

PTMA / PTMB DTMA / DTMB



MULTITIMER



Difference	Multifunction - Multirange - Monovoltage
Operating principle	10 modes according to the "FUNCTION" selector (see description of the functions at page 2): - <u>Without using the external input:</u> A - Delay on operate B - Interval on operate - <u>Using the external input:</u> A - Delay on operate, with time storage, without memory B - Interval on operate, with time storage, without memory C - Delay on operate, when the input is activated D - Interval on operate, while the input is activated E - Delay on operate, when the input is deactivated F - Interval on operate, when the input is deactivated G - Delay on operate, when the input is activated and when it is deactivated H - Interval on operate, when the input is activated and when it is deactivated
Time range	From 10 ms to 100 h, divided in 8 ranges (see table <i>Reference</i>).
Leds indications	Power on: Green Relay on: Red
Repeating precision	± 0,02%
Precision	± 0,6%. With supply voltages 901 or 902, ± 1,2%.
Power on	< 100 ms
Reset	By disconnecting the supply for longer than 20 ms
External input	- Free potential contact (terminals 6-7 [PTMx]; Y1-Z1 [DTMx]). - Sensor NPN or PNP, 10 mA / 24 VDC (terminals 5-6-7 [PTMx]; Y1-Z1-Z2 [DTMx]). Minimum pulses frequency: 6 ms
Adjustment mode	1 st - Select the function. 2 nd - Select the range. The maximum value (top of scale) must be the nearest possible to the time you are going to set. 3 rd - Set the time according to the 0-10 relative scale. Example: If you want to set 45 seconds, select the range "10..100 s". In this case each division corresponds to 9 seconds, so you must place the "TIME" button in the "5". It is recommended to check the time and refine the adjustment if required.

Reference	HOUSING		FUNCTION		OUTPUT		SUPPLY		RANGE		Adjustment buttons
	P	D	T	M	A	B	U	V	100		
							24	24 VAC/DC	10..100 ms		<p>Setting of the relative time</p> <p>Value of the top of scale for the time range</p> <p>Function setting</p>
							24	VDC	0,1..1 s		
							24	VAC	1..10 s		
	P	Plug-in	T	Multitimer	A	SPDT	110	110..125 VAC	10..100 s		
	D	DIN rail			B	DPDT	230	220..240 VAC	1..10 min		
							400	380..415 VAC	10..100 min		
							901	15..70 VAC/DC	1..10 h		
							902	60..240 VAC/DC	10..100 h		

To compose the reference, select one option of each column. Example: **PTMA U40 100**

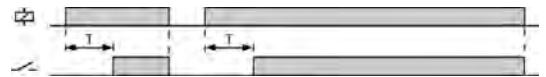
Connection diagram	PTMA / PTMB		DTMA / DTMB	

FUNCTIONS AND DIAGRAMS

WITHOUT USING THE EXTERNAL INPUT

**Delay on operate**

When the supply voltage is connected the relay remains released and the time circuit starts up. Once the preset time is elapsed, the relay operates and remain so for an undefined time.

**Interval on operate**

When the supply voltage is connected the relay operates immediately and the time circuit starts up. Once the preset time is elapsed, the relay releases and remain so for an undefined time.

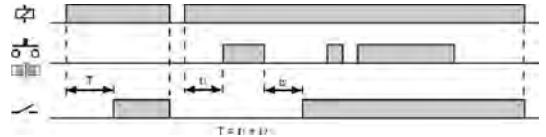


DELAY ON OPERATE, USING THE EXTERNAL INPUT

**With time storage, without memory**

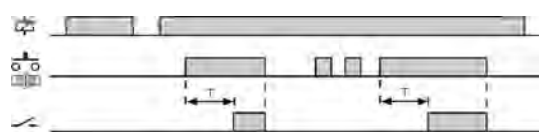
When the supply voltage is connected the relay remains released and the time circuit starts up. If the external input is activated before the preset time is elapsed, the time circuit stops. When the input is released, the time circuit follows from the point where it stopped previously. When the time accumulated is greater than the preset time, the relay operates and remains so for an undefined time.

