Technical Data Switching Actuators and Dimming Actuators for the Eltako RS485 Bus

Eltako ELECTRONICS

Contacts	FSA12, FSR12, FSB12, FHK12, F4H12, F4L12	FUD12, FUD12/800 [7] FKR12UD-12V DC FLS12UD-12V DC	FSG12/1-10V [b] FKR12/1-10V [b] FLS12/1-10V [b]	FMS12, FTN12 FFR12, FMZ12, FZK12 [b]	FMSR12
Contact material/contact gap	$AgSnO_2$/0.5 mm	Power MOSFET	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	OptoMOS
Test voltage control connections/contact	–	–	–	2000 V	4000 V
Rated switching capacity each contact	4 A/250 V AC	–	600 VA [5]	16 A/250 V AC; FMZ12: 10 A/250 V AC	50 mA
Incandescent lamp and halogen lamp load 230 V [2]	1000 W	up to 500W; FUD12/800W: up to 800W [1] [3] [4]	–	2000 W	–
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	500 VA	–	–	1000 VA	–
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	250 VA	–	600 VA [5]	500 VA	–
Compact fluorescent lamps with EVG* and energy saving lamps	8 x 7 W 5 x 20 W	up to 100 W [6]	–	15 x 7 W 10 x 20 W	–
Inductive laod cos φ = 0.6/230 V AC inrush current ≤ 35 A	650 W [8]	–	–	650 W [8]	–
Dimmable 230V LED lamps	–	up to 100 W [6]	–	–	–
Max. switching current DC1: 12 V/24 V DC	4 A	–	–	8 A (not FNT12 and FZK12	50 mA
Service life at rated load, cos φ = 1 or incandescent lamps 500 W at 100/h	> 10^5	–	> 10^5	> 10^5	–
Service life at rated load, cos φ = 0.6 at 100/h	> 4 x 10^4	–	> 4 x 10^4	> 4 x 10^4	–
Max. operating cyles	10^3/h	–	10^3/h	10^3/h	–
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)	6 mm^2 (4 mm^2)	6 mm^2 (4 mm^2)
Two conductors of same cross-section (3-fold terminal)	2.5mm^2 (1.5mm^2)	2.5mm^2 (1.5mm^2)	2.5mm^2 (1.5mm^2)	2.5mm^2 (1.5mm^2)	2.5mm^2 (1.5mm^2)
Screw head	slotted/cross-head, pozidriv	slotted/cross-head, pozidriv	slotted/cross-head, pozidriv	slotted/cross-head, pozidriv	slotted/cross-head, pozidriv
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20
Electronics					
Time on	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
Standby loss (active power)	0.1 W; F4L12: 0,2 W	0.3 W	0.9 W	0.05-0.5 W	0.2 W
Local control current at 230 V control input	–	–	–	5 mA	–
Max. parallel capacitance (approx. length) of local control lead at 230 V AC	–	–	–	FTN12: 0.3 µF (1000 m)	–

[b] Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons.

[1] At a load of more than 300 W a ventilation clearance of 1/2 module to adjacent devices must be maintained.

[2] Applies to lamps of max. 150 W.

[3] Per dimmer or capacity enhancer 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. Operation in parallel of inductive (wound) and capacative (electronic) transformers is not permitted!

[4] **When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load.**

[5] Fluorescent lamp or low voltage halogen lamp with electronic ballast units.

[6] In the settings and operation modes for dimmable energy saving lamps ESL and LED no wound (inductive) transformer must be dimmed.

[7] Increase of capacity for dimmable energy saving lamps ESL and dimmable 230 V LED lamps with capacity enhancer LUD12.

[8] All actuators with 2 contacts: Inductive load cos φ = 0.6 as sum of both contacts 1000 W max.

If the lines of the RS485 bus are longer than 2m, a terminal resistor of approx. 220 ohms must be connected to the last actuator under the terminal RSA/RSB.

* EVG = electronic ballast units; KVG = conventional ballast units

Eltako Wireless is based on the EnOcean wireless standard for 868 MHz, frequency 868.3 MHz, data rate 125 kbps, modulation mode ASK, max. transmit power 7 dBm (< 10 mW).

Compliance with: EN 61000-6-3, EN 61000-6-1 and EN 60 669