

# › Plug-In Timer 11 pins

- › Multifunction or monofunction
- › Compact body for space saving
- › Wide time range (from 0.5 seconds to 10 days delay)
- › Universal power supply (12-240 V $\sim$ )
- › 1 or 2 relay outputs (SPDT / Changeover)
- › Protective cover
- › LED status indicator
- › 3-wire PNP sensor compatible
- › 11-pins connections



*PU2R10MV1*  
Multifunctions U -  
Monofunction Ad -  
Instantaneous



*PA2R10MV1*  
Monofunction A, At



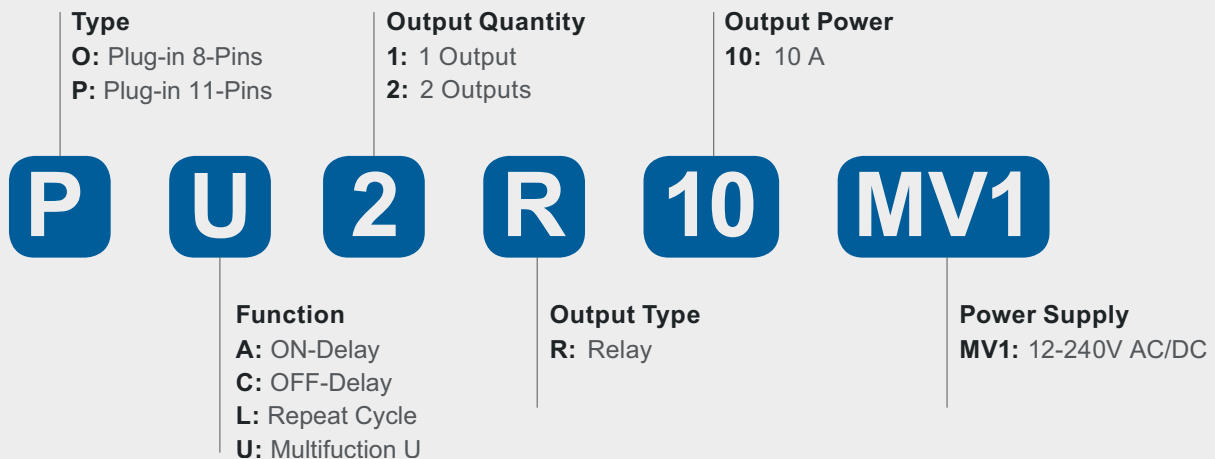
*PC2R10MV1*  
Monofunction C



*PL2R10MV1*  
Monofunction L, Li

Product selection			
Function	Output	Supply Voltage	Part Number
<b>Multifunction U:</b> (A, At, B, C, H, Ht, D, Di, Ac, Bw) Ad - Instantaneous	2 relays	12 to 240 V $\sim$	<b>PU2R10MV1</b>
A, At	2 relays	12 to 240 V $\sim$	<b>PA2R10MV1</b>
C	2 relays	12 to 240 V $\sim$	<b>PC2R10MV1</b>
L, Li	2 relays	12 to 240 V $\sim$	<b>PL2R10MV1</b>

## PART NUMBERING SYSTEM



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**Description:**

Syr-line, the new specialized range at Crouzet, aimed to satisfy the most unique requirements of your applications by innovating in design, engineering and development.

The Plug in Analog Timers, a new family of 11 timers with multifunction or monofunction, universal power supply, wide time range, with all the classic functions.

For more information about Crouzet's Syr-line range, please visit [www.crouzet.com](http://www.crouzet.com).

