

MULTIPLE-FUNCTION TIME RELAYS



Multiple-function time relays

- For switching of electric circuits up to 8 A depending on the set time, function and connection
- Mainly for automation purposes
- They can be used as a stair switch
- Time range: 0.1 s ÷ 100 h
- Big number of functions with various control options: delayed operation, impulse after switching on, interval relay beginning with a pause/impulse, reaction to leading/trailing edge, reaction to connection/disconnection of supply voltage, reaction only to a control impulse edge, ...
- Supply voltage: 230 V a.c. or universal (12 ÷ 230 V a.c./d.c.)
- Time and function setting by knobs and change-over switches on the front panel of the device
- Light indication at contact closing 15-18
- Light indication of presence of supply voltage
- Each impulse led on input T causes restart of timing depending on the set function

Rated voltage U_n	Type	Product code	Number of modules	Weight [kg]	Package [pcs]
230 V a.c.	MCR-08-001-A230	35568	1	0.115	1
universal ¹⁾	MCR-08-001-UNI	35569	1	0.115	1

¹⁾ Universal rated voltage = 12 ÷ 230 V a.c. / d.c.



Accessories

Compensation block

- It enables control of the relay by 1 to 3 control push-buttons with glow discharge tube
- Connection: parallel with MCR
- Rated voltage: 230 V a.c.
- Max. voltage : 400 V a.c.
- Capacity: 3 x 1 µF

Type	Product code	Number of modules	Weight [kg]	Package [pcs]
OD-MIR-BK	35677	1	0.05	1

MULTIPLE-FUNCTION TIME RELAYS**Description****Change-over switch Un and TL**

- for setting of starting method:
 - Un – relay starts at connection of supply voltage or application of impulse on T terminal
 - TL – relay starts by impulse application on terminal T

Change-over switch \lrcorner and \llcorner

- for setting of response to control pulse edge
 - \lrcorner – leading edge of the control impulse
 - \llcorner – trailing edge of the control impulse

Change-over switches IZ/ZP and MON/AST

- for function setting (for function table see page D31)
 - IZ – impulse after switching ON
 - ZP – delayed operation
 - MON – monostable function
 - AST – astable function

Control knobs

- for switching time setting
 - upper dial – defines time range – 1 s, 10 s, 1 min, 10 min, 1 hour, 10 hours, 100 hours
 - lower dial – for setting of a multiple of the time range (0.05 ÷ 1)

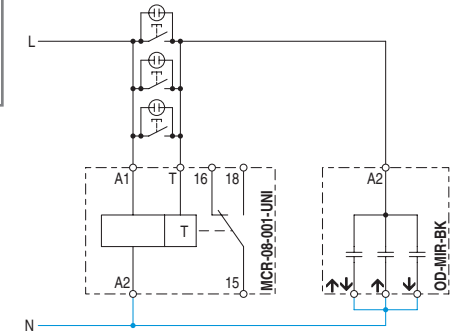
minimum set time: 0.1 s
maximum set time: 100 hours

Terminals A1-A2 for connection of supply voltage

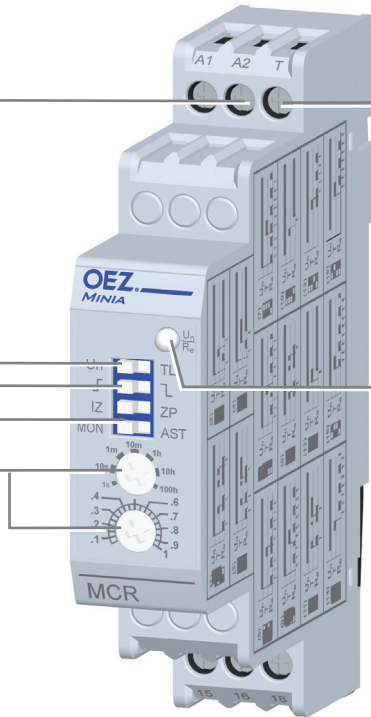
- Rated voltage $U_n = 12 \div 230$ V a.c. / d.c. or 230 V a.c.
- In AC circuits L and N conductors can be arbitrarily connected to terminals A1, A2.
- In DC circuits the (+) conductor must be connected to terminal A1, and (-) to terminal A2.

Terminal T for control of relay

- Control impulse can be excited by connection of A1-T
- Min./max. excitation time: 15 ms/compensated
- The relay can be controlled by 1 to 3 control push-buttons with a glow discharge tube provided a power-factor capacitor $3 \mu\text{F} / 400$ V is connected between terminals A2-T- see connection diagram. For compensation it is possible to use the compensation block OD-MIR-BK.


