

CMS-E-BR (ORDER NO. 085537)

Evaluation unit CMS-E-BR, 1 safety contact, 1 auxiliary contact, 1 feedback loop can be connected

- ▶ 4 read heads can be connected
- ▶ 1 safety contact
- ▶ 1 auxiliary contact
- ▶ 1 feedback loop can be connected



Description

Functional description

The evaluation unit CMS-E-BR is suitable for the direct connection of up to 4 read heads.

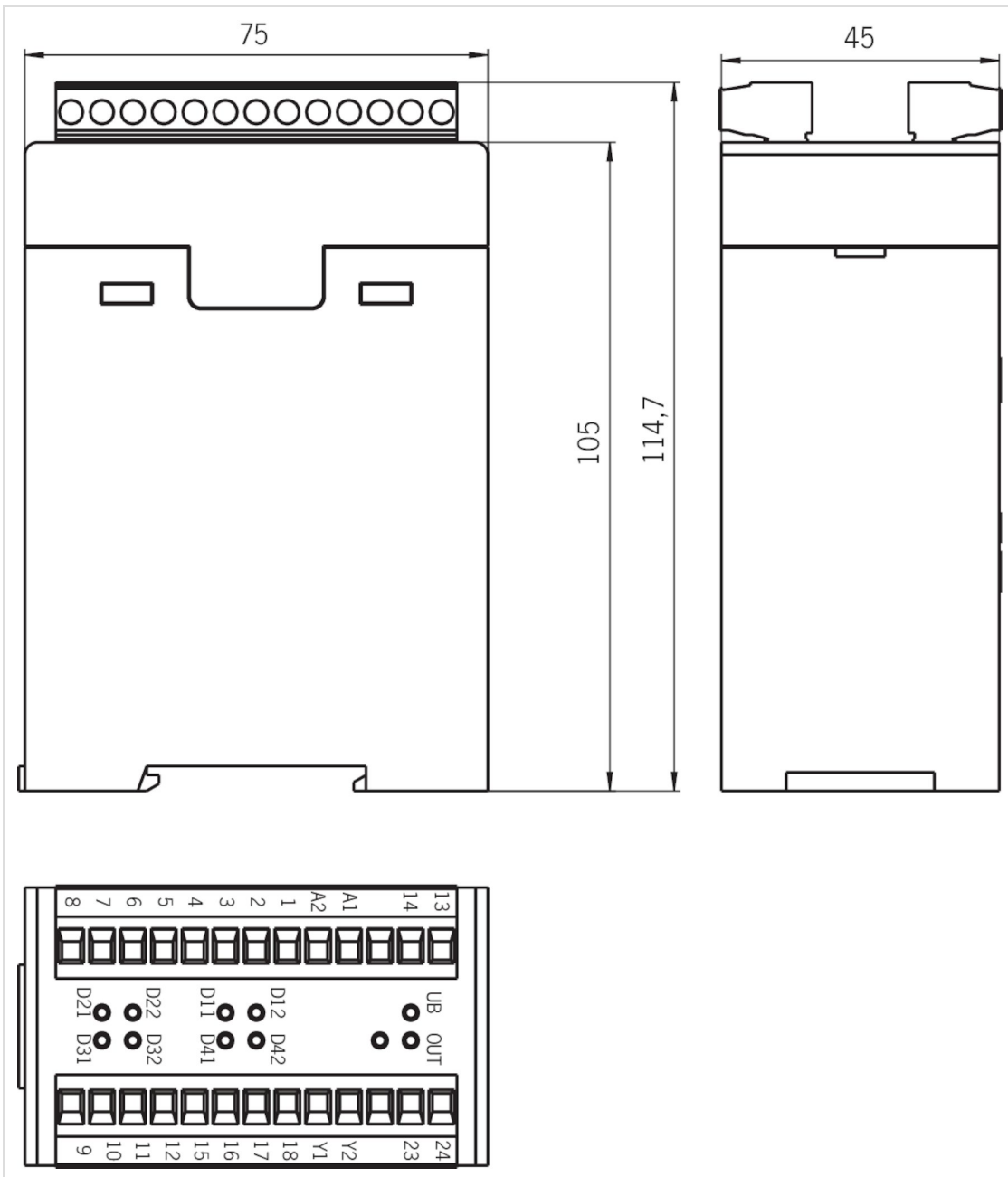
Category/PL according to EN ISO 13849-1

- ▶ Category 3/PL d with more than one read head connected
- ▶ Category 4/PL e with only one read head connected

