



AES 2135

- 2 Signalling outputs
- 1 safety contact, STOP 0
- Monitoring of BNS range magnetic safety sensors

Data

Ordering data

Note (Delivery capacity)	Phased-out product
	AES 2135
	101180842
EAN (European Article Number)	4030661314914
eCl@ss number, Version 9.0	27-37-18-19
Available until	31.12.2021

Approval - Standards

cULus
EAC

General data

	AES 213x
	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
	Ag-Ni, Au
Gross weight	280 g

General data - Features

Stop-Category	0
Wire breakage detection	Yes
Short-circuit recognition	Yes
Automatic reset function	Yes
Reset after disconnection of supply voltage	Yes
Integral System Diagnostics, status	Yes
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	1
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	1.00×10^{-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	50,000,000 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	4 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
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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

Other data

Note (applications)	Safety sensor Guard system
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Notes

Note (General)	Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.
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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 Monitoring 1 guard door(s), each with a magnetic safety sensor of the BNS range The ISD tables (Integral 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. Inversion of the output function: By establishing a bridge between X5 and X6, the output function of the additional outputs can be altered. This control can also be realised when e.g. a PLC is running (24 VDC at terminal X6). Expansion of the enable delay time. The enable delay time can be increased from X7 s to X8 s by mounting a jumper connection between the terminals 0,1 and 1.
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Pictures

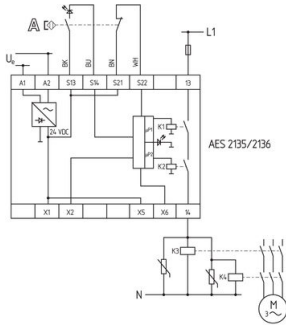
Photo/Product/Catalogue



ID: kaes2f09

| 1,1 MB | .jpg | 342.194 x 529.167 mm - 970 x 1500
Pixel - 72 dpi
| 77,5 kB | .png | 74.083 x 114.3 mm - 210 x 324 Pixel
- 72 dpi

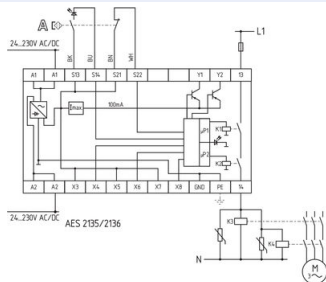
Graphic/Product/Wiring



ID: kaes2l02

| 134,2 kB | .jpg | 352.778 x 401.108 mm - 1000 x
1137 Pixel - 72 dpi
| 89,7 kB | .cdr |

Graphic/Product/Wiring



ID: kaes2l16

| 35,4 kB | .cdr |
| 140,9 kB | .jpg | 352.778 x 305.506 mm - 1000 x 866
Pixel - 72 dpi

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The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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