The absence of power supply causes the time and relay reset.

**While the input is activated**

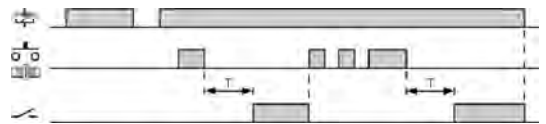
When the supply voltage is connected, if the external input is not activated there is no effect on the system. When the input is activated the time circuit starts up. Once the preset time is elapsed, the relay operates and remains so until the external input or the supply voltage are deactivated.

The succession of input pulses with a cadence less than the preset time brings about the reset of the time.

**When the input is deactivated**

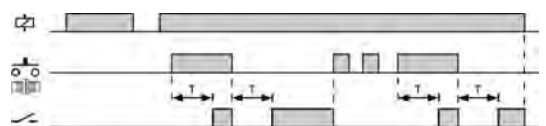
When the supply voltage is connected there is no effect on the system regardless of the state of the external input. When the input is activated, the relay remains released and when it is deactivated the time circuit starts up. Once the preset time is elapsed, the relay operates and remains so until the input is again activated or the supply voltage is disconnected.

The succession of input pulses with a cadence less than the preset time brings about the reset of the time.

**When the input is activated and when it is deactivated**

When the supply voltage is connected there is no effect on the system regardless of the state of the external input. When the input is activated, the relay remains released and the time circuit starts up. Once the preset time is elapsed, the relay operates. When the input is deactivated, the relay releases and the time circuit starts up again. Once the preset time is elapsed, the relay operates.

The succession of input pulses with a cadence less than the preset time brings about the reset of the time.

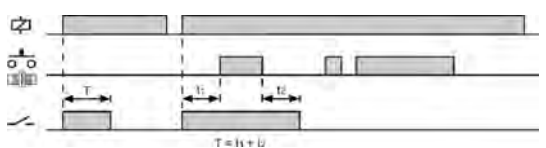


INTERVAL ON OPERATE, USING THE EXTERNAL INPUT

**With time storage, without memory**

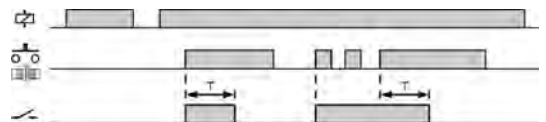
When the supply voltage is connected the relay operates immediately and the time circuit starts up. If the external input is activated before the preset time is elapsed, the time circuit stops. When the input is released, the time circuit follows from the point where it stopped previously. When the time accumulated is greater than the preset time, the relay releases and remains so for an undefined time.

The absence of power supply causes the time and relay reset.

**While the input is activated**

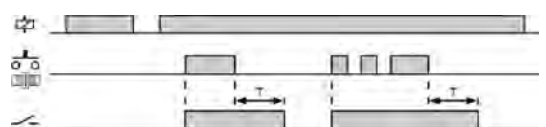
When the supply voltage is connected, if the external input is not activated there is no effect on the system. When the input is activated the relay operates immediately and the time circuit starts up. Once the preset time is elapsed, the relay releases and remains so until the external input is again activated.

The succession of input pulses with a cadence less than the preset time brings about the reset of the time.

**When the input is deactivated**

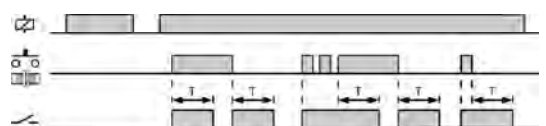
When the supply voltage is connected, if the external input is not activated there is no effect on the system. When the input is activated the relay operates immediately and when it is deactivated the time circuit starts up. Once the preset time is elapsed, the relay releases and remains so until the external input or the supply voltage are deactivated.

