

MFZ12DDX-UC

1 CO contact potential free 10 A/250 V AC. 230 V LED lamps up to 200 W, incandescent lamps 2000 W*. Standby loss 0.05–0.5 watt only.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.
With the patented ELTAKO Duplex technology (DX) the normally potential-free contacts can still switch in zero passage when switching 230 V AC 50 Hz and therefore drastically reduce wear. Simply connect the neutral conductor to the terminal (N) and L to 15 (L) for this. This gives an additional standby consumption of only 0.1 Watt.
Universal control voltage 12 to 230 V UC. Supply voltage same as the control voltage.
Both functions and times are entered at the touch of a key and indicated digitally on an LC display.
Only two keys are required for this purpose.
When setting the time all values can be entered within preset time ranges (0.1 to 9.9 or 1 to 99 seconds, minutes or hours). The longest possible setting is 99 hours. 600 settings are possible. The time setting is continuously displayed digitally.
By using a bistable relay coil power loss and heating is avoided even in the on mode.
The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated.

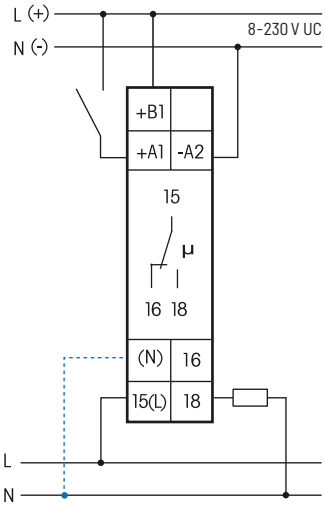
Functions (description page 13-21)

RV = off delay
AV = operate delay
AV+ = operate delay additive
TI = clock generator starting with impulse
TP = clock generator starting with pause
IA = impulse controlled pickup delay (e.g. automatic door opener)
IF = pulse shaper
EW = fleeting NO contact
AW = fleeting NC contact
ARV = operate and release delay
ARV+ = operate and release delay additive
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.
Setting the times and functions: The LCD component 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+ only). Pressing the MODE key terminates each input. Once the time has been set with MODE, no more components are flashing. The timing switch 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 automatically terminated and the previously made changes lapse.
Functions of the LC display: If the ON or OFF function was selected, no time is displayed, only ON and OFF and a contact symbol in the correct position. On all other functions, the set time, the function code and the contact symbol are shown in the correct position (open or closed). 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.

* The maximum load can be used starting at a delay time or clock cycle of 5 minutes.
The maximum load will be reduced for shorter times as follows: up to 2 seconds 15%, up to 2 minutes 30%, up to 5 minutes 60%.

Typical connection



If N is connected, the zero passage switching is active.

Manuals and documents in further languages:
https://eltako.com/redirect/MFZ12DDX-UC

Technical data page 13-22.
Housing for operating instructions GBA14 page 1-48 chapter 1.

MFZ12DDX-UC	Digital settable multifunction time switch, 1 CO contact 10 A	**Art. No. 23001004**	

Recommended retail prices excluding VAT.

