Multifunction timers RT20/RT31

RT20: 4 functions in the same unit:
Delay on release, delay on operate,
interval timer and symmetrical recycler.

RT31: Asymmetrical recycler, 4 different funtcions.

16 time ranges/combinations in the same unit.

1- or 2-pole relay output.

DC supply or AC supplies up to 230 VAC

Made in accordance with the CE and EMC regulations

Technical data, RT20:

By means of a rotary switch on top of the module, the timer can be programmed to 4 different functions and 4 time ranges. The unit is available with 3 different supply voltages and 3 time combinations, see specifications and table.

Supply voltage: 24 V AC/DC, 115 and 230 VAC +/- 10%

Power consumption: Max. 2 W

Operation temp.: -20°C to +60°C

Humidity: 0 - 90% RH, non-condensing

Indications:
Green LED: Supply voltage connected
Red LED: Relay active

Time adjustment: 2,5 - 100 % of the range

Accuracy, scale: 5 %.

Repeatability: 0,1 %

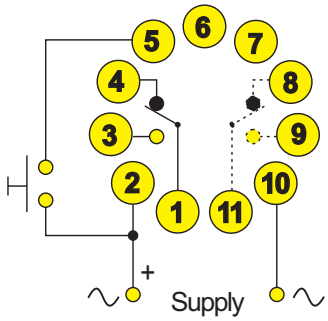
Max. load, relay: 1-pole 8 A - 250 VAC
2-pole: 5 A - 250 VAC, ohmic load

EMC og safety regulations.

Emmision: EN 50 081 - 1
Immunity: EN 50 082 - 2
Safety: EN 60 730

Approvals: The units are produced in accordance with the CE og low voltage regulations.

Connections:

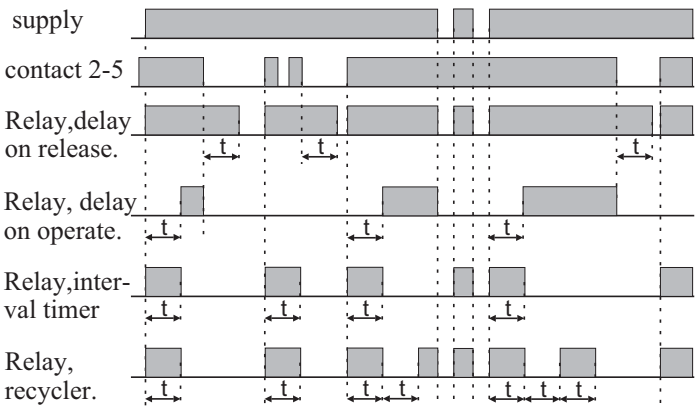


Note:
Delay on release function must be controlled by the contact input, with supply voltage permanently connected.
The other functions can be controlled by the supply voltage alone (pins 2 and 5 connected), or combined with the contact input.

Time ranges and selection of function

switch	function	Time ranges, type variant M1	M2	M3
0	Delay on release	0,06- 2,5 s.	0,4- 15 s.	0,06- 2,5 m.
1		0,25- 10 s.	1,5- 60 s.	0,25- 10 m.
2		2- 80 s.	0,2- 8 m.	2- 80 m.
3		16- 640 s.	1,6- 64 m.	16- 640 m.
4	Delay on operate	0,06- 2,5 s.	0,4- 15 s.	0,06- 2,5 m.
5		0,25- 10 s.	1,5- 60 s.	0,25- 10 m.
6		2- 80 s.	0,2- 8 m.	2- 80 m.
7		16- 640 s.	1,6- 64 m.	16- 640 m.
8	Interval timer	0,06- 2,5 s.	0,4- 15 s.	0,06- 2,5 m.
9		0,25- 10 s.	1,5- 60 s.	0,25- 10 m.
A		2- 80 s.	0,2- 8 m.	2- 80 m.
B		16- 640 s.	1,6- 64 m.	16- 640 m.
C	Symmetrical recycler	0,06- 2,5 s.	0,4- 15 s.	0,06- 2,5 m.
D		0,25- 10 s.	1,5- 60 s.	0,25- 10 m.
E		2- 80 s.	0,2- 8 m.	2- 80 m.
F		16- 640 s.	1,6- 64 m.	16- 640 m.

Functional diagram:



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Technical data, RT31:

By means of a rotary switch on top of the module, the timer can be programmed to 16 different time combinations.
The unit is available with 3 different supply voltages and 3 time combinations, see specifications and table.

