

SCS 24VDC P1SIL3DS M

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The SCS 24 V DC P1SIL3DS M / MG3 safety relay should be used in areas where a functionally safe switch-off is required. The requirements of EN 61508, SIL 3 can be satisfied with this module.

- With monitoring circuit
- Wide-range input voltage in the monitoring circuit
- Externally accessible fuse
- TÜV certified "Safety Approved"
- Optionally with G3 painting acc. to EN 60068-2-60

General ordering data

Type	SCS 24VDC P1SIL3DS M
Order No.	1303760000
Version	Safety relay, 24 V DC \pm 20%, 35 mA, Max. switching current, internal fuse [safety circuit]: 5 A (refer to derating curve), Safety category: SIL 3 DIN EN 61508
GTIN (EAN)	4050118102703
Qty.	1 pc(s).

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Technische Daten

Dimensions and weights

Width	22.5 mm	Height	117.2 mm
Depth	114 mm	Net weight	200 g

Temperatures

Humidity	40 °C / 93 % rel. humidity, no condensation	Operating temperature	-25 °C...+50 °C
Storage temperature	-40 °C...+85 °C		

Input (safety circuit)

Guaranteed current consumption of 24 VDC -10%	35 mA	Rated current voltage [safety circuit]	24 V DC ± 20%
Current consumption [safety circuit]	42 mA	Status indicator [safety circuit]	LED yellow

Input (monitoring)

Status indicator	LED yellow	Rated current voltage [monitoring]	24 V UC...230 V UC ±10 %
Current consumption [monitoring]	23 mA @ 24 V DC, 4.4 mA @ 230 V AC		

Output (safety circuit)

Contact design [safety circuit]	NO contact	Max. switching capacity [safety circuit]	2000 VA
Max. switching current, external fuse [safety circuit]	5 A (refer to derating curve)	Max. switching current, internal fuse [safety circuit]	5 A (refer to derating curve)
Min. switching capacity [safety circuit]	12 V / 10 mA	Short circuit resistance [safety circuit]	No
Switch-off time [safety circuit]	typ. 14 ms	Switch-on time [safety circuit]	typ. 7 ms
Max. permitted switching voltage [safety circuit]	250 V AC / 30 V DC	Max. permitted switching current [safety circuit]	8 A
Contact base material [safety circuit]	Ag Ni 0.15	Internal fuse	5 A time-lag

Output (monitoring)

Contact design [monitoring]	CO contact	Max. allowed switching current [monitoring]	30 mA
Min. switching capacity [monitoring]	1 V / 1 mA	Short circuit resistant [monitoring]	No
Switch-on time [monitoring]	typ. 17 ms	Max. permitted switching voltage [monitoring]	24 V DC
Contact base material [monitoring]	AgNi 5µm Au		

Safety-related basic specifications

Device type	A	Hardware fault tolerance (HFT)	2
T _{proof}	12 Jahre	Safety category	SIL 3
Safety standard	DIN EN 61508		

Safety-related specifications Low demand mode

λ _{DD} [Low]	0 FIT	λ _{DU} [Low]	1.53 FIT
λ _{SD} + λ _{SU} [Low]	190.47 FIT	λ _{ges} [Low]	192 FIT
Average Probability of Failure on Demand (PFD _{avg})	3,07 x 10 ⁻⁶	MTTF [Low]	594 Jahre
Safe Failure Fraction (SFF) [Low]	50 %		

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Safety-related specifications High demand mode, once per month

λ_{DD} [High per Month]	0 FIT	λ_{DU} [High per Month]	2.13 FIT
$\lambda_{SD} + \lambda_{SU}$ [High per Month]	191.07 FIT	λ_{ges} [High per Month]	193.2 FIT
MTTF [High per Month]	590 Jahre	Probability of Failure per Hour (PFH) [High per Month]	$6,83 \times 10^{-11}$ 1/h
Safe Failure Fraction (SFF) [High per Month]	50 %		

Safety-related specifications High demand mode, once per week

λ_{DD} [High per Week]	0 FIT	λ_{DU} [High per Week]	9.03 FIT
$\lambda_{SD} + \lambda_{SU}$ [High per Week]	197.97 FIT	λ_{ges} [High per Week]	207 FIT
MTTF [High per Week]	551 Jahre	Probability of Failure per Hour (PFH) [High per Week]	$1,83 \times 10^{-10}$ 1/h
Safe Failure Fraction (SFF) [High per Week]	50 %		

Safety-related specifications High demand mode, once per day

λ_{DD} [High per Day]	0 FIT	λ_{DU} [High per Day]	63.03 FIT
$\lambda_{SD} + \lambda_{SU}$ [High per Day]	251.97 FIT	λ_{ges} [High per Day]	315 FIT
MTTF [High per Day]	362 Jahre	Probability of Failure per Hour (PFH) [High per Day]	$1,08 \times 10^{-9}$ 1/h
Safe Failure Fraction (SFF) [High per Day]	50 %		

General data

Wire connection method	Screw connection	Humidity	40 °C / 93 % rel. humidity, no condensation
Noxious gas resistance to EN 60068-2-60	Yes (art. No.: 1304040000 only)		

Insulation coordination

Creepage and clearance distance input – output	≥ 5.5 mm	Creepage and clearance distance output – output	≥ 5.5 mm
Dielectric strength input – output	1.2 kV _{eff} / 1 min.	Dielectric strength output – output	1.2 kV _{eff} / 1 min.
Rated voltage	300 V	Dielectric strength to mounting rail	1.2 kV _{eff} / 1 min.
Impulse withstand voltage	6 kV (1.2/50 μ s)	Protection degree	IP 20
Pollution severity	2	Surge voltage category	III

Further details of approvals / standards

Standards	EN 50178, EN 61000, EN 61326-3-2
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Connection data

Clamping range, rated connection	1.5 mm ²	Clamping range, rated connection, max.	2.5 mm ²
Clamping range, rated connection, min.	0.13 mm ²	Wire connection method	Screw connection

Classifications

eClass 6.2	27-37-16-01	eClass 7.1	27-37-16-01
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Technische Daten**Approvals**

Approvals



ROHS

Conform

Downloads

FMEDA report	TUV FMEDA-report
Manual	Manual.DTS_EN_DE
Package insert	1345290000.pdf
Declaration of Conformity	K477_04_12.pdf
PDF	TÜV Safety Approved certificate
3D Modell	

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Zeichnungen