Type	MFZ12DX-230V [b] MFZ12DBT [b] MFZ12DDX [b] MFZ12DX-UC [b] RVZ/AVZ/TGI/ EAW12DX [b]	MFZ12NP PTN12	A2Z12-UC [b]	MFZ61DX [b]	S2U12DDX [b] SU12DBT/1+1 [b] S2U12DBT [b] SU62PF-BT/UC [b]	ASSU-BT [b]
Contacts						
Contact material/contact gap	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm
Spacing of control connections/contact Spacing of control connections C1-C2/contact	6 mm –	3 mm 6 mm	6 mm –	6 mm –	6 mm –	–
Test voltage contact/contact	–	–	A2Z12: 4000 V	–	2000 V	–
Test voltage control connections/contact Test voltage C1-C2/contact	4000 V –	2000 V 4000 V	4000 V –	4000 V –	4000 V –	–
Rated switching capacity	10 A/250 V AC MFZ12DX/230V: 16 A/250 V AC	16 A/250 V AC	10 A/250 V AC	10 A/250 V AC	16 A/250 V AC S2U12DBT, SU62PF-BT/UC: 10 A/250 V AC	16 A/250 V AC
230 V LED lamps	up to 200 W [5] I on ≤ 120 A/5 ms	up to 200 W [5] I on ≤ 30 A/20 ms	up to 200 W [5] I on ≤ 120 A/5 ms	up to 200 W [5] I on ≤ 120 A/5 ms	up to 600 W [5] I on ≤ 120 A/5 ms SU62PF-BT/UC: bis zu 200 W [5] I on ≤ 120 A/5 ms	up to 400 W [5] I on ≤ 120 A/5 ms
Incandescent lamp and halogen lamp load [1] 230 V, I on ≤ 70 A/10 ms	2000 W [3]	2300 W [3]	1000 W [3]	2000 W [3]	2000 W [3]	2300 W [3]
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	1000 VA [3]	1000 VA [3]	500 VA [3]	1000 VA [3]	1000 VA [3]	1000 VA [3]
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	500 VA [3]	500 VA [3]	250 VA [3]	500 VA [3]	500 VA [3]	500 VA [3]
Compact fluorescent lamps with EVG* and energy saving lamps ESL	15x7 W 10x20 W [3][4][5]	15x7 W 10x20 W [3][5]	I on ≤ 35 A/10 ms [2][3][5]	15x7 W 10x20W [3][4][5]	15x7 W 10x20 W [3][4][5]	15x7 W 10x20 W [3][4][5]
Max. switching current DC1: 12 V/24 V DC	8 A	–	8 A	8 A	8 A	–
Life at rated load, cos φ = 1 for incandescent lamps 1000 W at 100/h	> 10^5	> 10^5	> 10^5	> 10^5	> 10^5	> 10^5
Life at rated load, cos φ = 0,6 at 100/h	> 4x10^4	> 4x10^4	> 4x10^4	> 4x10^4	> 4x10^4	> 4x10^4
Maximum conductor cross-section (3-fold terminal)	6 mm^2 (4 mm^2)	6 mm^2 (4 mm^2)	6 mm^2 (4 mm^2)	4 mm^2	6 mm^2 (4 mm^2)	–
Two conductors of same cross-section (3-fold terminal)	2.5 mm^2 (1.5 mm^2)	2.5 mm^2 (1.5 mm^2)	2.5 mm^2 (1.5 mm^2)	1.5 mm^2	2.5 mm^2 (1.5 mm^2)	–
Screw head	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead	slotted/crosshead, pozidriv	–
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP30/IP20	IP50/IP20	IP44
Electronics						
Time on	100%	100%	100%	100%	100%	100%
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Temperature dependence	< 0.2% per ºC	< 0.2% per ºC	< 0.2% per °C	< 0.2% per ºC	< 0.2% per ºC	< 0.2% je °C
Repeat accuracy at 25ºC	±0.1%	±0.1%	±0.1%	±0.1%	±0.1%	±0.1%
Control voltage dependence from 0.9 to 1.1x rated voltage	none	none	none	none	none	none
Stored energy time in the event of power failure (then total reset)	≥ 0.2 seconds	≥ 0.2 seconds	0.2 seconds	≥ 0.2 seconds	7 days	7 days
Standby loss (active power) 230 V	MFZ12DX/230V: 0.4-0.5 W MFZ12DBT: 0.3 W; MFZ12DDX: 0.5 W; MFZ12DX-UC: 0.4-0.6 W; RVZ/AVZ/TGI/EAW12: 0.4 W	0.5 W	0.4 W	0.4 W	0.3 W S2U12DDX: 0.5 W	0.3 W
Standby loss (active power) 12 V/24 V	0.02 W/0.04 W; MFZ12DDX: 0.05 W/0.1 W	–	–	0.02 W/0.04 W	0.03 W/0.06 W S2U12DBT, SU12DBT: 0.1 W	–
Control current 230 V-control input local ±20%	-	2 mA	2 mA; A2Z12: –	–	–	–
Control current universal control voltage 8/12/24/230 V (<10 s) ± 20%	0.05/0.1/ 0.2/1 mA	2/4/9/5 (100) mA	0.05/0.1/0.2/1 mA	0.05/0.1/ 0.2/1 mA	0.04/0.05/ 0.1/1.2 mA	–
Max. parallel capacitance (approx. length) of the control leads at 230 V AC	0.2 µF (600 m)	0.01 µF (30 m) C1-C2: 0.03 µF (100 m)	0.2 µF (600 m)	0.2 µF (600 m)	0.2 µF (600 m)	–

* EVG = electronic ballast units; KVG = conventional ballast units [b] Bistable relay as relay contact. The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated. [1] For lamps with a load of 150 W max. [2] A 40-fold inrush current must be calculated for electronic ballast devices. For steady loads of 1200 W or 600 W use the current-limiting relay SBR12 or SBR61. See chapter 14, page 14-8. [3] The maximum load can be used from a delay time or clock cycle of 5 minutes. The maximum load is reduced for shorter times as follows: up to 2 seconds 15%, up to 2 minutes 30%, up to 5 minutes 60%. [4] When using DX types close attention must be paid that zero passage switching is activated! [5] Usually applies for dimmable 230 V LED lamps and dimmable energy saving lamps. Due to different lamp electronics and depending on the manufacturer, the maximum number of lamps may be limited, especially if the wattage of the individual lamps is very low (e.g. with 2 W LEDs).

According to DIN VDE 0100-443 and DIN VDE 0100-534, the installation of a surge arrester (SPD) is mandatory.
ELTAKO offers suitable, standard-compliant surge arresters of types 1, 2, and 3 – see Chapter 8, "Surge Arresters."

Compliance with: EN 61000-6-3, EN 61000-6-1, EN 60 669 (S2U12DDX: EN 60730-1)