 50 years of experience in time management, as well as experience in physical and mechanical values, we offer a range of automation components that includes: logic controllers, timers, control relays, counters, tachometers, machine safety equipment, and temperature controllers.

These products are particularly suited for use in water treatment, waste processing, renewable energy, HVAC, access control, building equipment, agriculture and industrial automation markets.

This document gives an overview of **the Chronos 2 DIN rail mounted timers.**



These timers are available in 3 casings:

- DIN rail modular casing (width: 17.5 mm)
- DIN rail industrial casing (width: 22.5 mm)
- Plug-in industrial casing (width: 35 mm).

FEATURES OF THE CHRONOS 2 TIMERS

- Available in **mono-** or **multifunction** versions, to meet the specific needs of each application.
- **A timing range** of up to 100 hrs to cope with prolonged processing operations.
- **A range of power** supplies from 12 to 240 V in one unit for optimised stocks.
- Recognised **quality** and **reliability** ensures the correct operation of equipment.

CHRONOS 2 TIMERS

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SELECTION GUIDE

CHRONOS 2 DIN RAIL MOUNTED TIMERS

DIN rail modular casings - The 17.5 mm range will migrate to new part numbers. The chart below shows the new part numbers

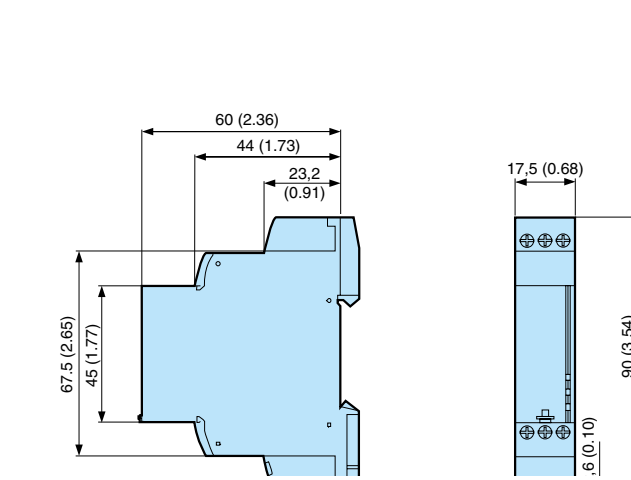
Casing width (mm)	Connections	Functions	Type of output	Output(s)	Timing	Supply	New part number	Old part number	Type
17.5	Screw terminals	A / At / B / C / H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 827 105	88 826 105	MUR1
		Di / D / Ac / Bw					88 827 115	88 826 115	MAR1
		A / At					88 827 125	88 826 125	MBR1
		B					88 827 135	88 826 135	MCR1
		C					88 827 145	88 826 145	MHR1
17.5	Screw terminals	H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 827 150	88 826 150	MLR4
		L / Li					88 827 155	88 826 155	MLR1
		A / At / B / C / H / Ht					88 827 100	88 826 100	MUR4
		Di / D / Ac / Bw					88 827 103	88 826 103	MUR3
		Ad / Ah / N / O / P					88 827 503	88 826 503	MURc3
17.5	Screw terminals	Pt / TL / Tl / W	Solid state	0.7 A	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 827 185	88 826 185	MXR1
		A / At / B / C / H / Ht					88 827 004	88 826 004	MUS2
		Di / D / Ac / Bw					88 827 014	88 826 014	MAS5
		A					88 827 044	88 826 044	MHS2
		H / Ht					88 827 054	88 826 054	MLS2

Naming of Chronos 2 timers

M	U	$\phi/2$	R	1
Dimensions	Functions	Output(s)	Type of output	Supply
M: 17.5 mm	A: A function	ϕ : 1 Output	R: Relay	1: 24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim
T: 22.5 mm	B: B function	2: 2 Outputs	S: Solid state	2: 24 \Rightarrow 240 V \sim
R: 22.5 mm	C: C function			3: 12 \Rightarrow 240 V $\overline{\text{---}}$
O: Plug-in 8 pins	H: H function			4: 12 V $\overline{\text{---}}$
P: Plug-in 11 pins	L: L function			5: 24 \Rightarrow 240 V $\overline{\text{---}}$
	Q: Q function			6: 230 \Rightarrow 440 V \sim
	U: Multifunction (A-At-B-C-H-Ht-Di-D-Ac-Bw)			
	X: Multifunction (Ad-Ah-N-O-P-Pt-TL-Tl-W)			

