

SCS 24VDC P1SIL3ES LL-T

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



This SIL3 safety relay have been specially developed for applications in which a functionally safe switch-on in the process industry is required. The relay meet the requirements of functional safety and has been certified by TUV NORD according to EN 61508:2010. The approval for Ex-areas as well as the extended temperature range up to 70 °C enables the usage even under challenging environmental conditions. The integrated diagnostic and alarm output of the relay ensures permanent monitoring for wire breakage and load faults.

- Line (Wire break detection) and load monitoring
- Approval for Ex-areas
- Certified according to EN 61508:2010
- Optional 17.8 mm slim safety relay with temperature range up to 50 °C

General ordering data

Version	Safety relay, 24 V DC \pm 20%, , Max. switching current, internal fuse : , Safety category: SIL 3 EN 61508:2010
Order No.	2634010000
Type	SCS 24VDC P1SIL3ES LL-T
GTIN (EAN)	4050118665550
Qty.	1 items

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Technical data

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E141197
Certificate no. (cULusEX)	E324123

Dimensions and weights

Depth	119.2 mm	Depth (inches)	4.6929 inch
Height	113.6 mm	Height (inches)	4.4724 inch
Width	22.5 mm	Width (inches)	0.8858 inch
Net weight	240 g		

Temperatures

Storage temperature	-40 °C...85 °C	Ambient temperature	-40 °C...70 °C
Operating temperature		Humidity	95 %, no condensation

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	807f1906-ce90-4f93-8801-4b128b343e6b

Input (power supply)

Connection designation	0V, 24 V	Rated control voltage	24 V DC ±20 %
Current consumption	<40 mA + M14	Protective circuit	Reverse polarity protection

Input (safety circuit)

Connection designation (safety circuit)	A1, A2	Rated control voltage	24 V DC ± 20%
Current consumption	71 mA	Status indicator	LED yellow (RLY): lights up when input circuit (A1,A2) of the device is actuated
Protective circuit	Reverse polarity protection, Free-wheeling diode		

Test inputs (safety circuit)

Connection designation (safety test)	T1, T2, T3	Rated control voltage	24 V DC ±20 %
Number of test inputs	3		

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Output (safety circuit)

Connection designation (safety output)	L, N, 13, 14	Contact design	1 x energised to safe (NO contact)
Contact base material	AgNi gold flashed	Max. permitted switching voltage	250 V AC
Max. switching current, external fuse	2,5 A	Max. switching capacity	625 VA
External back-up fuse	2.5 A (slow blow)	Switch-on time	50 ms
Min. switching capacity	30 mA @ 15 V		

Alarm output

Connection designation (Alarm output)	M13, M14	Digital output (Alarm output)	1 DO
Solid-state type (Alarm output)	MOS-FET high-active	output current, max. (Alarm output)	100 mA
Short-circuit-proof (Alarm output)	Yes, without time limit	Voltage drop at max. load (Alarm output)	1.5 V
Status indicator (Alarm output)	LED red (ERR): flashes when device detects a fault, supply voltage applied and input circuit (A1, A2) not actuated		

Diagnostic output

Connection designation (Diagnostic output)	D21, D22	Switching voltage, max. (Diagnostic output)	30 V
Switching, current, max. (Diagnostic output)	100 mA	switching capacity, min. (Diagnostic output)	1 mW
Contact design (Diagnostic output)	1 NC contact	Contact material (Diagnostic output)	AgNi gold-plated
Status indicator (Diagnostic output)	LED green (DIAG): lights up when supply voltage applied and input circuit (A1, A2) not actuated		

Safety-related basic specifications

Device type	A	Safety category	SIL 3
Safety standard	EN 61508:2010		

General data

Operating altitude	≤ 2000 m, above sea level	Mounting rail	TS 35
Colour	black, yellow		

Insulation coordination

Insulation coordination according to	EN 61010-2-201	Rated voltage	300 V
Pollution severity	2	Surge voltage category	III
Clearance and creepage distances for control side - load side	≥ 6 mm	Dielectric strength for control side - load side	3.51 kVeff / 1 min.
Protection degree	IP20		

Further details of approvals / standards

Certificate no. (cULus)	E141197		
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Connection data

Wire connection method	Screw connection	Stripping length, rated connection	8 mm
Tightening torque, min.	0.4 Nm	Tightening torque, max.	0.6 Nm

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Clamping range, rated connection	1.5 mm ²	Clamping range, min.	0.13 mm ²
Clamping range, max.	2.5 mm ²	Wire connection cross section AWG, min.	AWG 26
Wire connection cross section AWG, max.	AWG 12	Wire cross-section, solid, min.	0.2 mm ²
Wire cross-section, solid, max.	2.5 mm ²	Wire connection cross section, finely stranded, min.	0.2 mm ²
Wire connection cross section, finely stranded, max.	2.5 mm ²	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.2 mm ²
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	2.5 mm ²	Conductor cross-section, flexible, AEH (DIN 46228-1), min.	0.2 mm ²
Conductor cross-section, flexible, AEH (DIN 46228-1), max.	2.5 mm ²	Blade size	size PH0

