



## BDF200-FB-NHK-WS20-LTBU-LTBU-G24

- integrated FB interface for connection to the Safety-Field-Box SFB
- Pos 1: E-STOP with protective collar
- Pos 2: Selector switch, 2 positions
- Pos 3: BLUE illuminated pushbutton
- Pos 4: BLUE illuminated pushbutton
- Indicator lamp G24 on top
- 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-FB-NHK-WS20-LTBU-LTBU-G24 |
| Article number (order number) | 103025654                        |
| EAN (European Article Number) | 4030661513881                    |
| eCl@ss number, version 9.0    | 27-37-12-16                      |
| eCl@ss number, version 11.0   | 27-37-12-16                      |
| eCl@ss number, version 12.0   | 27-37-12-16                      |
| ETIM number, version 7.0      | EC000225                         |
| ETIM number, version 6.0      | EC000225                         |

### Approvals - Standards

|              |                     |
|--------------|---------------------|
| Certificates | TÜV<br>cULus<br>EAC |
|--------------|---------------------|

## General data

|                            |                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------|
| Standards                  | EN IEC 60947-5-1<br>EN ISO 13849-1<br>EN IEC 61508<br>EN IEC 60947-5-5<br>EN ISO 13850 |
| Climatic stress            | IEC 60947-5-5                                                                          |
| Terminal (mechanical)      | Connector plug M12, 8-pole, A-coded                                                    |
| Enclosure material         | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing                      |
| Gross weight               | 280 g                                                                                  |
| Reaction time, maximum     | 50 ms                                                                                  |
| Duration of risk, maximum  | 100 ms                                                                                 |
| Positions used, position 1 | Emergency stop, with protective collar                                                 |
| Positions used, position 2 | Selector switch, 1 latching position and 1 zero position, standard knob                |
| Positions used, position 3 | Illuminated pushbutton, blue                                                           |
| Positions used, position 4 | Illuminated pushbutton, blue                                                           |

## General data - Features

|                     |                        |
|---------------------|------------------------|
| Serial diagnostics  | No                     |
| Field box interface | YN_FIELDBOX_INTERFACE1 |
| Indicator lamp      | Yes                    |
| Safety functions    | Yes                    |

## Safety classification

|                                                            |                                        |
|------------------------------------------------------------|----------------------------------------|
| Standards                                                  | EN ISO 13849-1<br>EN IEC 61508         |
| Performance Level, up to                                   | e                                      |
| Category to EN ISO 13849                                   | 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 |

### Mechanical data - Dimensions

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

### Ambient conditions

|                                            |                                        |
|--------------------------------------------|----------------------------------------|
| Degree of protection                       | IP64                                   |
| Ambient temperature, minimum               | -25 °C                                 |
| Ambient temperature, maximum               | +65 °C                                 |
| Storage and transport temperature, minimum | -25 °C                                 |
| Storage and transport temperature, maximum | +85 °C                                 |
| Resistance to vibration to EN 60068-2-6    | 10 ... 150 Hz, amplitude 0.35 mm / 5 g |
| Resistance to shock                        | 30 g / 11 ms                           |
| Protection class                           | III                                    |

### 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 to VDE 0100           | 3      |

### Electrical data

|                            |      |
|----------------------------|------|
| Current consumption at 24V | 5 mA |
|----------------------------|------|

|                                                      |                                               |
|------------------------------------------------------|-----------------------------------------------|
| No-load supply current $I_0$ , maximum               | 35 mA                                         |
| Rated operating voltage                              | 24 VDC –15 % / +10 %<br>(PELV to IEC 60204-1) |
| Operating current                                    | 150 mA<br>600 mA                              |
| Required rated short-circuit current to EN 60947-5-1 | 100 A                                         |
| Utilisation category DC-12                           | 24 VDC                                        |
| Utilisation category DC-12                           | 0.25 A                                        |
| Utilisation category DC-13                           | 24 VDC                                        |
| Utilisation category DC-13                           | 0.25 A                                        |
| Inputs, Switching thresholds                         | –3 V ... 5 V (Low)<br>15 V ... 30 V (High)    |

### Electrical data - Safety digital outputs

|                                          |                             |
|------------------------------------------|-----------------------------|
| Rated operating current (safety outputs) | 250 mA                      |
| Design of control elements               | short-circuit proof, p-type |
| Voltage drop $U_d$ , maximum             | 1 V                         |
| Leakage current $I_r$ , maximum          | 0.5 mA                      |

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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.

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