



R12-110-230V

Technical data page 19-5.

R12-100-/200-/110-/020-

1- and 2-pole 16 A/250 V AC

Modular devices for DIN 60715 TH35 rail mounting with manual control and switch position indicator.
1 module = 18 mm wide, 55 mm deep.
100% time on. Control power demand 1.9 W.
Contacts: 1 NO, 2 NO, 1 NO + 1 NC, 2 NC (closed-circuit current relay, 230 V only).
Contact gap 3 mm.
Contact/contact test voltage 2000 V and control connections/contact test voltage 4000 V.
25 A devices XR12, page 19-4. Retrofittable auxiliary contact KM12, page 18-3.
The pin-compatible ER12DX-UC, ER12-200-UC and ER12-110-UC electronic switching relays can also be used.
The universal control voltage UC covers the voltage ranges of 8 to 253 V AC at 50-60 Hz and 10 to 230 V DC.

R12-100-12V	1 NO 16 A	EAN 4010312200421	
R12-100-230V	1 NO 16 A	EAN 4010312200445	
R12-100-8V, 24V, 12V DC, 24V DC	1 NO 16 A		
R12-200-12V	2 NO 16 A	EAN 4010312200506	
R12-200-230V	2 NO 16 A	EAN 4010312200520	
R12-200-8V, 24V, 12V DC, 24V DC	2 NO 16 A		
R12-110-12V	1 NO + 1 NC 16 A	EAN 4010312200469	
R12-110-230V	1 NO + 1 NC 16 A	EAN 4010312200483	
R12-110-8V, 24V, 12V DC, 24V DC	1 NO + 1 NC 16 A		
R12-020-230V	2 NC 16 A	EAN 4010312201572	

Type	R12	R81/R91	XR12
Contacts			
Contact material/contact gap	$AgSnO_2$/3 mm	$AgSnO_2$/2 mm	$AgSnO_2$/3 mm [1]
Spacing of control connections/contact	> 6 mm	> 6 mm	> 6 mm
Test voltage contact/contact Test voltage control connections/contact	2000 V 4000 V	2000 V 4000 V	2000 V 4000 V
Rated switching capacity	16 A/250 V AC 10 A/400 V AC	10 A/250 V AC 6 A/400 V AC	25 A/250 V AC 16 A/400 V AC
230 V LED lamps	up to 200 W [5]	up to 200 W [5]	up to 200 W [5]
Incandescent lamp and halogen lamp load 230 V [2]	2300 W	2300 W	2300 W
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	2300 VA	2300 VA	3600 VA
Fluorescent lamp load wih KVG* shunt-compensated or with EVG*	500 VA	500 VA	1000 VA
Compact fluorescent lamps with EVG* and energy saving lamps ESL	I on ≤ 140 A/10 ms [3]	I on ≤ 70 A/10 ms [3]	I on ≤ 140 A/10 ms [3]
HQL and HQI non compensated	500 W	–	500 W
Max. switching current DC1: 12 V/24 V DC	8 A	8 A	12 A
Life at rated load, cos φ = 1 or incandescent lamps 1000 W at 100/h	> 10^5	> 10^5	> 10^5
Life at rated load, cos φ = 0.6 at 100/h	> 4x10^4	> 4x10^4	> 4x10^4
Max. operating cycles	10^3/h	10^3/h	10^3/h
Closing time	10-20 ms	10-20 ms	10-20 ms
Opening time	5-15 ms	5-15 ms	5-15 ms
Switch position indication	yes	yes	yes
Manual control	yes	yes	yes
Maximum conductor cross-section	6 mm^2	4 mm^2	6 mm^2
Two conductors of same cross-section	2.5 mm^2	1.5 mm^2	2.5 mm^2
Screw head	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20
Solenoid System			
Time on	100% [4]	100%	100% [4]
Max./min. temperature at mounting location	+50°C/-5°C	+50°C/-5°C	+50°C/-5°C
Control voltage range	0.9 to 1.1 x rated voltage	0.9 bis 1,1 x rated voltage	0.9 to 1.1 x rated voltage
Coil power loss AC+DC ±20%	1- and 2-pole: 1.9 W 4-pole: 4 W	R81: 5 W R91: 2,5 W	1- and 2-pole: 1,9 W 4-pole: 4 W
Total power loss with continous excitation at rated voltage and rated contact load	1-pole: 4 W, 2-pole: 6 W 4-pole: 12 W	1-pole: 7 W 2-pole: 9 W	1-pole: 4 W, 2-pole: 6 W 4-pole: 12 W
Max. parallel capacitance (length) of control lead	0.06 µF (ca. 200 m)	0.06 µF (ca. 200 m)	0.06 µF (ca. 200 m)
Max. voltage induced at the control inputs	0.2 x rated voltage	0.2 x rated voltage	0.2 x rated voltage

* EVG = electronic ballast units; KVG = conventional ballast units.
[1] Conctact distance of the NC contacts 1.2mm.
[2] Contact spacing of NC contacts 1.2 mm.
[3] 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.
[4] Whenever several impulse switches are continuously energised make sure there is adequate ventilation as a function of the calculated power loss.
[5] 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).

To comply with DIN VDE 0100-443 and DIN VDE 0100-534, a Type 1 or Type 2 surge protection device (SPD) must be installed.

Compliance with: EN 60 669