



## AES 1185 24 VDC

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

## Data

### Ordering data

Note (Delivery capacity)	Phased-out product
Product type description	AES 1185 24 VDC
Article number (order number)	101131903
EAN (European Article Number)	4030661279435
eCl@ss number, version 12.0	27-37-18-19
eCl@ss number, version 11.0	27-37-18-19
eCl@ss number, version 9.0	27-37-18-19
ETIM number, version 7.0	EC001449
ETIM number, version 6.0	EC001449
Notice	Discontinued product

### Approvals - Standards

## General data

Standards	BG-GS-ET-14 BG-GS-ET-20 EN IEC 62061 EN ISO 13849-1 EN IEC 60947-5-1 EN IEC 60947-5-3 EN IEC 60947-5-5 EN IEC 60204-1 EN IEC 60947-1
Climatic stress	BG-GS-ET-14 IEC 60947-5-3
Housing material	Glass-fibre, reinforced thermoplastic
Gross weight	135 g

## General data - Features

Wire breakage detection	Yes
Cross-circuit detection	Yes
Feedback circuit	Yes
Automatic reset function	Yes
Reset after disconnection of supply voltage	Yes
Earth connection detection	Yes
Integral system diagnostics, status	Yes
Number of inputs for NC	3
Number of inputs for NO	3
Number of LEDs	1
Number of normally closed (NC)	3

Number of normally open (NO)	3
Number of safety contacts	1

### Safety classification

Standards	EN ISO 13849-1 EN IEC 61508
Stop-Category	0

### Safety classification - Relay outputs

Performance Level, up to	d
Category	3
PFH value	$1.00 \times 10^{-7}$ /h
Notice	for max. 50,000 switching cycles/year and max. 80% contact load
Safety Integrity Level (SIL), suitable for applications in	2
Mission time	20 Year(s)

### Mechanical data

Mechanical lifetime, minimum	50,000,000 Operations
Mounting	Snaps onto standard DIN rail to EN 60715

### Mechanical data - Connection technique

Terminal designations	IEC/EN 60947-1
Cable section, maximum	2.5 mm <sup>2</sup>
Tightening torque of Clips	0.6 Nm

Allowed type of cable	solid single-wire flexible
Terminal (mechanical)	Screw terminals

### Mechanical data - Dimensions

Width	22.5 mm
Height	75 mm
Depth	110 mm

### Ambient conditions

Degree of protection of the enclosure	IP40
Degree of protection of the installation space	IP54
Degree of protection of clips or terminals	IP20
Ambient temperature	+0 ... +55 °C
Storage and transport temperature	-25 ... +70 °C
Resistance to vibrations	10...55 Hz, Amplitude 0.35 mm, ± 15 %
Resistance to shock	30 g / 11 ms

### Ambient conditions - Insulation values

Rated impulse withstand voltage U imp	4 kV
Overvoltage category	III
Degree of pollution	2

### Electrical data

Frequency range	50 Hz 60 Hz
Operating voltage	24 VDC -10 % / +20 %
Thermal test current	4 A
Rated operating voltage	24 VDC
Rated AC voltage for controls, 50 Hz, minimum	20.4 VAC
Rated control voltage at AC 50 Hz, maximum	26.4 VAC
Rated AC voltage for controls, 60 Hz, minimum	20.4 VAC
Rated control voltage at AC 60 Hz, maximum	26.4 VAC
Rated AC voltage for controls at DC minimum	20.4 VDC
Rated control voltage at DC, maximum	28.8 VDC
Electrical power consumption	5 W
Contact resistance, maximum	0.1 $\Omega$
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
Material of the contacts, electrical	Ag-Ni, Au

### Electrical data - Safe relay outputs

Voltage, Utilisation  
category AC-15 230 VAC

Current, Utilisation  
category AC-15 6 A

Voltage, Utilisation  
category DC-13 24 VDC

Current, Utilisation  
category DC-13 6 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" 12 ... 30 VDC

Input signal, LOW  
Signal "0" 0 ... 2 VDC

Conduction  
resistance, maximum 40  $\Omega$

### Electrical data - Digital Output

Voltage, Utilisation  
category DC-12 24 VDC

Current, Utilisation  
category DC-12 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

## Other data

Note (applications) Safety sensor  
Guard system

## Note

Note (General) Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.

## Wiring example

## Note (Wiring diagram)

The wiring diagram is shown with guard doors closed and in de-energised condition. The ISD tables (Integral System Diagnostics) for analysis of the fault indications and their causes are shown in the appendix.

Expansion of enable delay time: The enable delay time can be increased from 0.1 s to 1 s by changing the position of a jumper link connection under the cover of the unit.

To secure 3 guard doors up to PL d and Category 3

Monitoring 3 guard door(s), each with a magnetic safety sensor of the BNS range

The feedback circuit monitors the position of the contactors K3 and K4.

Start push button: A start push button (NO) can optionally be connected into the feedback circuit. With the guard door closed, the enabling paths are then not closed until the start push button has been operated.

If neither start button nor feedback circuit are connected, a jumper connection must be mounted between X1 and S13.

If only one external relay or contactor is used to switch the load, the system can be classified in Control Category 3 to ISO 13849-1, if exclusion of the fault "Failure of the external contactor" can be substantiated and is documented, e.g. by using a reliable down-rated contactor. A second contactor leads to an increase in the level of security by redundant switching to switch the load off.

## Ordering code

Product type description:  
AES 1185(1)

(1)

<b>without</b>	24 VDC
<b>.3</b>	24 VAC

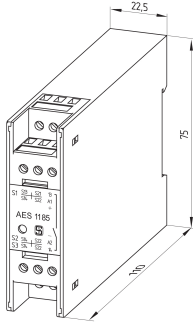
## Pictures

### Product picture (catalogue individual photo)



ID: kaes1fo7  
| 296.3 kB | .jpg | 126.294 x 269.875 mm - 358 x 765 px - 72 dpi  
| 130.6 kB | .png | 74.083 x 158.044 mm - 210 x 448 px - 72 dpi  
| 51.7 kB | .jpg | 57.856 x 123.472 mm - 164 x 350 px - 72 dpi  
| 35.5 kB | .png | 74.083 x 74.083 mm - 210 x 210 px - 72 dpi  
| 12.0 MB | .png | 142.697 x 304.871 mm - 2000 x 4273 px - 356 dpi

### Dimensional drawing basic component



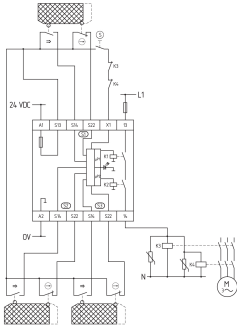
ID: kaes1g07

| 61.8 kB | .cdr |

| 7.2 kB | .png | 74.083 x 126.647 mm - 210 x 359 px - 72 dpi

| 253.2 kB | .jpg | 352.778 x 603.603 mm - 1000 x 1711 px - 72 dpi

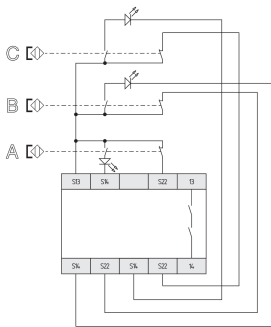
## Wiring example



ID: kaes1l11

| 204.9 kB | .jpg | 352.778 x 482.953 mm - 1000 x 1369 px - 72 dpi

## Wiring example



ID: kaes1l36

| 53.1 kB | .cdr |

| 110.4 kB | .jpg | 352.425 x 416.278 mm - 999 x 1180 px - 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.

Generated on: 27/02/2026, 14:32