Supply, AC: 24, 115 and 230 VAC +/- 10%

Supply frequency: 40-70 Hz

Universal supply: 12-50 VAC/DC

Isolation voltage: Supply - internal - output: 3.75 kV

Supply, DC: 24 VAC/DC +/- 10%
With DC-supply there is no isolation between supply and internal electronics.

Power consumption: 2.5 VA

Operation temp.: -20°C to +60°C

Humidity: 0 - 90% RH, non-condensing

Indications:
Green LED: Supply voltage connected
Red LED: Relay active

Time adjustment: 2 potentiometers, scale 2,5 - 100 % of the range, for separate adjustments of pause- and pulse time.

Accuracy, scale: 5 %.

Repeatability: 0,1 %

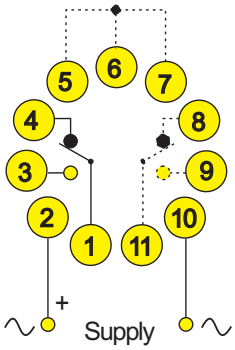
Max. load, relay: 1-pole 8 A - 250 VAC
2-pole: 5 A - 250 VAC, ohmic load

EMC og safety regulations.

Emmision: EN 50 081 - 1
Immunity: EN 50 082 - 2
Safety: EN 60 730

Approvals: The units are produced in accordance with the CE og low voltage regulations.

Connections:



Time adjustment with external potentiometers:

ON request, the RT31 is available for 2 external potentiometers (0-1 M). The type number is RT31E. This variant is only available with 1-pole relay output.

Selection of function:

On pins 5, 6 and 7, the recycler is programmable for 4 different functions :

ex. 1: Asymmetrical recycler, start with pause: no connections.

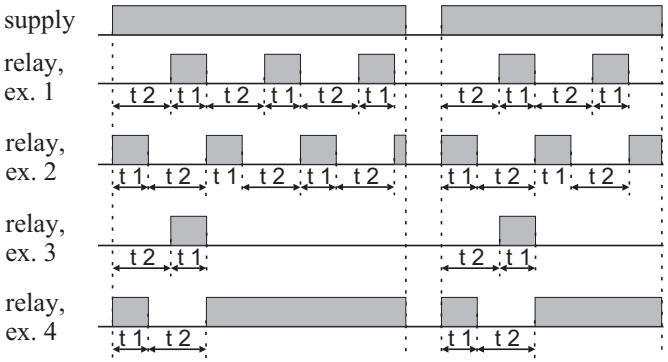
ex. 2: Asymmetrical recycler, start with pulse time: connect pins 6 and 7.

ex. 3: Delayed interval timer: connect pins 5 and 7.

ex. 4: Interval timer + delay on operate: connect pins 5, 6 and 7.

Time combinations				
switch	variant M1 (seconds) or M3 (minutes)		Variant M2	
	Pause time	Pulse time	Pause time	Pulse time
A 9 8 B	0,06- 2,5	0,06- 2,5 0,25- 10 2- 80 16- 640	0,4- 15 s.	0,4- 15 s. 1,5- 60 s. 0,2- 8 m. 1,6- 64 m.
6 5 4 7	0,25- 10	0,06- 2,5 0,25- 10 2- 80 16- 640	1,5- 60 s.	0,4- 15 s. 1,5- 60 s. 0,2- 8 m. 1,6- 64 m.
2 1 0 3	2- 80	0,06- 2,5 0,25- 10 2- 80 16- 640	0,2- 8 m.	0,4- 15 s. 1,5- 60 s. 0,2- 8 m. 1,6- 64 m.
E D C F	16- 640	0,06- 2,5 0,25- 10 2- 80 16- 640	1,6- 64 m.	0,4- 15 s. 1,5- 60 s. 0,2- 8 m. 1,6- 64 m.

Functional diagram:



t 1 = pulse time t 2 = pause time

Ordering guide:

Supply	Type number
12-50 VDC	RT31-x-4-012-yy (RT31 only)
24 VAC/DC	RT31-x-2-024-yy
24 VAC	RT31-x-1-024-yy
115 VAC	RT31-x-1-115-yy
230 VAC	RT31-x-1-230-yy

x = output relay 1: 1-pole
2: 2-pole

yy = time range M1: 0,06 - 640 sec.
M2: 0,4 sek. - 64 min.
M3: 0,06 - 640 min.

Note: The type number is shown for RT31, but the same principle is used for RT20.

Ordering example:
RT20-2-1-230-M2

Mechanical dimensions etc.: see page 9-2

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