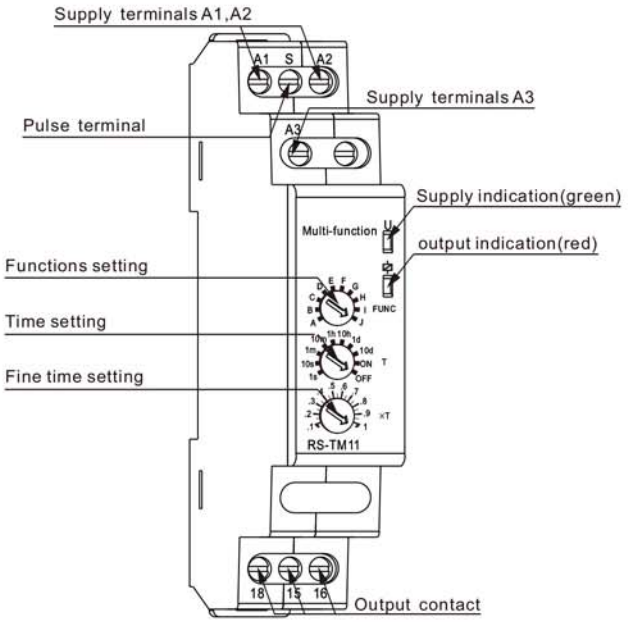
☐ Features

- Microcontroller based
- Modular design, 18mm wide housing
- 10 operating modes
- 10 time ranges(1s,10s,1m,10m,1h,10h,1d,10d,ON,OFF)
- 1 changeover contact
- LED indication for power supply and relay status
- DIN-Rail mounting

☐ Technical data

Models	ESRS-TM11	ESRS-TM12
Supply terminals	A1,A2	A1,A2,A3
Pulse terminal	S	
Supply voltage	AC 220V	A1-A2: AC 220V A3-A2: AC/DC 24V
Rated frequency	50/60Hz	
Time range	0.1s-10days	
Setting accuracy	<5%	
Repetition accuracy	<0.2%	
Output contacts	1 C/O	
Current rating	8A /AC1	
Contacts capacity	AC-15: 2A	
Insulation voltage	250V	
Protection degree	IP20	
Pollution degree	3	
Electrical life	10^5	
Mechanical life	10^6	
Altitude	≤2000m	
Ambient temperature	-5°C~+40°C	
Storage temperature	-10°C~+50°C	
Wire size	0.5mm²~1mm²	
Torque	0.5Nm	
Mounting	TH-35 DIN-Rail	

☐ Front-face panel



☐ Time range

0.1-1s

1-10s

0.1-10min

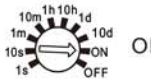
1-10min

0.1-1h

1-10h

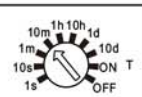
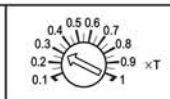
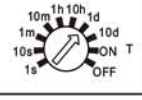
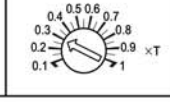
0.1-1days

