

## BDF200-SD-NHK-SWS20-LTBU-LTRD

- slender shock-proof thermoplastic enclosure
- to be installed at an ergonomic favourable position
- to be fitted to commercial-off-the-shelf aluminium profiles
- E-STOP with electronic OSSDs

## Data

### Ordering data

Product type description	BDF200-SD-NHK-SWS20-LTBU-LTRD
Article number (order number)	103050608
EAN (European Article Number)	4030661628417
eCl@ss number, version 12.0	27-37-12-16
eCl@ss number, version 11.0	27-37-12-16
eCl@ss number, version 9.0	27-37-12-16
ETIM number, version 7.0	EC000225
ETIM number, version 6.0	EC000225
Note (Ordering data)	Notice: see ordering code

### Approvals - Standards

Certificates	cULus
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### General data

Standards	EN ISO 13849-1 EN ISO 13850 EN IEC 60947-5-1 EN IEC 60947-5-5 EN IEC 61508
Climatic stress	DIN EN 60068
Housing material	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
Reaction time, maximum	50 ms
Duration of risk, maximum	100 ms
Positions used, position 1	Emergency stop, with protective collar
Positions used, position 2	Key selector switch 2 positions
Positions used, position 3	Illuminated pushbutton, blue
Positions used, position 4	Illuminated pushbutton, red
Gross weight	280 g

## General data - Features

Serial diagnostics	Yes
Field box interface	0
Indicator lamp	No
Safety functions	Yes
Number of fail-safe digital outputs	2

## Safety classification

Standards	EN ISO 13849-1 EN IEC 61508
Performance Level, up to	e
Category	4
PFH value	$2.89 \times 10^{-10}$ /h
Note (PFH-value)	up to max. 5,000 switching cycles/year
Safety Integrity Level (SIL), suitable for applications in	3
Mission time	20 Year(s)

## Mechanical data

Mechanical life, Emergency-Stop button	100,000 Operations
Mechanical life, Command devices	1,000,000 Operations
Mounting	interior mounting holes
Type of the fixing screws	2x M5

## Mechanical data - Connection technique

Terminal (mechanical)	Connector plug M12, 8-pole, A-coded
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## Mechanical data - Dimensions

Width	40 mm
Height	69 mm
Depth	220 mm
Length x Width x Height	Depth: 233.5 - 252.5 mm (without and with indicator lamp)

## Ambient conditions

Degree of protection	IP65
Ambient temperature	-25 ... +65 °C
Storage and transport temperature	-25 ... +85 °C
Resistance to vibrations	10 ... 150 Hz, amplitude 0.35 mm / 5 g
Resistance to shock	30 g / 11 ms
Protection class	III
Permissible installation altitude above sea level, maximum	2,000 m

## Ambient conditions - Insulation values

Rated insulation voltage $U_i$	32 VDC
Rated impulse withstand voltage $U_{imp}$	0.8 kV
Overvoltage category	III

Degree of pollution 3

## Electrical data

Operating voltage	24 VDC -15 % / +10 % (stabilised PELV power supply)
No-load supply current $I_0$ , typical	35 mA
Rated operating voltage	24 VDC
Operating current	600 mA
Required rated short-circuit current	100 A
Time to readiness, maximum	2,000 ms
Switching frequency, maximum	1 Hz

## Electrical data - Safety digital inputs

Designation, Safety inputs	X1 and X2
Switching thresholds	-3 V ... 5 V (Low) 15 V ... 30 V (High)
Current consumption at 24 V	5 mA
Test pulse duration, maximum	1 ms
Test pulse interval, minimum	100 ms
Classification ZVEI CB24I, Sink	C1
Classification ZVEI CB24I, Source	C1 C2 C3

## Electrical data - Safety digital outputs

Designation, Safety outputs	Y1 and Y2
Design of control elements	short-circuit proof, p-type
Voltage drop $U_d$ , maximum	1 V
Leakage current $I_l$ , maximum	0.5 mA
Voltage, Utilisation category DC-12	24 VDC
Current, Utilisation category DC-12	0.25 A
Voltage, Utilisation category DC-13	24 VDC
Current, Utilisation category DC-13	0.25 A

Test pulse interval, typical	1000 ms
Test pulse duration, maximum	1 ms
Classification ZVEI CB24I, Source	C1
Classification ZVEI CB24I, Sink	C1

## Electrical data - Serial diagnostic SD

Designation, Serial diagnostic SD	OUT
Operation current	100 mA
Design of control elements	short-circuit proof, p-type
Wiring capacitance	50 nF

## Pin assignment

PIN 1	A1 Supply voltage UB
PIN 2	X1 Safety input 1
PIN 3	A2 GND
PIN 4	Y1 Safety output 1
PIN 5	OUT serial diagnostic output
PIN 6	X2 Safety input 2
PIN 7	Y2 Safety output 2
PIN 8	IN serial diagnostic input

## Pictures

### Product picture (catalogue individual photo)



ID: kbdf2f03

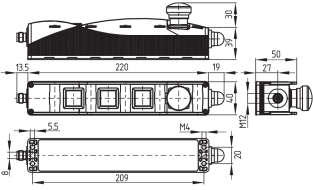
| 1.5 MB | .jpg | 352.778 x 802.217 mm - 1000 x 2274 px - 72 dpi

| 26.1 kB | .png | 22.013 x 50.038 mm - 260 x 591 px - 300 dpi

| 125.1 kB | .png | 74.083 x 168.275 mm - 210 x 477 px - 72 dpi

| 49.5 kB | .jpg | 54.328 x 123.472 mm - 154 x 350 px - 72 dpi

## Dimensional drawing basic component



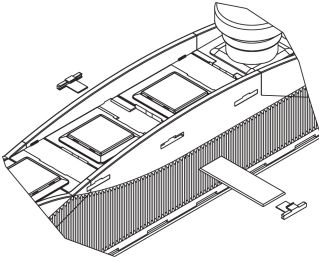
ID: 1bdf2g03

| 358.0 kB | .cdr |

| 14.8 kB | .png | 74.083 x 51.506 mm - 210 x 146 px - 72 dpi

| 164.7 kB | .jpg | 352.778 x 245.181 mm - 1000 x 695 px - 72 dpi

## Operating principle

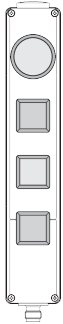


ID: kbdf-a08

| 284.5 kB | .jpg | 352.778 x 281.517 mm - 1000 x 798 px - 72 dpi

| 5.0 kB | .png | 74.083 x 59.267 mm - 210 x 168 px - 72 dpi

## Clipart

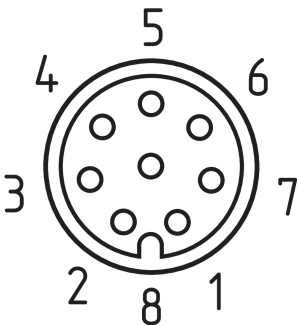


ID: kbdf-c03

| 64.1 kB | .cdr |

| 7.7 kB | .png | 74.083 x 404.989 mm - 210 x 1148 px - 72 dpi

## Contact arrangement



ID: km23-k8a

| 18.0 kB | .cdr |

| 5.5 kB | .png | 73.731 x 79.728 mm - 209 x 226 px - 72 dpi

| 155.6 kB | .jpg | 352.778 x 380.647 mm - 1000 x 1079 px - 72 dpi

Schmersal India Pvt. Ltd., Plot No - G-7/1, Ranjangaon MIDC, Tal. - Shirur, Dist.- Pune 412 220

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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