	PU2R10MV1	PA2R10MV1	PC2R10MV1	PL2R10MV1
<b>Power Supply</b>				
Rated supply voltage Un	12 to 240 V $\sim$			
Voltage supply tolerance	-15 %, +10 %			
AC supply voltage frequency	50 / 60 Hz $\pm$ 5%			
Galvanic isolation of supply / inputs	No			
Power consumption @ Un	Approx. 3 VA (V $\sim$ ) 1.5 W (V $\text{---}$ )			
Immunity to power micro cuts	10 ms			
<b>Timing Control</b>				
Specified time ranges (7) (IEC 1812-1)	0.5..10 s, 0.05..1 min, 0.5..10 min, 0.05..1 h, 0.5..10 h, 0.05..1 day, 0.5..10 days			
Minimum control pulse duration (IEC 1812-1)	40 ms 100 ms with load			
Recovery time (after by de-energisation) (IEC 1812-1)	120 ms			
Repeatability (IEC 1812-1)	$\leq \pm 0.5$ %			
Setting Accuracy (IEC 1812-1)	$\leq \pm 10$ %			
Temperature drift	$\leq \pm 0.05$ % / $^{\circ}\text{C}$			
Voltage drift	$\leq \pm 0.2$ % / V			
<b>Relay output</b>				
Contact arrangement	2 CO (SPDT) (ChangeOver -Single Pole Double Throw-) R1: Follow timing function R2: Follow timing function / Instantaneous	2 CO (SPDT) (ChangeOver -Single Pole Double Throw-)		
Maximum switching voltage	250 V $\sim$ / 10 A resistive / 125 V $\text{---}$ / 0.3 A resistive			
Switching current rate (resistive)	NO / NC: 10 A 250 V $\sim$ / 10 A 30 V $\text{---}$ @ 25 $^{\circ}\text{C}$ NO / NC: 5 A 250 V $\sim$ / 5 A 30 V $\text{---}$ @ 60 $^{\circ}\text{C}$			
Minimum switching contact	10 mA / 5 V $\text{---}$			
Maximum switching power (resistive)	2500 VA / 300 W			
Electrical life	10 <sup>5</sup> cycles min at 250 V $\sim$ / 10 A resistive (NO only)			
Maximum rate (at max switching power)	360 cycles /hour			
Mechanical life	10 x 10 <sup>6</sup> cycles			
Rated impulse voltage	4 kV (1.2/50 $\mu\text{s}$ )			
Dielectric strength between coil / contacts (IEC 60664-1)	2.5 kV / 1 min / 1 mA / 50 Hz			
Dielectric strength between open contacts	1 kV / 1 min / 1 mA / 50 Hz			
<b>Insulation</b>				
Rated Insulation voltage (IEC 60664-1)	250 V			
Insulation coordination (IEC 60664-1)	Overvoltage category III; pollution degree 2; up to 2000 m above sea level			
Rated impulse voltage (IEC 60664-1)	4 kV (1.2/50 $\mu\text{s}$ )			
Clearance / Creepage distances (IEC 60664-1)	3 mm / 3.2 mm			
Dielectric strength (EN-61812-1)	2.5 kV / 1 min / 1 mA / 50 Hz			
Insulation Resistance (NFC 93 050)	> 500 MOhms / 250 V $\text{---}$ / 1 min			
<b>General specifications</b>				
Status indication (LED)	Un: green LED blinks when count, flash when waiting Y1, continuous ON when supplied R: yellow LED blink when only R2 is ON (instantaneous), continuous ON when the 2 relays are ON.			
Casing	35 mm			
Mounting	Mounting base-mounted on socket			
Housing material (UL94)	Enclosure plastic type V0			
Degree of protection (IEC 60529)	IP40			
Operating temperature (IEC 60068-2)	-20 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$			

	PU2R10MV1	PA2R10MV1	PC2R10MV1	PL2R10MV1
Storage temperature (IEC 60068-2)	-40 °C to +70 °C			
Humidity (IEC 60068-2-30)	93 % without condensation			
Vibration resistance (IEC 60068-2-6)	±0.15mm from 10 Hz...60 Hz 2 g from 60 Hz..150 Hz			
Shock resistance (IEC60068-2-27)	10 gn - 11 ms; 3 X 6 axis (Output non-energized) 5 gn - 11 ms; 3 X 6 axis (Output energized)			
Drop to concrete floor (IEC 60068-2-32)	High: 0.75 m			
Weight	90 g 110 g with packaging			