The succession of input pulses with a cadence less than the preset time brings about the reset of the time.

**When the input is activated and when it is deactivated**

When the supply voltage is connected there is no effect on the system regardless of the state of the external input. When the input is activated, the relay operates immediately and the time circuit starts up. Once the preset time is elapsed, the relay releases. When the input is deactivated, the relay operates and the time circuit starts up again. Once the preset time is elapsed, the relay releases.

The succession of input pulses with a cadence less than the preset time brings about the reset of the time.



		PTMA	PTMB	DTMA	DTMB	
Output relays						
	Resistive load	AC	10 A / 250 V	8 A / 250 V	10 A / 250 V	8 A / 250 V
		DC	0,4 A / 200 V 10 A / 24 V	0,25 A / 200 V 8 A / 24 V	0,4 A / 200 V 10 A / 24 V	0,25 A / 200 V 8 A / 24 V
	Inductive load	AC	5 A / 250 V	2,5 A / 250 V	5 A / 250 V	2,5 A / 250 V
		DC	5 A / 24 V	4 A / 24 V	5 A / 24 V	4 A / 24 V
	Mechanical life		> 30 x 10 ⁶ operations		> 30 x 10 ⁶ operations	
	Max. switching rate, mech.		72.000 operations / hour		72.000 operations / hour	
	Electrical life at full load		360 operations / hour		360 operations / hour	
	Contact material		AgNi 90/10		AgNi 90/10	
	Maximum voltage		440 VAC		440 VAC	
Operating voltage		250 VAC		250 VAC		
Volt. between changeovers		2500 VAC		2500 VAC		
Voltage between contacts		1000 VAC		1000 VAC		
Voltage coil/contact		5000 VAC		5000 VAC		
Distance coil/contact		10 mm		10 mm		
Isolation resistance		> 10 ⁴ MΩ		> 10 ⁴ MΩ		

	AC		DC		ACDC	
	PTMA / PTMB	DTMA / DTMB	PTMA / PTMB	DTMA / DTMB	PTMA / PTMB	DTMA / DTMB
Galvanic isolation	4000 v		No		9XX: 2500 v ~ UXX: No	
Consumption	1,6 VA		1,2 W		9XX: 1,6 W ~ UXX: 1,7 W	
Frequency	50/60 Hz		-		-	
Operating margins	± 15%		± 10%		-	
Positive	-		Terminal 2	Terminal A1	Terminal 2	Terminal A1
Protected polarity	-		Yes		Yes	

	PTMA / PTMB	DTMA / DTMB
Voltage phase-neutral	300 V	300 V
Overvoltage category	III	III
Rated impulse voltage	4 kV	4 kV
Pollution degree	2	2
Protection	IP 20 B	IP 20
Approximate weight	250 g	280 g
Storage temperature	-50°C..+85°C	-50°C..+85°C
Operating temperature	-20°C..+50°C	-20°C..+50°C
Humidity	30..85% HR	30..85% HR
Housing	Cycloley - Light grey	Cycloley - Light grey
Socket	Lexan - Light grey	-
Leds cover	Lexan - Transparent	Lexan - Transparent
Button, terminal block, clip	Technyl - Dark blue	Technyl - Dark blue
Pins of the socket	Nickel brass	-
Pins of the terminal block	-	Brass

Approvals: Designed and manufactured under EEC standards. Electromagnetic compatibility, directive **EMC 2004/108/CEE** (UNE-EN 61000 6-4/2007/A1:2011, UNE-EN 61000 6-2/2006). Electric safety, directive **LVD 2006/95/CEE** (UNE-EN-60204-1/2007/A1:2009; UNE-EN 61010-1/2011). Directive about certain hazardous substances **2011/65/CEE** de 8/06/2011 Pb, Hg, Cd, Cr+6, PBB, PBDE. Plastics: **UL 91 V0**.

	PTMA / PTMB	DTMA / DTMB
Dimensions		