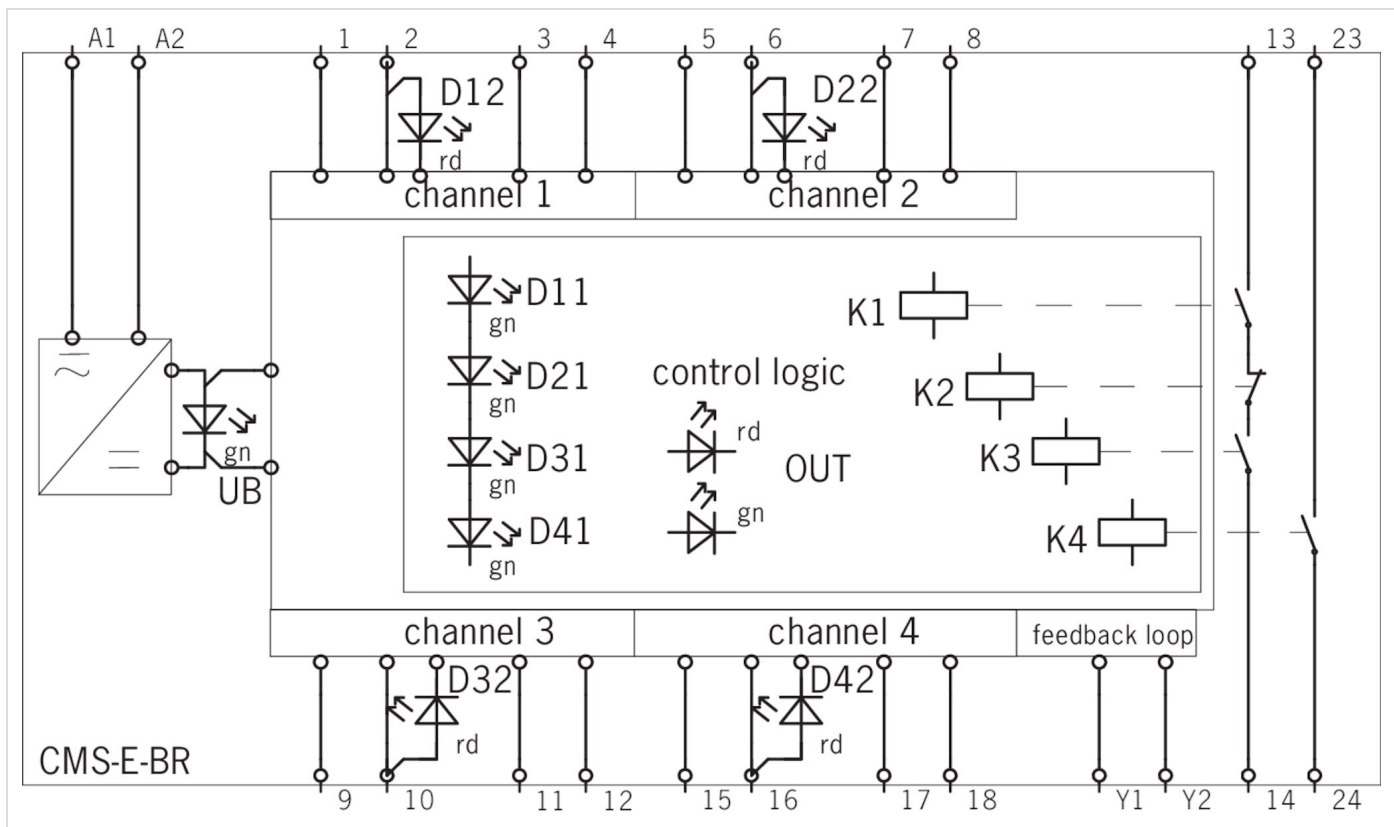
Notice:

At low approach speeds in the z direction, the time offset when switching the reed contacts must not be more than 150 ms.