Standards	
CEE Directive: 2014/30/EU 2014/35/EU	EMC Low voltage
Approvals / Marking	CE cULus Listed Industrial Control Equipment
Security standard (IEC 60664-1)	Insulation coordination for equipment within low-voltage systems
Conformity with environmental directives: 2015/863/UE 1907/2006 2012/19/UE	RoHS Reach WEEE
Product standard (IEC 61812-1 / UL 60947-4-1)	Specified time relays for industrial use Industrial Control Equipment (NRNT- Industrial Control Switches) Refer to UL840 Insulation Coordination for Electrical Equipment
Electromagnetic compatibility: IEC 61000-6-2 IEC 61000-6-3 IEC 61000-6-4	Generic standards Immunity for industrial environment Emission residential environment Emission industrial environment
Immunity to electrostatic discharges (IEC61000-4-2)	Level III Air ±8 KV / Contact ±6 KV
Immunity to radiated, radio-frequency, electromagnetic field (IEC61000-4-3)	Level III 10 V/m (80 MHz to 1 GHz) 80 % AM (1 kHz) 3 V/m (1.4 to 2 GHz) 80 % AM (1 KHz) 1 V/m (2 to 2.7 GHz) 80 % AM (1 KHz)
Immunity to rapid transient bursts (IEC 61000-4-4)	direct ±4 kV 5/50 Tr/Th ns 5 KHz & 100 KHz Capacitive coupling clamp ± 2 KV 5/50 Tr/Th ns 5 KHz & 100 KHz
Immunity to shock waves on power supply (IEC 61000-4-5)	Level III: line-to-earth ±2 kV / line-to-line ±1 kV
Immunity to radiofrequency in common mode (IEC 61000-4-6)	Level III: 10 Vrms (0.15 to 80 MHz) 80 % AM (1 kHz)
Immunity to voltage dips and breaks (IEC 61000-4-11)	0 % residual voltage during 1 cycle (Crit. B) 40 % residual voltage / 10 cycles 50 Hz / 12 cycles 60 Hz (Crit. C) 70 % residual voltage / 25 cycles 50 Hz / 30 cycles 60 Hz (Crit. C) Short interruptions: 0 % residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Crit. C)
AC/DC main port emissions (IEC 61000-6-3 IEC 61000-6-4)	CISPR 16-2-1 (7.4.1), CISPR 16-1-2 (4.3) 0.15 MHz – 0.5 MHz, 66 dB(µV) – 56 dB(µV) quasi-peak, 56 dB(µV) – 46 dB(µV) average 0.5 MHz – 5 MHz, 56 dB(µV) quasi-peak, 46 dB(µV) average 5 MHz – 30 MHz, 60 dB(µV) quasi-peak, 50 dB(µV) average CISPR 14-1 0.15 MHz – 30 MHz CISPR 16-2-1 (7.4.1), CISPR 16-1-2 (4.3) 0.15 MHz – 0.5 MHz, 79 dB(µV) quasi-peak, 66 dB(µV) average 0.5 MHz – 30 MHz, 73 dB(µV) quasi-peak, 60 dB(µV) average
Radiated emissions (IEC 61000-6-3 IEC 61000-6-4)	CISPR 16-2-3 30 MHz – 230 MHz, 30 dB(µV/m) Quasi-peak at 10 m 230 MHz – 1 000 MHz, 37 dB(µV/m) Quasi-peak at 10 m Or: 30 MHz – 230 MHz, 40 dB(µV/m) Quasi-peak at 3 m in a semi-anechoic chamber 230 MHz – 1 000 MHz, 47 dB(µV/m) Quasi-peak at 3 m in a semi-anechoic chamber

PU2R10MV1

PA2R10MV1

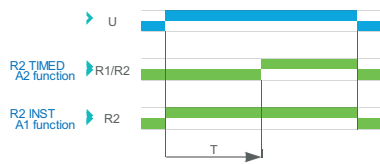
PC2R10MV1

PL2R10MV1

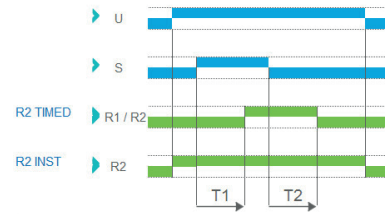
Function Diagrams

Basic Time Chart

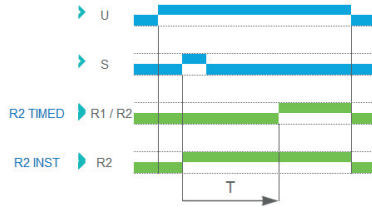
Function A - On-Delay (Delay on make)



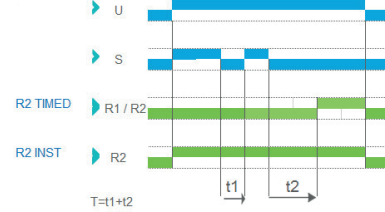
Function Ac - On/Off Delay (Delay on make/break)



