



Safety relay EMERGENCY STOP 24V AC/DC




Powering Business Worldwide™

Part no. **ESR5-NO-31-24VAC-DC**

Article no. **118702**



Program

Supply voltage			24 V DC 24 V AC, 50/60 Hz
Function			Two-channel
Basic function			Emergency stop; emergency switching off Protective door
Approval			
Suitable for			Cat. 4 according to EN 954-1 PL e according to EN ISO 13849-1 SILCL 3 according to IEC 62061 SIL 3 according to IEC 61508
Number of enabling paths to IEC/EN 60204 Stop category			
Enable current paths to IEC/EN 60204 Stop category 0			3
Signal current paths			1

Approbationen

UL approval	Yes
CSA approval	Yes
Product Standards	IEC/EN see Technical Data; UL 508; CSA-C22.2 No. 14-95; CE marking
UL File No.	E29184
UL CCN	NKCR; NKCR7
CSA File No.	UL report applies to both US and Canada
CSA Class No.	3211-83; 3211-03
NA Certification	UL listed, certified by UL for use in Canada
Degree of Protection	IEC: IP20, UL/CSA Type: -

General

Standards			EN ISO 13849-1, IEC 62061, IEC 61508, EN 50178
Ambient temperature		°C	- 20 - 55
Ambient temperature, storage		°C	
Min. ambient temperature, storage		°C	-25
Duty factor		% DF	100
Degree of protection			
Protection type			to VDE 0470-1 Enclosure: IP40 Terminals: IP20 Installation location: ≥ IP54
Busbar tag shroud			According to EN 50274 With vertical actuation from the front Finger- and back-of-hand proof
Mounting position			As required
Luft- und Kriechstrecken zwischen den Stromkreisen			
Basic isolation			according to DIN EN 50178:1998-04 Basic isolation
Rated impulse withstand voltage	U_{imp}	kV	4000 V AC
Notes			Safe isolation, reinforced insulation and 6 kV between input current circuit and output contact paths.
Pollution degree			2
Overvoltage category			III
Dimensions (W x H x D)		mm	22.5 x 114.5 x 99

Stripping length		mm	7
Conductor cross-section		mm ²	0.2 - 2.5 (AWG 24-12)
Weight		kg	0.17
Terminal capacities		mm ²	
Solid		mm ²	1 x (0.2 - 2.5) 2 x (0.2 - 1)
Flexible with ferrule		mm ²	1 x (0.25 - 2.5) 2 x (0.25 - 1)
Solid or stranded		AWG	24...12
Terminal screw		Nm	
Standard screwdriver		mm	0.6 x 3.5
Max. tightening torque		Nm	0.6
Material			Housing: polyamide PA not reinforced Contacts: Material: silver tin oxide, gold plated (AgSnO ₂ , 0.2 µm Au)

Main conducting paths

Rated operational current	I_e	A	
AC-15			
230 V (360 ops./h)	I_e	A	5
230 V (3600 ops./h)	I_e	A	3
DC-13	I_e		
24 V (360 ops./h)	I_e	A	6
24 V (3600 ops./h)	I_e	A	3
Max. summation current of all poles			
24 V AC/DC devices		A	72
Square of the total current (and total current) of all current paths			72 A ² (4.9 + 4.9 + 4.9)
Protection of an output circuit			Fuse: 10 A gL/gG

Magnet systems

Actuating voltage 50/60 Hz	U_s	V AC	24
Actuating voltage	U_s	V DC	24

Eingangsdaten

Rated operational voltage	U_e	V	24 V AC, 24 V DC
Permissible range			0.85 - 1.1 x U_e
Current consumption		mA	normally at U_e : AC: 140 DC: 65
Voltage at input, starting and feedback circuit		V DC	Approx. 24
Maximum permissible total cable resistance (input and starting circuit with UN)	R_L	Ω	22.8
Pick-up time	t_A	ms	at U_e in automatic mode: normally 100
Reset time	t_R	ms	normally at U_e 45 (single-channel) 20 (two-channel)
Recovery time	t_W	ms	approx. 1000
Status indication		LED	Green

Ausgangsdaten

Enable current paths to IEC/EN 60204 Stop category 0			3
Signal current paths			1
			15 - 250 V AC 15 - 250 V DC
Limiting continuous current		A	N/O: 6 N/C: 6
Quadratic summation current		A ²	72
Notes			Observe derating curve → Engineering
Inrush current		A	0.025 - 6
Maximale Abschaltleistung			
ohmsche Last (t = 0 ms)			

24 V DC		W	144
48 V DC		W	288
110 V DC		W	110
220 V DC		W	88
250 V AC		VA	1500
induktive Last (t = 40 ms)			
24 V DC		W	42
48 V DC		W	42
110 V DC		W	42
220 V DC		W	42
Minimum switching capacity		W	0.4
Lifespan, mechanical	Operations		10,000,000
Maximum operating frequency		Ops/h	3600
Schaltvermögen			
			In accordance with IEC 60947-5-1
AC-15			
230 V		A	4 A bei 360 S/h 3 A bei 3600S/h
DC-13			
24 V		A	4 A bei 360 S/h 2.5 A bei 3600S/h
Short-circuit protective device			for output circuits, external: Fuse 6 A gL/gG

Electromagnetic compatibility (EMC)

Emitted interference			In accordance with EN 61000-6-4
Interference immunity			according to EN 61000-6-2

Dimensions