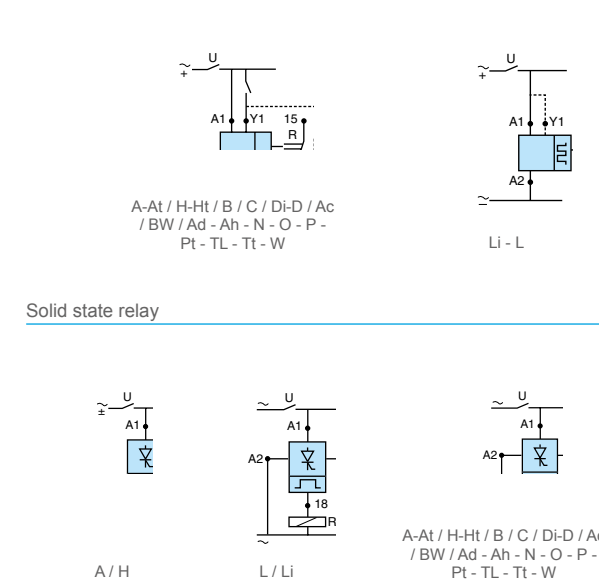
Dimensions in mm (inches)

DIN rail modular casings (17.5 mm)



Connections

One changeover relay output



DIN rail industrial casings

Casing width (mm)	Connections	Functions	Type of output	Output(s)	Timing	Supply	Part number	Type
22.5	Screw terminals	A / At / B / C / H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 865 105	TUR1
		Di / D / Ac / Bw					88 865 115	TAR1
		A / At					88 865 125	TBR1
		B					88 865 135	TCR1
		C					88 865 145	THR1
22.5	Screw terminals	H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 865 155	TLR1
		L / Li					88 865 175	TQR1
		A / At					88 865 175	RQR1*
		Ad / Ah / N / O / P					88 865 265	TK2R1
		Di / D / Ac / Bw					88 865 300	TU2R4
22.5	Spring terminals	A / At	Relay	2 x 8 A changeover	0.1 s \Rightarrow 100 h	12 V $\overline{\text{---}}$	88 866 300	RU2R4*
		Di / D / Ac / Bw					88 866 300	RU2R4*
		A / At					88 865 100	TUR4
		A / At / B / C / H / Ht					88 865 215	TA2R1
		Di / D / Ac / Bw					88 865 215	RA2R1*
22.5	Screw terminals	A / At / B / C / H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 865 103	TUR3
		Di / D / Ac / Bw					88 865 503	TURc3
		Ad / Ah / N / O / P					88 865 385	TX2R1
		Pt / TL / Tl / W					88 865 385	RX2R1*
		Q					88 865 185	TXR1
22.5	Screw terminals	A / At / B / C / H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	230 \Rightarrow 440 V \sim	88 866 176	TQR6
		Di / D / Ac / Bw					88 866 176	RQR6*
		A / At / B / C / H / Ht					88 865 303	TU2R3
		Di / D / Ac / Bw					88 866 303	RU2R3*
		Di / D / Ac / Bw					88 865 305	TU2R1

* Available in 2014. The new part number's casings are different from the existing casings. Find out more on the technical datasheets available on www.crouzet.com

Removable industrial casings

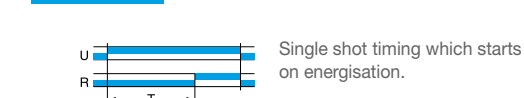
Casing width (mm)	Connections	Functions	Type of output	Output(s)	Timing	Supply	Part number	Type
35	Removable 8-pin base	A / At / B / C / H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 867 105	OUR1
		Di / D / Ac / Bw					88 867 215	OA2R1
		A					88 867 135	OCR1
		C					88 867 155	OLR1
		L / Li					88 867 100	OUR4
35	Removable 11-pin base	A / At / B / C / H / Ht	Relay	1 x 8 A changeover	0.1 s \Rightarrow 100 h	24 V $\overline{\text{---}}$ / 24 \Rightarrow 240 V \sim	88 867 103	OUR3
		Di / D / Ac / Bw					88 867 305	PU2R1
		A / At					88 867 415	PA2R1
		C					88 867 435	PC2R1
		L / Li					88 867 455	PL2R1

