



23 001 006 - 2



**Fully electronic multifunction
time relay MFZ12PMD-UC with
18 functions**

**Only skilled electricians may install this
electrical equipment otherwise there is
the risk of fire or electric shock!**

Temperature at mounting location:
-20°C up to +50°C.
Storage temperature: -25°C up to +70°C.
Relative humidity:
annual average value <75%.

**Power MOSFET with almost unlimited
number of circuits up to 400 W. Automatic
lamp detection. Standby loss 0.3 watt only.
Dim down to minimum brightness and up
to maximum brightness and Soft ON / soft
OFF are also adjustable for lamp circuit.**
Modular device for DIN EN 60715 TH35 rail
mounting. 1module = 18 mm wide, 58 mm deep.
Digital settable and fully electronic multi-
function time relay for lamps up to 400 W
depending on the ventilation conditions.
Dimmable energy saving lamps and dimma-
ble 230 V LED lamps are also dependent on
the lamps electronics.

If **minimum brightness** is not set to 0, the
circuit is not switched off but dimmed down
to the set percentage.

**Up to 3600 W with capacity enhancers
LUD12-230V at the terminals X1 and X2.**
Universal control voltage 12 to 230 V UC
and additionally the universal voltage control in-
puts 8 to 230 V UC central ON and central OFF.
The control inputs are electrically isolated
from the supply voltage and switching voltage.
Zero passage switching to protect lamps.
Glow lamp current up to 5 mA starting at 110 V.
Automatic electronic overload protection
and over-temperature switch-off.

Enter both the functions and the times using
the two buttons MODE and SET. The functions
and times are indicated digitally on an LC
display. The time can be set by entering all
values within the preselected time scale (0.1

to 9.9 or 1 to 99 seconds, minutes or hours).
The longest time is 99 hours. This permits
600 time settings. The time(s) entered is
(are) permanently displayed digitally.

Settable functions

- RV** = release delay
 - AV** = operate delay
 - AV+** = additive operate delay
 - TI** = clock generator starting with im-
pulse
 - TP** = clock generator starting with pause
 - IA** = impulse-controlled operate delay
 - IF** = pulse shaper
 - EW** = fleeting NO contact
 - AW** = fleeting NC contact
 - EAW** = fleeting NO contact and fleeting
NC contact
 - ARV** = operate and release delay
 - ARV+** = additive operate and release delay
 - ES** = impulse switch
 - SRV** = release-delay impulse switch
 - ESV** = impulse switch with release delay
and switch-off early-warning
function
 - ER** = relay
 - ON** = permanent ON
 - OFF** = permanent OFF
- With TI, TP, IA, EAW, ARV and ARV+ functions,
a different second time can be entered also
with different time ranges.

Functionality of the central inputs:

Central ON behaves like the local button for
all functions, except for the ES, ESV, and SRV
functions. For these functions, pressing the
button again does not deactivate the system.
Central OFF deactivates every function.

Setting the times and functions: The LCD
com ponent to be changed is selected by
pressing the MODE key. The component
accessed flashes. Press the SET key to
change the component accessed. This may
be the function, the time ranges, time T1 or
time T2 (on TI, TP, IA, EAW, ARV and ARV+ on-
ly). Pressing the MODE key terminates each
input. Once the time has been set with MODE,
no more components are flashing. The timing
relay is now ready to operate. Press the MODE
key again to restart the input cycle. All the
entered parameters are retained if they are
not changed using SET. 25 sec. after the last

operation and if the component still flashes
the input cycle is auto matically terminated
and the previously made changes lapse.

**Setting additional parameters valid for all
functions:** when you press the MODE button
for longer than 2 seconds, you access the
sub menu. Press the SET button to select
the parameter you want to change. Then
confirm by pressing MODE. Press SET to en-
ter the parameter and confirm by pressing
MODE. After the 'LED' submenu, you return
automatically to the main menu.

MIN = Minimum brightness in OFF state
settable to 0 and from 10 to 89 (%), factory
setting = 0.

MAX = Maximal brightness in ON state set-
table from 10 to 99 (%), factory setting = 99.
MAX must be at least 10 divisions above MIN.

RMP = Switch ON/OFF ramp (soft ON and
soft ON) adjustable from 0 = 10ms to 99 = 1s,
factory setting = 0.

LED = LED + for dimmable 230V LED lamps
which are not being dimmed down enough
when set to automatic mode (trailing phase
angle) dependent on the construction and
must therefore be forced to leading phase
angle, must be activated via MODE key, factory
setting = LED without +.

