GB

Eltako ELECTRONICS

Universal voltage multifunction time relay MFZ12 with 18 functions and universal voltage time relays EZ12RV/AV/ARV/TI/EAW

CE

1 CO contact potential free 10 A/250 V AC.
Standby loss 0.4 watt only.

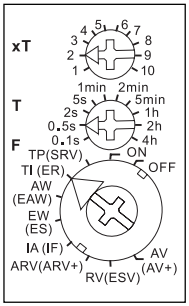
Universal control voltage from 8 to 230 V UC.
Supply voltage same as control voltage.

Bistable relay as relay contact. The switched consumer may not be connected to the mains before the automatic synchronisation after installation has terminated.

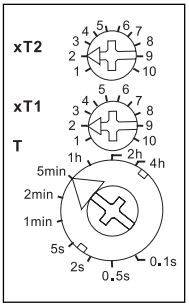
Multifunction time relay	**MFZ12-8..230 V UC**
Release delay (OFF delay)	**EZ12RV-8..230 V UC**
Operate delay (ON delay)	**EZ12AV-8..230 V UC**
Operating and release delay	**EZ12ARV-8..230 V UC**
Clock generator (flasher relay)	**EZ12TI-8..230 V UC**
Passing make- and passsing break-contact EW+AW+EAW	**EZ12EAW-8..230 V UC**

Function rotary switches

MFZ12



EZ12ARV/TI



LED
below the big rotary switch indicates the contact position while time-out is in progress. It blinks while the relay contact 15-18 is open (15-16 closed), and is continuously ON as long as the relay contact 15-18 is closed (15-16 open).

Time base T
is selected by means of the middle, latching rotary switch **T**. Time-base figures available are 0.1 seconds, 0.5 seconds, 2 seconds, 5 seconds, 1 minute, 2 minutes, 5 minutes, 1 hour, 2 hours and 4 hours. The total time is obtained by multiplying the time base by the multiplier.

Multiplier xT
is set on the upper, latching rotary switch **xT** and is in the range from 1 to 10. Thus, time settings can be selected in the range from 0.1 second (time base 0.1 second and multiplier 1) and 40 hours (time base 4 hours and multiplier 10).

Only MFZ12: According to the connection of the power supply to the terminals B1 or B2 two different level of settings can be selected:

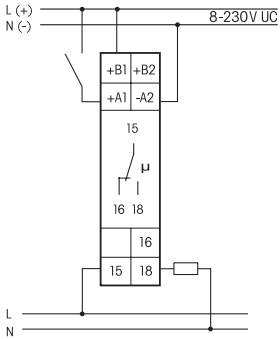
Functions F with connection of the power supply to B1-A2

RV = release delay
AV = operate delay
TI = clock generator starting with impulse
TP = clock generator starting with pause
IA = impulse controlled operate delay (for example: automatic door-opener)
EW = passing make-contact
AW = passing break-contact
ARV = operate and release delay
ON = permanent ON
OFF = permanent OFF

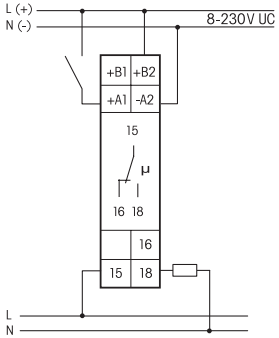
Functions (F) with connection of the power supply to B2-A2

SRV = release-delay impulse switch
ER = relay
EAW = passing make contact and passing break contact
ES = impulse switch
IF = pulse shaper
ARV+= additive operate and release delay
ESV = impulse switch with release delay and early-warning function
AV+ = additive operate delay
ON = permanent ON
OFF = permanent OFF

Typical connection for MFZ12 Functions F and EZ12RV/AV/ARV/TI/EAW



Typical connection for MFZ12 Functions (F)



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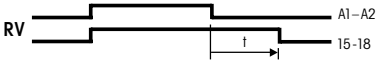
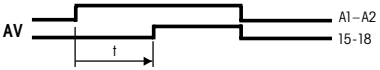
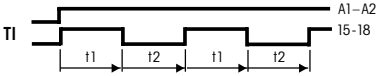
Description of functions of time relays MFZ12 and EZ12..