FUNCTION DIAGRAMS

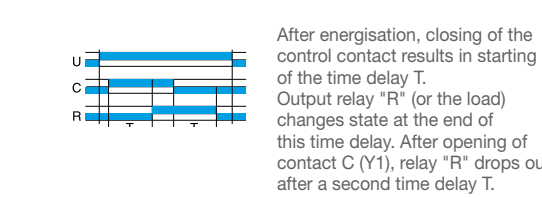
GENERIC FUNCTIONS

U : Supply
R : Output relay or load
T : Timing
 ∞ : Infinity
C (Y1) : Command

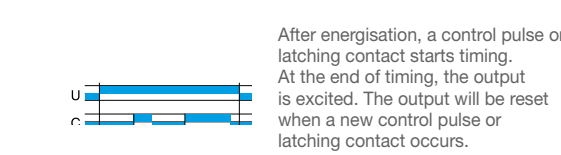
A function Delay on energisation



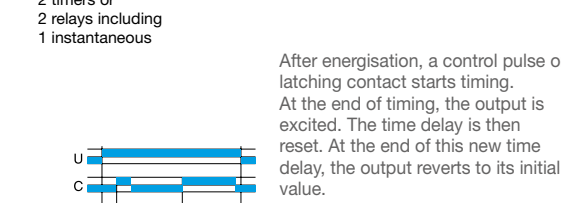
Ac function Timing after closing and opening of control contact



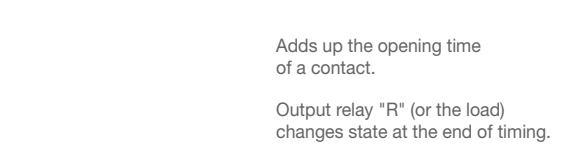
Ad function Delay on energisation (cannot be reset)



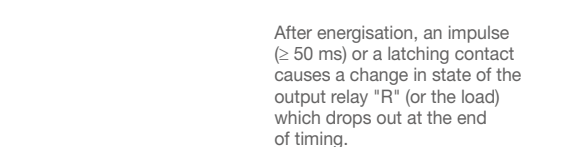
Ah function Single shot flip-flop (cannot be reset)



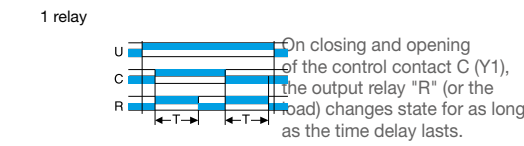
At function Timing on energisation with memory



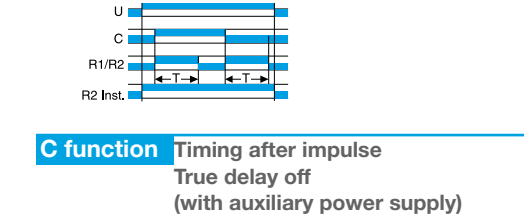
B function Timing on impulse (one shot) - Shaping (cannot be reset)



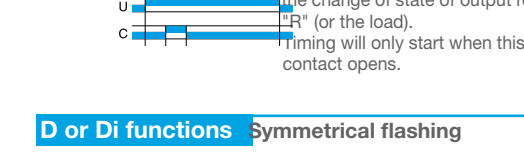
Bw function Pulse output (adjustable)



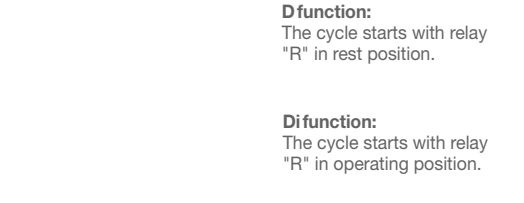
C function Timing after impulse True delay off (with auxiliary power supply)



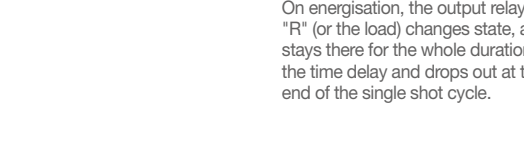
Ad function Delay on energisation (cannot be reset)



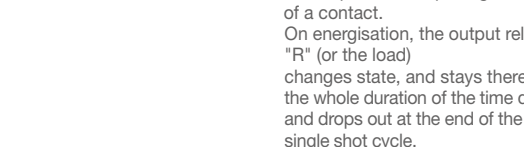
Ah function Single shot flip-flop (cannot be reset)



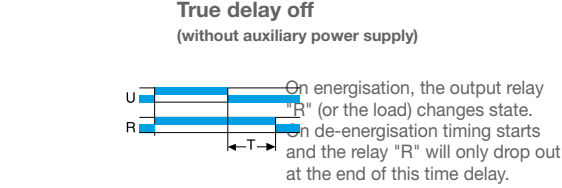
At function Timing on energisation with memory