Dimension drawing



Wiring diagram



Technical data

Approvals



Mechanical values and environment

Housing material

Housing Polycarbonate (PC)

Weight

Net 0,24 kg

Ambient temperature

0 ... 50 °C

Degree of protection

Terminals IP20 / housing IP40

Mechanical life

30 x 10⁶

Mounting method

Mounting rail 35mm according to DIN EN 60715 TH35

Number of read heads

Up to 4 read heads

Connection

Connection terminals, plug-in

Safety contacts 13/14

Number of safety contacts

1

Auxiliary contacts 23/24

Number of auxiliary contacts

1

Electrical connection ratings

Operating voltage

AC/DC 24 V -10% ... +10%
(All the electrical connections must either be isolated from the mains supply by a safety transformer according to EN 61558-2-6 with limited output voltage in the event of a fault, or by other equivalent isolation measures.)

Fusing

Protection internal (operating voltage UB) 0,5 A Automatically resetting fuse PTC

Rated insulation voltage U_i

AC 250 V

Degree of contamination (external, according to EN 60947-1) 2

Connection cross-section 0,14 ... 2,5 mm²

LED indicator 1 indicator LED Power (UB) green 1 LED safety output (OUT green/red) 8 LED status indicators (Dx1 / Dx2 /green/ red)

Safety contacts 13/14

Type of output Relay contacts, floating
(1 NO contact)

Current consumption 250 mA

Switching voltage

AC max.250 V

Switching current

at DC 24V 13 ... 3000 mA

Fusing

External contact fuse (safety circuit) acc. to EN IEC 3A gG
60269-1

Utilization category acc. to EN 60947-4-1

Utilization category acc. to EN 60947-5-1

AC-15 1A , 250V ; 1A 24V
(Max. switching current per contact)

DC-13 3A , 24V
(Max. switching current per contact)

Switching load

Switching load acc. to UL Class 2 Input: 24V AC/DC : Output: 30V AC , 24V DC

Breaking capacity (VA) max.750 VA

Risk time according to EN 60947-5-3 max.20 ms

Auxiliary contacts 23/24

Type of output Relay contact, floating
(1 NO contact)

Other

In compliance with EN ISO 13849-1: 2015; EN 50178: 1997; EN ISO 14119: 2013; EN 6100-6-3: 2007; EN 60947-5-2: 2007/A1: 2012; EN 60947-5-3: 2013

Reliability values according to EN ISO 13849-1

Monitoring of the guard position with 1 read head

Category	4 (This value is dependent on the number of switching cycles and the switching current)
Performance Level	PL e (This value is dependent on the number of switching cycles and the switching current)
PFH _D	2.5 x 10 ⁻⁸ (This value is dependent on the number of switching cycles and the switching current.)

Monitoring of the guard position with > 1 read head

Category	3 (This value is dependent on the number of switching cycles and the switching current)
Performance Level	PL d (This value is dependent on the number of switching cycles and the switching current. This value applies to cables laid with protection. The following applies if cables are laid without protection and more than one door must be opened frequently or if cables are laid without protection and more than 5 doors are connected in series: Performance Level = PL c, PFH _D = 1.1E-6. On this topic, also see EN ISO 14119:2014, section 8.6, and ISO TR 24119. Evaluation of the diagnostic coverage according to ISO TR 24119 must result in at least the value "low" in order to achieve PL d.)
PFH _D	1.0 x 10 ⁻⁷ (This value is dependent on the number of switching cycles and the switching current. This value applies to cables laid with protection. The following applies if cables are laid without protection and more than one door must be opened frequently or if cables are laid without protection and more than 5 doors are connected in series: Performance Level = PL c, PFH _D = 1.1E-6. On this topic, also see EN ISO 14119:2014, section 8.6, and ISO TR 24119. Evaluation of the diagnostic coverage according to ISO TR 24119 must result in at least the value "low" in order to achieve PL d.)