1-10days

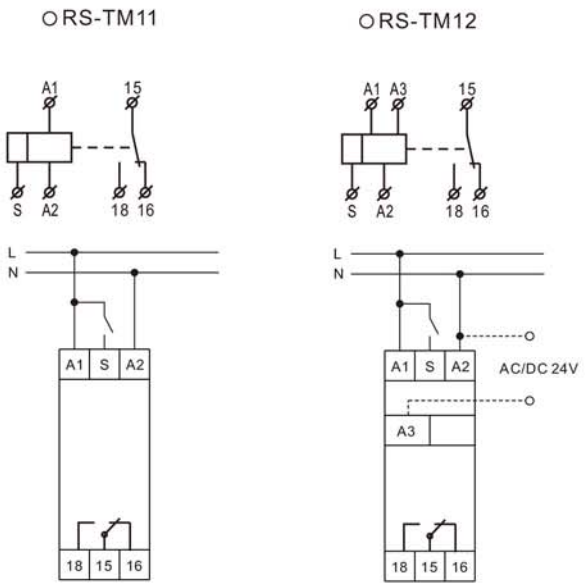


ON

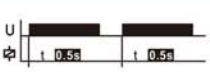
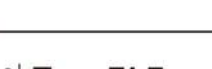
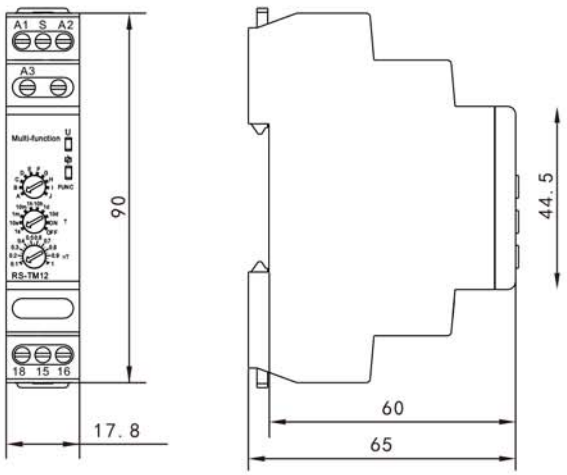
OFF

		**Time adjustment:** t=10m x 0.3=3min
		**Time adjustment:** t=1d x 0.7=0.7day

☐ Wiring diagrams



☐ Function diagrams

A			SWITCH ON DELAY - after the supply voltage has been applied the time t measurement starts. After the time is over the relay switches on (pos.15-18). The next switch on interval appears after power supply voltage reset.
B			SWITCH OFF DELAY - after the supply voltage has been applied, the relay switches on immediately (pos.15-18), and the preset time t is measured. After the preset time t has been measured, the output relay returns to the initial state (pos.15-16).
C			FLASHER STARTING WITH OFF - (Starting from the switch off position). After the supply voltage has been applied, the preset time t is measured. After the time t is over, the relay switches on (pos.15-18) and the preset time t is measured once more. After the preset time t is over, the output relay returns to the initial state (pos.15-16), and the next operating cycle of the relay starts. The relay operates until the supply voltage is removed.
D			FLASHER STARTING WITH ON - (Starting from the switch on position). After the supply voltage has been applied, the relay is switched on immediately (pos.15-18) and the preset time t is measured. After the time t is over, the relay switches off (pos.15-16) and the preset time t is measured once more. After the preset time t is over, the relay R returns to the initial state, and the next operating cycle of the relay starts. The relay operates until the supply voltage is removed.
E			DELAY IMPULSE GENERATION 0,5 s - after the supply voltage has been applied the time measure t starts. After the time is over the relay switches on (pos. 15-18) for 0,5s, and switches off (pos.15-16). The next switch on interval appears after power supply voltage reset.
F			TIME IMPULSE RELEASED BY RISING EDGE - after the impulse release has been applied to the powered system (rising edge) it switches on the relay (pos. 15-18), and starts to measure the preset time. After the time t is over the relay switches off (pos.15-16). Impulse time duration is not important here.
G			TIME IMPULSE RELEASED BY FALLING EDGE - powered system switches on the relay after impulse release fades (falling edge)(pos. 15-18) and time measurement starts. The relay is switched off after time t is over. The following impulse release fades during time measurement does not cause time measure from the beginning (non-retriggerable).
H			SWITCH ON/OFF DELAY - after the impulse release has been applied to the powered system (rising edge) let the relay be switched off (pos.15-16), at the same time, starts the preset time t measurement. After the time is over the relay is switched on (pos. 15-18). After the impulse release fade is detected (falling edge), the system starts preset time measurement again after it is over the relay is switched off (pos.15-16). In case the impulse duration is shorter than the preset time t the relay is switched on for the t time only
I			BISTABLE RELAY WITH TIME LIMIT - after the impulse release has been applied to the powered system (rising edge) it switches on the relay (pos. 15-18), and starts to measure the preset time. The relay is switched off during the next impulse release (rising edge) or after time t is over if there was no such impulse occurrence. Impulse time duration is not important for system operating.
J			TIME IMPULSE RELEASED BY RISING EDGE WITH SWITCH OFF DELAY (retriggerable) - after the impulse release has been applied to the powered system (rising edge) it switches on the relay (pos. 15-18). After the impulse release fade is detected (falling edge), the system starts preset time measurement again and when it is over the relay is switched off (pos.15-16). The following impulse release fade during time measurement causes from the beginning(retriggerable).

☐ Dimensions