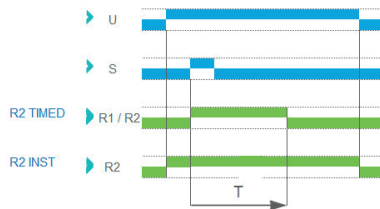
Function Ad - Delay on Start



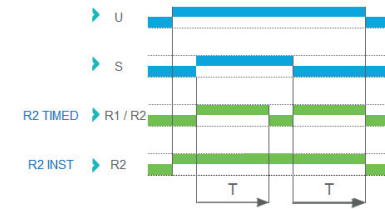
Function At - Summation time relay



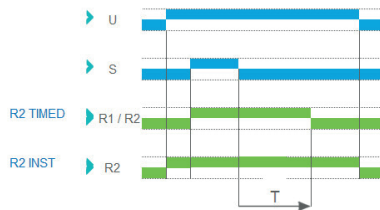
Function B - One-Shot



Function Bw



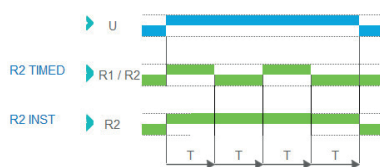
Function C - Off-Delay (Delay on break)



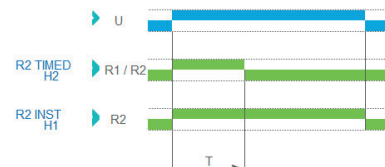
Function D - Symmetrical flashing (OFF Start)



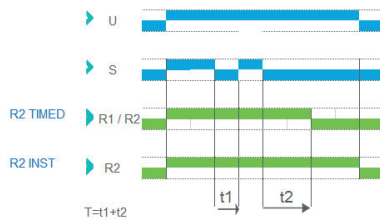
Function Di - Symmetrical flashing (ON Start)



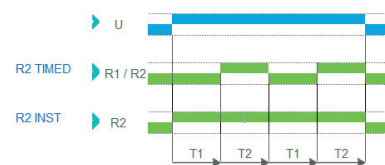
Function H - Interval



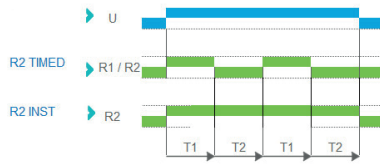
Function Ht - Interval summation time relay



Function L - Recycler (OFF Start)



Function Li - Recycler (ON Start)

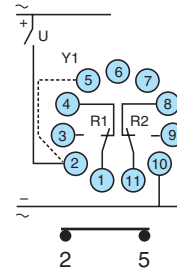
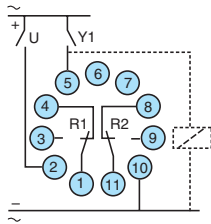


PU2R10MV1	PA2R10MV1	PC2R10MV1	PL2R10MV1
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Connections

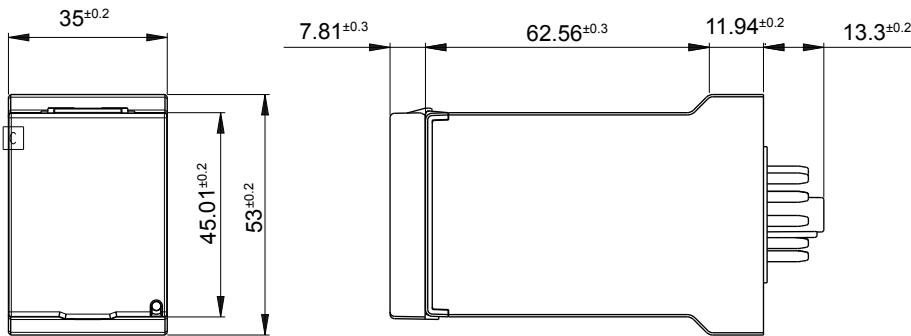
PU2R10MV1 - PA2R10MV1 - PC2R10MV1

PL2R10MV1



PU2R10MV1	PA2R10MV1	PC2R10MV1	PL2R10MV1
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Outline dimensions (mm)



PU2R10MV1	PA2R10MV1	PC2R10MV1	PL2R10MV1
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Socket

RECOMENDED SOCKET

11 Pins for DIN Rail or Panel Mount (P/N: 25 622 080)



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