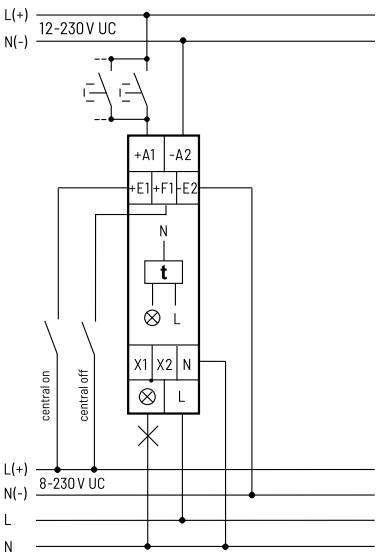
Functions of the LC display:

if you selected the functions ON or OFF, no
time is displayed. Instead an arrow indicates
either ON or OFF. In all other functions the set
time(s), the function abbreviation and an ar-
row next to ON and OFF display the switching
position. The clock symbol flashes while the
set time is elapsing and the remaining time is
shown.

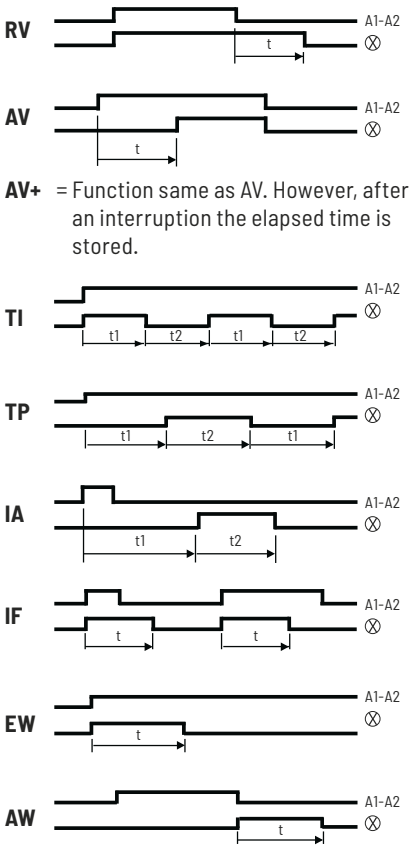
Safety in the event of a power failure:

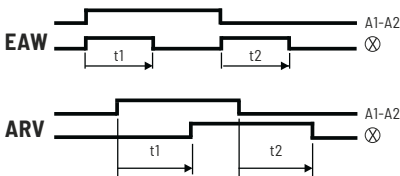
The set parameters are stored in an EEPROM
and are therefore immediately available
again when the power supply is restored
after a power failure.

Typical connection



Description of functions





ARV+= Same function as ARV, but after an interruption of the operate delay the elapsed time is stored.

ES = with control impulses from 50 ms it is switched on and off.

SRV = with control impulses from 50 ms it is switched on and off. In onposition it will be automatically switched off after delay time has elapsed.

ESV = Function same as SRV. Additionally with switch-off early warning: approx. 30 sec. before time-out the lighting starts flickering 3 times at gradually shorter time intervals.

ER = As long as the control contact is closed, it is switched on.

Program flow chart MFZ12PMD-UC:



Technical data	
Incandescent and halogen lamps 230 V (R)	up to 400 W ¹⁾
Inductive trans-formers (L)	up to 400 W ¹⁾²⁾³⁾
Electronic trans-formers (C)	up to 400 W ¹⁾³⁾
Dimmable energy saving lamps ESL	up to 400 W ⁵⁾
Dimmable LEDs	up to 400 W ⁵⁾
Max./min. temperature at mounting location	+50°C/-20°C ⁴⁾
Standby loss (activ power)	0,3 W

- ¹⁾ At a load of more than 50% ventilation clearance of 1/2 module to adjacent devices must be maintained. For capacity enhancement with **LOUD12-230V**, the LUD12-230V has to be set to the operating mode **capacity enhancement for one light** (⊗).
- ²⁾ Per dimmer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part.
- ³⁾ **When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) trans formers must be considered in addition to the lamp load.**
Mixing of L loads (inductive loads, e.g. wound trans formers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incan descent lamps and halogen lamps) may be added anytime.
- ⁴⁾ Affects the max. switching capacity.
- ⁵⁾ Usually applies for dimmable energy saving lamps ESL and dimmable 230 V LED lamps. Due to differences in the lamps electronics, there may be limited dimming range, switch on and off problems dependent on the manufacturer and a restriction on the maximum number of lamps; especially if the connected load is very low (for 5 W-LEDs). The setting LED+ only gives a maximum power up to 100 W. No inductive (wound) transformers may be dimmed in these positions.



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.

Manuals and documents in further languages:



<https://eltako.com/redirect/MFZ12PMD-UC>



Must be kept for later use!
We recommend the housing for operating instructions GBA14.

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