

Workspace

Repeat accuracy R

according to EN 60947-5-2

10 %

Electrical connection values

Fuse

external (operating voltage)

0.25 ... 8 A

Rated insulation voltage U_i

30 V

Rated impulse voltage U_{imp}

0.5 kV

Operating voltage DC

U_B

24 V DC -15% ... +15% regul.

Turn-on time

Safety outputs

max. 400 ms

EMC protection requirements

Acc. to EN IEC 60947-5-3

Risk time according to EN 60947-5-3

max. 260 ms

Risk time according to EN 60947-5-3, extension for each additional device

max. 5 ms

Safety class

III

Current consumption

max. 35 mA

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

3

Monitoring output OD

Output type

Semiconductor output, p-switch

Output voltage

0.8 x U_B ... U_B V DC

Switching current

max. 50 mA

Safety outputs FO1A/FO1B

Output type

Semiconductor outputs, p-switch

Output voltage	
HIGH $U(FO1A) / U(FO1B)$	UB-1.5V ... UB V DC
LOW $U(FO1A) / U(FO1B)$	0 ... 1 V DC
rated conditional short-circuit current	100 A
Discrepancy time	max. 10 ms
Utilization category	
DC-13	24V 200mA
Off-state current I_r	max. 0.25 mA
Switching current	
per safety output	1 ... 200 mA
Test pulse duration	max. 1.0 ms
Test pulse interval	min. 140 ms
Mechanical values and environment	
Connection type	Connecting cable PUR, length
Tightening torque	
Fixing screws	max. 0.8 Nm
Ready delay	10 s
Dynamic bending radius	10 x cable diameter
Static bending radius	5 x cable diameter
Installation orientation	any
Switching frequency	max. 1 Hz
Storage temperature	-25 ... 70 °C
Mounting distance	
between switches	min. 80 mm
Mounting type	Surface mounting on metal

Shock and vibration resistance	Acc. to EN IEC 60947-5-3
Degree of protection	IP67
Cable ambient temperature (dynamic)	-25 ... 65 °C
Cable ambient temperature (static)	-25 ... 65 °C
Material	
Rubber support	NBR 80 ±5 Shore
Housing	Plastic, PBT

Characteristic values according to EN ISO 13849-1 and EN IEC 62061

	PL	Maximum SIL	PFH_D	Category	Mission time
Monitoring of the guard position	PL e	-	4.1x10⁻⁹	4	20 y

Miscellaneous

Notices for UL approval	Operation only with UL Class
Additional feature	Rubber support included
In combination with actuator CES-A-BDN-06-104730	
Switch-on distance	
Installation position C or D (broad side)	15 mm
Installation position A or B (front side)	19 mm
Secured switch-off distance s_{ar}	
in y direction	max. 60 mm
in x/z direction	max. 40 mm
Secured switching distance s_{ao}	
Installation position C or D (broad side)	min. 10 mm
Installation position A or B (front side)	min. 14 mm

Switching hysteresis	1 ... 2 mm
In combination with actuator CES-A-BDN-06-161742	
Switch-on distance	
Installation position A	25 mm
Installation position C	20 mm
Secured switch-off distance s_{ar}	
Installation position C	max. 72 mm
Installation position A	max. 77 mm
Secured switching distance s_{ao}	
Installation position C	min. 10 mm
Installation position A	min. 15 mm
Switching hysteresis	1 ... 2 mm
In combination with actuator CES-A-BBN-161502	
Switch-on distance	
Installation position A + B	25 mm
Installation position C + D	20 mm
Secured switch-off distance s_{ar}	
in y direction / installation position C + D	max. 72 mm
in x-/z direction / installation position C + D	max. 64 mm
in y direction / installation position A + B	max. 77 mm
in x/z direction / installation position A + B	max. 69 mm
Secured switching distance s_{ao}	
Installation position C + D	min. 10 mm
Installation position A + B	min. 15 mm
Switching hysteresis	

Installation position A + B	1 ... 2 mm
Installation position C + D	1 ... 2 mm
In combination with actuator CES-A-BBN-C04-115271, CES-A-BBN-C04-EX-137527	
Switch-on distance	
Installation position C or D (broad side)	11 mm
Installation position A or B (front side)	15 mm
Secured switch-off distance s_{ar}	
in x/z direction	max. 40 mm
in y direction	max. 60 mm
Secured switching distance s_{ao}	
Installation position A or B (front side)	10 mm
Installation position C or D (broad side)	6 mm
Switching hysteresis	1 ... 2 mm

