

# Technical data for electromechanical switching relays and installation contactors

	CE	CE	CE
Contacts	R12/VR12	XR12	R81/R91
Contact material/Contact gap	AgSnO <sub>2</sub> /3mm	AgSnO <sub>2</sub> /3mm	AgSnO <sub>2</sub> /2mm
Spacing of control connections/contact	>6 mm	>6 mm	>6 mm
Test voltage contact to contact	2000V	2000V	2000V
Test voltage control connection to contact	4000V	4000V	4000V
Rated switching capacity	16A/250V AC, 10A/400V AC	25A/250V AC, 16A/400V AC	10A/250V AC 6A/400V AC
Incandescent lamp and halogen lamp load 230V <sup>2)</sup>	2300W	3600W	2300W
Fluorescent lamp load with KVG in lead-lag circuit or non compensated	3500VA	5500VA	2300VA
Fluorescent lamp load with KVG shunt-compensated or with EVG	500VA	1000VA	500VA
Compact fluorescent lamp with EVG and energy saving lamps	I <sub>on</sub> ≤ 140A/10ms <sup>3)</sup>	I <sub>on</sub> ≤ 140A/10ms <sup>3)</sup>	I <sub>on</sub> ≤ 70A/10ms <sup>3)</sup>
Max. switching current DC1: 12V/24V DC	8A	8A	8A
Life at rated load, cos φ = 1 resp. for incandescent lamps 1000W at 100/h	>10 <sup>5</sup>	>10 <sup>5</sup>	>10 <sup>5</sup>
Life at rated load, cos φ = 0.6 and 100/h	>4x10 <sup>4</sup>	>4x10 <sup>4</sup>	>4x10 <sup>4</sup>
Max. operating cycles	10 <sup>3</sup> /h	10 <sup>3</sup> /h	10 <sup>3</sup> /h
Closing time	10-20ms	10-20ms	10-20ms
Opening time	5-15ms	5-15ms	5-15ms
Switch position indication	yes	yes	yes
Manual control	yes	yes	yes
Terminal cross-section	12 mm <sup>2</sup>	12 mm <sup>2</sup>	6 mm <sup>2</sup>
Maximum conductor cross-section	6 mm <sup>2</sup>	6 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Screw head	slotted/Phillips, pozidriv	slotted/Phillips, pozidriv	slotted/Phillips, pozidriv
Shock-hazard protection (on the device)	VDE0106 part 100	VDE0106 part 100	VDE0106 part 100
<b>Solenoid System/Electronics</b>			
Time on	100% <sup>4)</sup>	100% <sup>4)</sup>	100% <sup>4)</sup>
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 to 1.1 x rated voltage	0.9 to 1.1 x rated voltage
Coil power loss AC + DC ± 20%	1- and 2-p. 1.9W 4-p. 4W	1- and 2-p. 1.9W 4-p. 4W	R81: 5W, R91: 2,5W
Total power loss with continuous excitation at rated voltage and rated contact load	1-p. 4W; 2-p. 6W 4-p. 12W	1-p. 4W; 2-p. 6W 4-p. 12W	1-p. 7W 2-p. 9W
Max. parallel capacitance (length) of control lead	0.06 μF (approx. 200m)	0.06 μF (approx. 200m)	0.06 μF (approx. 200m)
Max. voltage induced at the control inputs	0.2 x rated voltage	0.2 x rated voltage	0.2 x rated voltage
<b>Compliance with</b>	<b>EN 60669</b>	<b>EN 60669</b>	<b>EN 60669</b>

<sup>1)</sup> Contact spacing of NC contacts 1.2mm. <sup>2)</sup> For lamps with 200W max. <sup>3)</sup> A 40-fold inrush current has to be calculated for electronic ballast devices. For steady loads of 1200W or 600W use the current-limiting relay SBR12 or SBR61. Product group G, page G8. <sup>4)</sup> Whenever several impulse switches are continuously energised make sure there is adequate ventilation as a function of the calculated power loss.