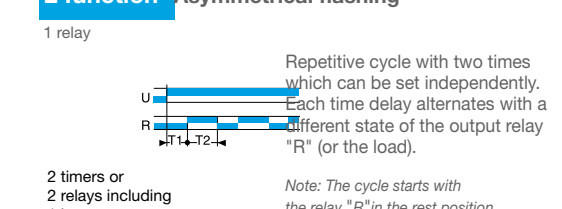
B function Timing on impulse (one shot) - Shaping (cannot be reset)



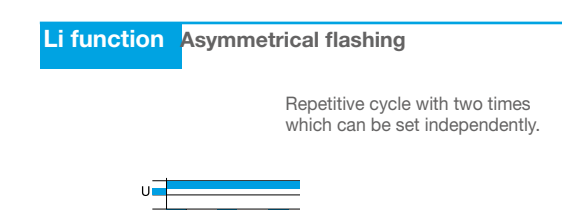
K function Delay on de-energisation True delay off (without auxiliary power supply)



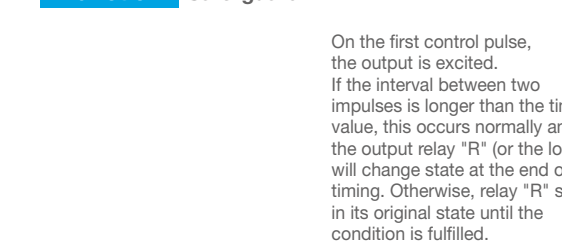
L function Asymmetrical flashing



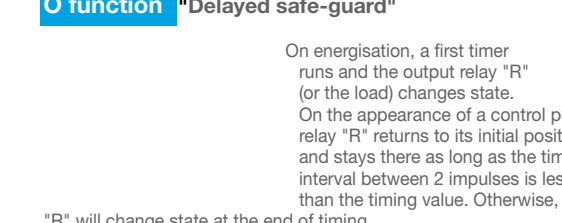
Li function Asymmetrical flashing



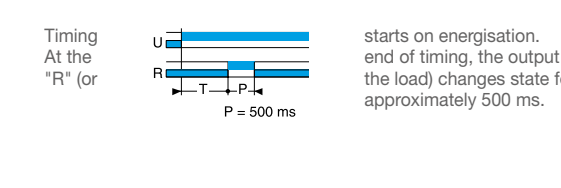
N function "Safe-guard"



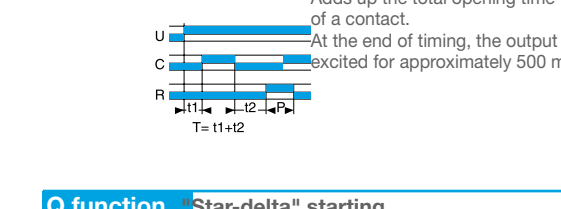
O function "Delayed safe-guard"



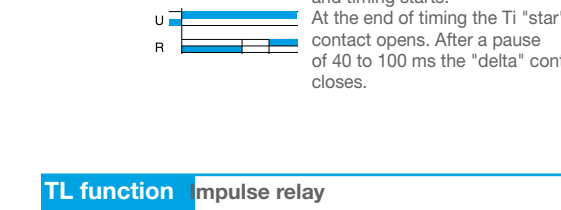
P function Delayed fixed-length pulse



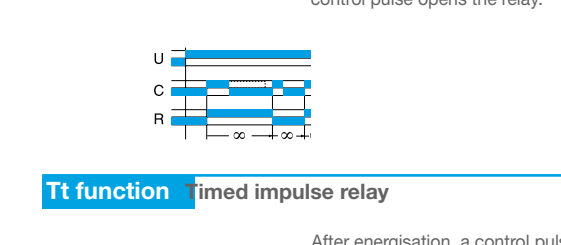
Pt function Impulse counter (delay on)



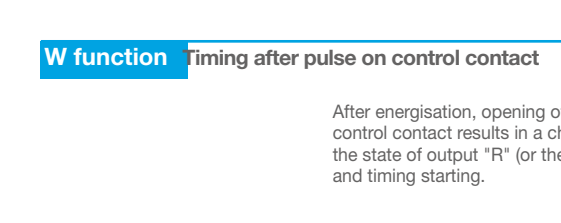
Q function "Star-delta" starting



TL function Impulse relay



Tt function Timed impulse relay



W function Timing after pulse on control contact

