

Technical specifications

Relay type		LZX print relay: RT, 8-pole, (12.7 mm) 1 CO/2 CO				LZX industrial relay: PT, 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	V	250				250			
Degree of pollution		3				3			
Overvoltage category		III				III			
Acc. to EN 60947-1, Appendix N									
Safe isolation		Up to 250 V (with LZS:RT78726 plug-in base) No (for complete units with standard socket)				No			
Between the coil and the contacts acc. to EN 60947-1, Appendix N									
Degree of protection		IP67/IP20				IP50/IP20			
Permissible ambient temperature									
• During operation	°C	-40 ... +70				-40 ... +70 (+50 for base assembly)			
• During storage	°C	-40 ... +80				-40 ... +80			
Conductor cross-sections									
• Solid	mm ²	2 x 2.5				2 x 2.5			
• Finely stranded with or without end sleeve	mm ²	2 x 1.5				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. 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 current ³⁾									
• Continuous thermal current I_{th}	A	16/8 (1 CO/2 CO)				12/10/6 (2 CO/3 CO/4 CO)			
• Rated operational current I_e AC-15 acc. to utilization categories (DIN VDE 0660)	A	6/3				5/5/4			
• Rated operational current I_e DC-13 acc. to utilization categories (DIN VDE 0660)	A	2 at 24 V 0.27 at 230 V				5 at 24 V 0.5 at 230 V			
Short-circuit protection	A	10				6			
$I_k \geq 1$ kA acc. to IEC 60947-5-1 Fuse links gL/gZ operational class DIAZED									
Shock resistance	g/ms	10/11				9/11			
Half-sine acc. to IEC 60028-2-27									
Vibration resistance									
Floating sine acc. to IEC 60068-2-6 30 ... 150 Hz									
• Opening the normally-closed contacts along the critical axis	g	5				Approx. 7			
• Closing the normally-open contacts	g	> 20				> 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	Operat- ing cycles	30 x 10 ⁶	10 x 10 ⁶			10 x 10 ⁶			
Electrical endurance (resistive load at 250 V AC)	Operat- ing cycles	1 x 10 ⁵				1 x 10 ⁵			
Switching frequency (operating cycles)									
• Without load	1/min 1/h	1200 72000				600 36000			
• With load	1/min 1/h	6 360				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.

LZS, LZX Plug-In Relays

Relay couplers

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	V	250			
Degree of pollution		3			
Overvoltage category acc. to EN 60664		III			
Safe isolation Between the coil and the contacts acc. to EN 60947-1, Appendix N		No			
Degree of protection		IP50/IP20			
Permissible ambient temperature					
• During operation	°C	-45 ... +60	-45 ... +50	-45 ... +50	-45 ... +50
• During storage	°C	-45 ... +80	-45 ... +80	-45 ... +80	-45 ... +80
Conductor cross-sections					
• Solid	mm ²	2 x 2.5			
• Finely stranded with or without end sleeve	mm ²	2 x 1.5			
Control side					
Operating range					
• 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. cross-section: 0.75 mm ²)	m	> 2000	On request	On request	80
Load side					
Switching voltage					
• AC/DC	V	24 ... 250			
Rated current ³⁾					
• Continuous thermal current I_{th}	A	10			
• Rated operational current I_o /DC-13 acc. to utilization categories (DIN VDE 0660)	A	2 at 24 V 0.27 at 230 V			
• Rated operational current I_o /AC-15 acc. to utilization categories (DIN VDE 0660)	A	5 at 24 V and 230 V			
Short-circuit protection $I_k \geq 1$ kA acc. to IEC 60947-5-1 Fuse links gL/gZ operational class DIAZED	A	10			
Shock resistance Half-sine acc. to IEC 60028-2-27	g/ms	13/11			
Vibration resistance Floating sine acc. to IEC 60068-2-6 30 ... 150 Hz					
• Opening the normally-closed contacts along the critical axis	g	2			
• Closing the normally-open contacts	g	> 20			
Min. contact load (Reliability: 1 ppm)		12 V DC/10 mA			
Mechanical endurance	Operating cycles	20 x 10 ⁶			
Electrical endurance (Resistive load at 250 V AC)	Operating cycles	4 x 10 ⁵			
Switching frequency (operating cycles)					
• Without load	1/min 1/h	100 6000			
• With load	1/min 1/h	20 1200			
Make-time	Typically/ ms	12			
Break-time	Typically/ ms	5			
Bounce time	Typically/ 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.