

1) Reference edge, 2) Sensing surface, 3) Function indicator FD/FE/LL, 4) Mark. Safety switch position



Basic features

Approval/Conformity	CE UKCA WEEE
Basic standard	IEC 60947-5-1 IEC 60947-5-2
Operating principle	1. Switch position: Inductive 2-3. Switch position: Mechanical 4. Switch position: Inductive
Version	Safety EN 60204-1

Display/Operation

Function indicator	1. Switch position: Optical fiber 2-3. Switch position: None 4. Switch position: Optical fiber
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Electrical connection

Connection type	1-4. Switch position: Screw terminal
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Electrical data

Continuous current	1. Switch position: 0.2 A 2-3. Switch position: 6 A 4. Switch position: 0.2 A
Rated operating voltage Ue	1. Switch position: 24 V DC 2-3. Switch position: 250 V AC 4. Switch position: 24 V DC
Switching function mechanical	NC forced-opening per VDE Double-interrupting galvanically isolated One NO and one NC Dual changeover
Switching rate	2-3. Switch position: 160/min

Environmental conditions

Ambient temperature	-5...70 °C
IP rating	IP67

Functional safety

B10d (EN ISO 13849-1)	BSE 85: 1 mil. switching cycles
MTTF (40 °C)	BES 517-110: 490 a

Material

Housing material	Aluminium, Anodized
Housing material, surface protection	Anodized
Material contacts	2-3. Switch position: Fine silver
Plunger material	2-3. Switch position: 1.4034 stainless steel

Mechanical Cam Switches
BNS 813-B04-L12-61-A-55-0948
Order Code: BNS02M2

BALLUFF

Mechanical data

Approach direction	longitudinal, parallel to attachment surface
Approach speed	2-3. Switch position: 80 m/min
Dimension	79 x 60 x 77.5 mm
Distance cam - reference edge	2-3. Switch position: 4.50...5.00 mm
Flange, feed-through	None
Installation	Vertical
Life expectancy mechanical	2-3. Switch position: 1 mil. switching operations
Plunger spacing 1st switch position	12 mm
Plunger style	2-3rd switch position: Roller bearing

Switch actuation force

2-3. Switch position: 30 N

Switching element

- 1. Switch position: BES 517-110
- 2-3. Switch position: BSE 85
- 4. Switch position: BES 517-110

Range/Distance

Assured operating distance Sa

- 1. Switch position: 1.6 mm
- 4. Switch position: 1.6 mm

Range

2 mm

Rated operating distance Sn

- 1. Switch position: 2.0 mm
- 4. Switch position: 2.0 mm

Reproducibility

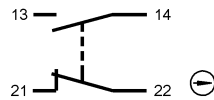
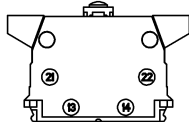
2-3. Switch position: ± 0.01 mm

Switch position spacing

12 mm

Wiring Diagrams

BSE 85



PA

