AES 2535

- **2 Signalling outputs**
- **4 safety contacts, STOP 0**
- **Monitoring of BNS range magnetic safety sensors**

Data

Ordering data	
Note (Delivery capacity)	Phased-out product
	AES 2535
	101180845
EAN (European Article Number)	4030661343570
eCl@ss number, Version 9.0	27-37-18-19
Available until	01.12.2021
Approval - Standards	
	cULus EAC
General data	
	AES 253x
	IEC 61508 IEC/EN 60204-1 IEC 60947-5-3 BG-GS-ET-14 BG-GS-ET-20 EN 60947-5-1
	BG-GS-ET-14 IEC 60947-5-3
Enclosure material	Glass-fibre, reinforced thermoplastic
Material of the contacts, electrical	Ag-Ni 10 and 0.2 µm gold-plated
Gross weight	359 g

General data - Features	
Stop-Category	0
Wire breakage detection	Yes
Short-circuit recognition	Yes
Feedback circuit	Yes
Automatic reset function	Yes
Reset after disconnection of supply voltage	Yes
Integral System Diagnostics, status	Yes
Number of auxiliary contacts	1
Number of LEDs	1
Number of openers	2
Number of shutters	1
Number of undelayed semi-conductor outputs with signaling function	2
Number of safety contacts	4
Number of signalling outputs	2
Safety appraisal	
	ISO 13849-1 IEC 61508
Safety appraisal - Relay outputs	
Performance Level, up to	d
Control category to EN13849	3
PFH-value	1.00 x 10^{-7} /h
Safety Integrity Level (SIL), applicable for	2
Mission time	20 Year(s)
Mechanical data	
Mounting	Snaps onto standard DIN rail to EN 60715
Mechanical life, minimum	20,000,000 Operations
Mechanical data - Connection technique	
Terminal Connector	Screw connection rigid or flexible
Terminal designations	IEC/EN 60947-1
	0.25 mm^2
	2.5 mm^2
Tightening torque of Clips	0.6 Nm

Mechanical data - Dimensions	
Width	45 mm
Height	100 mm
Depth	121 mm
Ambient conditions	
	IP40
	IP54
	IP20
Ambient temperature, minimum	+0 °C
Ambient temperature, maximum	+55 °C
Storage and transport temperature, minimum	-25 °C
Storage and transport temperature, maximum	+70 °C
Resistance to vibrations to EN 60068-2-6	10...55 Hz, Amplitude 0.35 mm, ± 15 %
	30 g / 11 ms
Ambient conditions - Insulation value	
Rated impulse withstand voltage	4 kV
	III
	2
Electrical data	
Frequency range	60 Hz
Thermal test current	6 A
	24 ... 230 VAC/DC
Rated AC voltage for controls, 50 Hz, minimum	20.4 VAC
Rated control voltage at AC 50 Hz, maximum	253 VAC
Rated AC voltage for controls, 60 Hz, minimum	20.4 VAC
Rated control voltage at AC 60 Hz, maximum	253 VAC
Rated AC voltage for controls at DC minimum	20.4 VDC
Rated control voltage at DC, maximum	253 VDC
Electrical power consumption	5 W

Contact resistance, maximum	0.1 Ω
Note (Contact resistance)	in new state
Drop-out delay in case of power failure, typically	80 ms
Drop-out delay in case of emergency, typically	20 ms
Pull-in delay at automatic start, maximum, typically	100 ms
Pull-in delay at RESET, typically	20 ms
Electrical data - Safe relay outputs	
Voltage, Utilisation category AC15	230 VAC
Current, Utilisation category AC-15	3 A
Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	2 A
Switching capacity, minimum	10 VDC
Switching capacity, minimum	10 mA
Switching capacity, maximum	250 VAC
Switching capacity, maximum	8 A
Electrical data - Digital inputs	
Input signal, HIGH Signal "1"	10 … 30 VDC
Input signal, LOW Signal "0"	0 … 2 VDC
Conduction resistance, maximum	40 Ω
Electrical data - Digital Output	
Voltage, Utilisation category DC12	24 VDC
Current, Utilisation category DC12	0.1 A
Electrical data - Relay outputs (auxiliary contacts)	
Switching capacity, maximum	24 VDC
Switching capacity, maximum	2 A
Electrical data - Electromagnetic compatibility (EMC)	
EMC rating	EMC-Directive

Integral system diagnosis (ISD)	
Note (ISD -Faults)	The following faults are registered by the safety monitoring modules and indicated by ISD.
Faults	Failure of the safety relay to pull-in or drop-out Failure of door contacts to open or close Cross-wire or short-circuit monitoring of the switch connections Interruption of the switch connections Fault on the input circuits or the relay control circuits of the safety monitoring module Failure of or functional fault on the safety relay
Other data	
Note (applications)	Safety sensor Guard system
Notes	
Note (General)	Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.
Circuit example	
Note (Wiring diagram)	The wiring diagram is shown with guard doors closed and in de-energised condition. To secure a guard door up to PL d and Category 3 The ISD tables (Intergral System Diagnostics) for analysis of the fault indications and their causes are shown in the appendix. Modification for 2 NC contacts: The safety monitoring module can be modified to monitor two NC contacts by bridging the terminals X3 and X4. In this configuration, the short-circuit detection becomes inoperative. Monitoring a guard door using 2 position switches with safety function. The NC contact A must have positive break when the guard door is opened. Category 3 to ISO 13849-1 can also be achieved using only one safety switch with one NO and one NC contact. Exclusion of faults due to breakage or loosening of the actuating element or the actuating head as well as releasing, dismantling. The feedback circuit monitors the position of the positive-guided NC contacts of the contactors K3 and K4. A Start-Reset-Taster (S) can optionally be connected to the feedback circuit.
Ordering code	

Product type description:

AES 253(1)

(1)

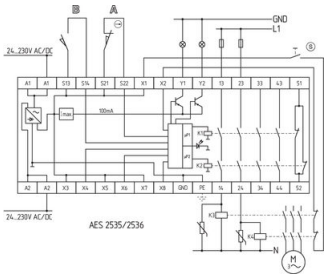
Pictures

Photo/Product/Catalogue

ID: kaes2f13

| 81,6 kB | .png | 74.083 x 114.3 mm - 210 x 324 Pixel - 72 dpi
| 1,2 MB | .jpg | 342.194 x 529.167 mm - 970 x 1500 Pixel - 72 dpi

Graphic/Product/Wiring



ID: kaes2l13

| 167,8 kB | .jpg | 352.778 x 296.333 mm - 1000 x 840 Pixel - 72 dpi
| 45,4 kB | .cdr |