**Indication**

- indication of operational states is solved by two-colour LED
 - presence of supply voltage U_n is indicated by green colour
 - presence of supply voltage U_n and closed contact 15-18 R_e is indicated by orange colour



MULTIPLE-FUNCTION TIME RELAYS

Specification

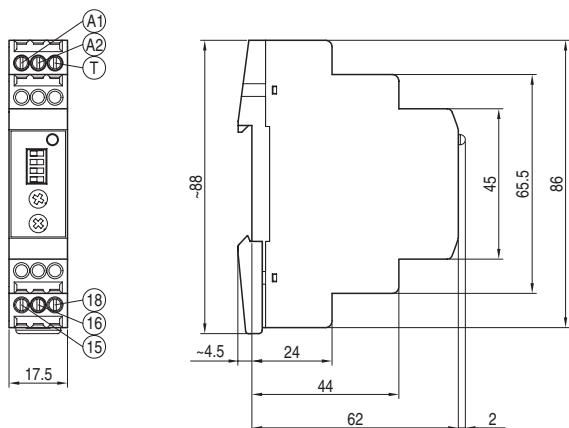
Type	MCR-08-001-...	
Standards	EN 61812-1	
Approval marks		
Main circuit (contact)		
Sequence ¹⁾	001	
Rated operating voltage	U_e	250 V a.c., 24 V d.c.
Rated current	I_n	8 A
Max. switched power	2000 VA / 192 W	
Max. switched voltage	380 V a.c. / 150 d.c.	
Min. voltage / current	5 V d.c. / 10 mA	
Mechanical endurance	5 000 000 operating cycles	
Electrical endurance	100 000 operating cycles	
Connection	0.2 ÷ 2.5 mm ²	
Torque	0.5 Nm	
Control circuit		
Rated voltage	U_n	230 V
		12 ÷ 230 V a.c. / d.c.
Dwell between applied U_n	0.1 s	
Consumption at U_n	at 12 / 230 V a.c.	1.5 VA / 8 VA
	at 12 / 230 v d.c.	0.5 W / 4 W
Rated frequency	50 Hz	
Connection	0.2 ÷ 2.5 mm ²	
Torque	0.5 Nm	
Control impulse		
Excitation ²⁾	through interconnection of A1-T	
Min. excitation time	15 ms	
Max. excitation time	unlimited	
Consumption at U_n	at 12 / 230 V a.c.	0.5 VA / 0.5 VA
	at 12 / 220 V d.c.	1 W / 1 W
Time circuit		
Range	0.1 s ÷ 100 hod	
T setting method	control knobs on the front panel	
Stability of set value at permanent power supply	max. 2 % t	
Other data		
Mounting on "U" rail according to EN 60715 - type	TH 35	
Degree of protection	IP20	
Ambient temperature	-20 ÷ + 50 °C	
Working position	arbitrary	
Seismic immunity	3g / 8 ÷ 50 Hz	

¹⁾ Each digit indicates successively the number of make, break and break-make contacts

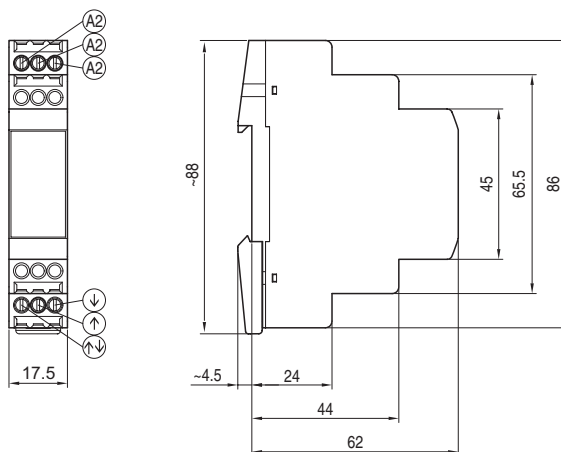
²⁾ The relay can be controlled by 1 to 3 control push-buttons with a glow discharge tube provided, a power-factor capacitor 3 µF / 400 V is connected between terminals A2-T. For compensation it is possible to use so called "Compensation block OD-MIR-BK" (1 module on DIN rail).

Dimensions

MCR-08-001-..



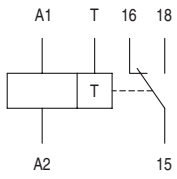
OD-MIR-BK



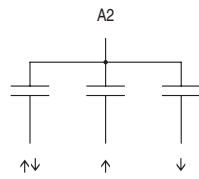
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Diagram

MCR



OD-MIR-BK



Graph