Ratings IECEx/ATEX/cUL

Certificate No. (ATEX)	UL20ATEX2457X	Certificate No. (IECEX)	IECEXULD20.0032X
Certificate no. (cULus)	E141197	Certificate no. (cULusEX)	E324123
Marking EN 60079	Ex ec nC IIC T4 Gc		

Classifications

ETIM 8.0	EC001449	ETIM 9.0	EC001449
ETIM 10.0	EC001449	ECLASS 14.0	27-37-18-19
ECLASS 15.0	27-37-18-19		

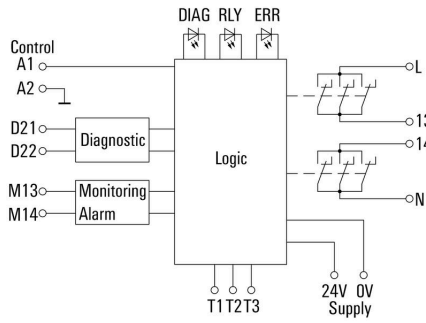
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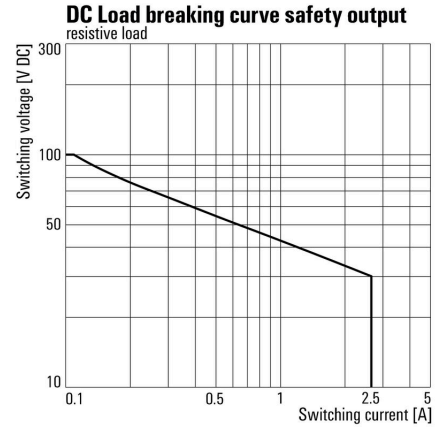
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Drawings

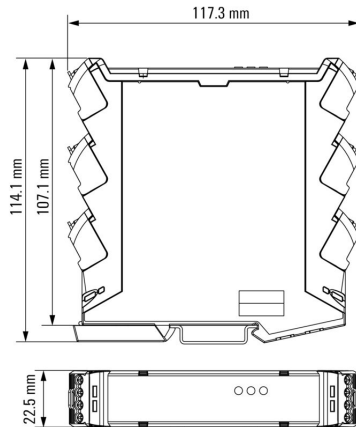
Wiring diagram



Graph



Dimensional drawing



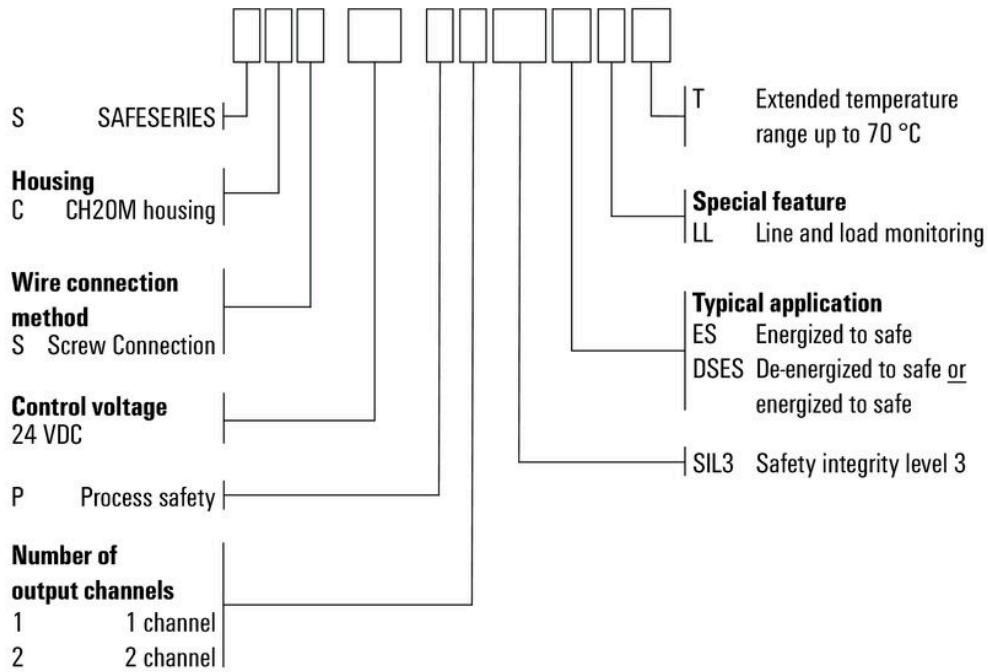
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Drawings

Miscellaneous



Type codes