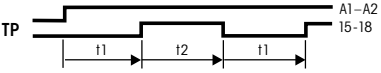
When the control voltage is applied the make-contact switches to 15-18. As the control voltage is interrupted the timing period is started; on time-out the make-contact returns to normal position 15-16. Resettable during the timing period.



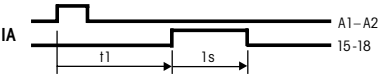
When the control voltage is applied the timing period is started; on time-out the make-contact changes to 15-18. After an interruption, the timing period is restarted.



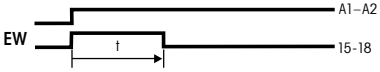
As long as the control voltage is applied the make-contact opens and closes. On MFZ12 the changeover time in both directions is identical, and is equal to the preset time. On EZ12TI both times can be set separately (identical time base, but additional multiplier). When the control voltage is applied the make contact immediately changes to 15-18.



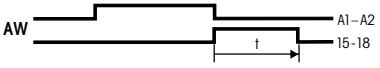
Description of function same as for TI, except that, when the control voltage is applied, the contact initially remains at 15-16 rather than changing to 15-18.



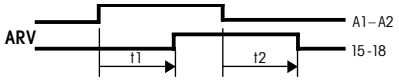
With a control impulse from 50 ms the timing period t1 starts; on time-out the make-contact changes for 1 second to 15-18 for (e.g. for automatic door opener). If t1 is set to t1 min = 0.1 seconds, the IA operates as pulse shaper, at which runs down 1 second, independent from duration of the control impulse (min. 150 ms).



When the control voltage is applied the make-contact changes to 15-18 and reverts on wiping time-out. If the control voltage is removed during the wiping time the make-contact immediately reverts into resting postition and the residual time is cancelled.



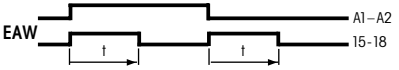
When the control voltage is interrupted the make-contact changes to 15-18, and reverts on wiping time-out. If the control voltage is applied during the wiping time the make-contact immediately reverts into resting position and the residual time is cancelled.



When the control voltage is applied the timing period starts; on time-out the make-contact changes to 15-18. If the control voltage is interrupted then, another timing period is started and, on time-out, the make-contact reverts to normal position. On MFZ12 this release delay is identical to the operating delay. On EZ12ARV both times can be set separately (identical time base, but additional multiplier). After an interruption of the operating delay, the timing period is restarted.

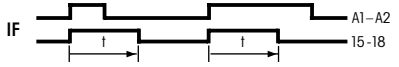
SRV = Release-delay impulse switch
With control impulses from 50 ms the make contact switches to and fro. In position 15-18 it will be automatically switched to 15-16 after the delay time has elapsed.

ER = Relais
As long as the control contact is closed the make contact reverts from 15-16 to 15-18.



When the control voltage is applied and interrupted the make-contact changes to 15-18 and reverts on wiping time-out.

ES = Impulse switch
With control impulses from 50 ms the make contact switches to and fro.



When the control voltage is applied the make-contact changes for the time set to 15-18. Further control impulses will only be evaluated after the set time has elapsed.

ARV+ = Additive operate and release delay
Same function as ARV, but after an interruption of the operate delay the elapsed time will be stored.

ESV = Impulse switch with release delay and early-warning function
Same function as SRV, but with additional early warning function: 30 seconds before time out the light starts flickering 3 times in shorter time periods.

AV+ = Additive operate delay
Same function as AV, but after an interruption the elapsed time will be stored.

The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Warning!

Only a trained electrician may install this equipment, otherwise there is a risk of fire or electric shock.