Number of switching cycles	
	≤ 0.1A at 24V DC max.100000 1/Jahr
	≤ 1A at 24V DC max.18500 1/Jahr
	≤ 3A at 24V DC max.9000 1/Jahr
Mission time	20 y (This value is dependent on the number of switching cycles and the switching current)

In combination with Read head CMS-R-AXH-03V, CMS-R-AXH-SC and Actuator CMS-M-AC

Actuating range

Center offset	
	At s=3 mm read distance 2,5 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)
Assured release distance S _{ar}	max.31 mm (The assured switch-off distance s_{ar} corresponds to the reset distance.)
Assured operating distance S _{ao}	
	With center offset m=0 min.6 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)

In combination with Read head CMS-R-BXI-03V, CMS-R-BXI-05V, CMS-R-BXI-SC, CMS-R-BXI-07P and Actuator CMS-M-BD

Actuating range

Center offset	
	At s=3 mm read distance 2,5 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)
Assured release distance S_{ar}	max.12 mm (The assured switch-off distance s_{ar} corresponds to the reset distance.)
Assured operating distance S_{ao}	
	With center offset m=0 min.3 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)

In combination with Read head CMS-R-CXC-03V, CMS-R-CXC-05V, CMS-R-CXC-05P, CMS-R-CXC-SC and Actuator CMS-M-CA

Actuating range

Center offset	
	At s=3 mm read distance 2,5 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)
Assured release distance S_{ar}	max.14 mm (The assured switch-off distance s_{ar} corresponds to the reset distance.)
Assured operating distance S_{ao}	
	With center offset m=0 min.6 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)

In combination with Read head CMS-R-EXM-03V, CMS-R-EXM-05V, CMS-R-EXM-SC and Actuator CMS-M-EF

Actuating range

Center offset	
	At s=3 mm read distance 2,5 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)
Assured release distance S_{ar}	max.17 mm (The assured switch-off distance s_{ar} corresponds to the reset distance.)
Assured operating distance S_{ao}	
	With center offset m=0 min.6 mm (Figure only applies if there is no ferromagnetic material in the vicinity of the read head and the actuator.)

Accessories

Read head

Read heads CMS design A - with NC/NO contacts, M8





100743
CMS-R-AXH-SC

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 88 x 25 mm
- ▶ Plug connector M8

Read heads CMS design A - with NC/NO contacts, PVC



084587
CMS-R-AXH-03V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 88 x 25 mm
- ▶ Connecting cable
- ▶ Cable type: PVC



085736
CMS-R-AXH-05V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 88 x 25 mm
- ▶ Connecting cable
- ▶ Cable type: PVC

Read heads CMS design B - with NC/NO contacts, M8



100696
CMS-R-BXI-SC

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 36 x 26 mm
- ▶ Plug connector M8

Read heads CMS design B - with NC/NO contacts, PUR



115117
CMS-R-BXI-07P

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 36 x 26 mm
- ▶ Connecting cable
- ▶ Cable type: PUR

Read heads CMS design B - with NC/NO contacts, PVC



085737
CMS-R-BXI-05V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 36 x 26 mm
- ▶ Connecting cable
- ▶ Cable type: PVC



085530
CMS-R-BXI-03V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cube-shaped version 36 x 26 mm
- ▶ Connecting cable
- ▶ Cable type: PVC

Read heads CMS design C - with NC/NO contacts, M8



103967
CMS-R-CXC-SC

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M25
- ▶ Plug connector M8

Read heads CMS design C - with NC/NO contacts, PUR



103872
CMS-R-CXC-05P

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M25
- ▶ Connecting cable
- ▶ Cable type: PUR

Read heads CMS design C - with NC/NO contacts, PVC



084575
CMS-R-CXC-03V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M25
- ▶ Connecting cable
- ▶ Cable type: PVC



085741
CMS-R-CXC-05V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M25
- ▶ Connecting cable
- ▶ Cable type: PVC

Read heads CMS design E - with NC/NO contacts, M8



103969
CMS-R-EXM-SC

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M30
- ▶ Plug connector M8

Read heads CMS design E - with NC/NO contacts, PVC



085634
CMS-R-EXM-03V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M30
- ▶ Connecting cable
- ▶ Cable type: PVC



085743
CMS-R-EXM-05V

- ▶ In combination with evaluation units
CMS-E-BR/CMS-E-ER/CMS-E-FR
- ▶ Cylindrical version M30
- ▶ Connecting cable
- ▶ Cable type: PVC

Contacts

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