Relay couplers

Technical specifications

Relay type		RT print relay, 8- and 11-pole, (12.7 mm) 1 CO/2 CO				PT industrial relay, 8-, 11- and 14-pole, (22.5 mm) 2 CO/3 CO/4 CO			
AC and DC operation									
Rated control supply voltage U_s [1]	V	24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage U_i Degree of pollution	V	250 3				250 3			
Overvoltage category		III				III			
Safe isolation between the coil and the contacts according to EN 60947-1, Appendix N		Up to 250 V (with LZX:RT78626 plug-in base) No (for complete units with standard socket)				No			
Degree of protection		IP67/IP20				IP50/IP20			
Permissible ambient temperature									
• During operation • During storage	°C °C	-40 ... +70 -40 ... +80				-40 ... +70 (+50 for base assembly) -40 ... +80			
Conductor cross-sections									
• Solid • Finely stranded with or without end sleeve	mm^2 mm^2	2 x 2.5 2 x 1.5				2 x 2.5 2 x 1.5			
Control side									
Operating range • At 20 °C	V	16.8 ... 52	18 ... 52	86.3 ... 127	172 ... 264	18 ... 40.8	19.2 ... 39.6	92 ... 190	184 ... 380
Power consumption at U_s		0.4 W	0.75 VA	0.75 VA	0.75 VA	0.75 W	1 VA	1 VA	1 VA
Release voltage	V	2.4	7.2	34.5	69	3.6	7.2	34.5	69
Protection circuit		Freewheel diode for complete unit	No			Freewheel diode in LED module	No		
Max. permissible cable length at U_s [2] (min. conductor cross-section: 0.75 mm^2)	m	> 2000	30 (with LED), 20 (without LED)			> 2000	500	200	50
Load side									
Switching voltage • AC/DC	V	24 ... 250				24 ... 250			
Rated currents [3] Continuous thermal current I_{th} Rated operational current I_e AC-15 according to utilization categories (DIN VDE 0660) Rated operational current I_e DC-13 according to utilization categories (DIN VDE 0660)	 A A A	 16/8 (1 CO/2 CO) 6/3 2 at 24 V 0.27 at 230 V				 12/10/6 (2 CO/3 CO/4 CO) 5/5/4 5 at 24 V 0.5 at 230 V			
Short-circuit protection $I_k \geq 1$ kA according to IEC 60947-5-1 Fuse links gL/gZ operational class DIAZED	A	10				6			
Shock resistance Half-sine according to IEC 60028-2-27	g/ ms	10/11				9/11			
Vibration resistance Floating sine according to IEC 60068-2-6 30 ... 150 Hz • Opening the normally-closed contacts along the critical axis • Closing the normally-open contacts	 g g	 5 > 20				 Approx. 7 > 20			
Min. contact load (reliability: 1 ppm)		Standard 17 V, 10 mA; hard gold-plated 17 V/0.1 mA				Standard 17 V, 10 mA; hard gold-plated 20 mV/1 mA			
Mechanical endurance	Operating cycles	30×10^6	10×10^6			10×10^6			
Electrical endurance (resistive load at 250 V AC)	Operating cycles	1×10^5	1×10^5			1×10^5			
Switching frequency (operating cycles) Without load With load	 1/min 1/h 1/min 1/h	 1200 72000 6 360				 600 36000 6 360			
Make-time	ms	7				15			
Break-time	ms	3				10			
Bounce time	ms	2				5			
Contact material		AgNi 90/10							

[1] AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10 %; the power loss will reduce slightly.

[2] The max. cable length depends on the conductor capacity and the cable installation. It can be increased by means of parallel load on A1/A2.

[3] Capacitive loads can result in micro-weldings on the contacts.

Relay type		MT industrial relay, 11-pole (35.5 mm) 3 CO			
AC and DC operation					
Rated control supply voltage U_s [1]	V	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage U_i Degree of pollution	V	250 3			
Overvoltage category According to EN 60664		III			
Safe isolation between the coil and the contacts according to EN 60947-1, Appendix N		No			
Degree of protection		IP50/IP20			
Permissible ambient temperature • During operation • During storage	 °C °C	 -45 ... +60 -45 ... +80	 -45 ... +50 -45 ... +80	 -45 ... +50 -45 ... +80	 -45 ... +50 -45 ... +80
Conductor cross-sections • Solid • Finely stranded with or without end sleeve	 mm^2 mm^2	 2 x 2.5 2 x 1.5			
Control side					
Operating ranges • At 20 °C	V	18 ... 38	19.2 ... 38	92 ... 137	184 ... 264
Power consumption at U_s		1.2 W	2.3 VA	2.3 VA	2.3 VA
Release voltage	V	2.4	9.6	46	92
Protection circuit		No			
Max. permissible cable length at U_s [2] (min. conductor cross-section: 0.75 mm^2)	m	> 2000	On request	On request	80
Load side					
Switching voltage • AC/DC	V	24 ... 250			
Rated currents [3] Continuous thermal current I_{th} Rated operational current I_e/DC-13 according to utilization categories (DIN VDE 0660) Rated operational current I_e/AC-15 according to utilization categories (DIN VDE 0660)	 A A A	 10 2 at 24 V 0.27 at 230 V 5 at 24 V and 230 V			
Short-circuit protection $I_k \geq 1$ kA according to IEC 60947-5-1 Fuse links gL/gZ operational class DIAZED	A	10			
Shock resistance Half-sine according to IEC 60028-2-27	*g*/ms	13/11			
Vibration resistance Floating sine according to IEC 60068-2-6 30 ... 150 Hz • Opening the normally-closed contacts along the critical axis • Closing the normally-open contacts	 g g	 2 > 20			
Min. contact load (reliability: 1 ppm)		12 V DC/10 mA			
Mechanical endurance	Operating cycles	20×10^6			
Electrical endurance (resistive load at 250 V AC)	Operating cycles	4×10^5			
Switching frequency (operating cycles) Without load With load	 1/min 1/h 1/min 1/h	 100 6000 20 1200			
Make-time	typ./ms	12			
Break-time	typ./ms	5			
Bounce time	typ./ms	4			
Contact material		AgNi 90/10			

[1] AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10 %; the power loss will reduce slightly.

[2] The max. cable length depends on the conductor capacity and the cable installation. It can be increased by means of parallel load on A1/A2.

[3] Capacitive loads can result in micro-weldings on the contacts.