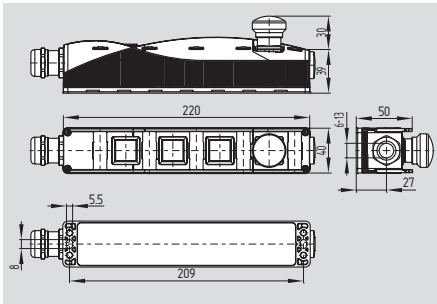


BDF 200



- Slim, shock-resistant plastic enclosure
- Can be fitted onto customary aluminium profile systems
- Can be installed in the most favourable ergonomic position
- Comprehensive selection of illuminated pushbuttons, selector switches, signalling devices with LED, key-operated switches and emergency stop switches/pushbuttons
- Emergency stop, start/stopp and reset functions available
- The position of the switch/pushbutton on the control panel can be chosen
- Two-layer plastic identification labels can be used (engravements on request)
- AS-Interface Safety at Work available

Technical data

Standards: EN 60947-5-1, EN 60947-5-5

Enclosure:
 Enclosure material: glass-fibre reinforced thermoplastic, self-extinguishing
 Enclosure protection class: IP 65
 Cable entry: 1x M20 for cable Ø 6...13 mm

Ambient conditions:
 Ambient temperature: -25 °C ... +65 °C
 Climatic resistance: to DIN EN 60068, Part 2 - 30

Overvoltage category: III
 Degree of pollution: 3

Contact elements:
 Contact material: AgNi 10, gold-plated
 Control elements - protection class: IP 65
 Rated operating voltage U_i : max. 24 V
 Utilisation category: AC-15/DC-13
 Rated operating current/voltage I_e/U_e : AC-15: 2 A / 24 VAC
 DC-13: 1 A / 24 VDC

Thermal test current I_{the} : 2.5 A
 Fuse rating: 2.5 A slow-blow
 Contact system: cross-point system
 Contact force: 0.5 N per contact point = 1 N per contact

Switching of low voltages: min. 5 V / 1 mA
 Switching frequency: 1,200 s/h
 Rated insulation voltage U_i : 60 V
 Bounce time: < 2 ms at 100 mm/s operating speed

Mech. lifetime: 1 million operations
 Switch travel: approx. 3 mm
 Resistance to shocks: 100 g / 6 ms
 Resistance to vibrations: 20 g, 10 ... 200 Hz
 Wiring labels: to DIN EN 50005 or DIN EN 50013

Actuating force at end of travel (1NC/1NO): 8 N

Technical data

Illuminated pushbuttons:
 Enclosure material: glass-fibre reinforced thermoplastic, self-extinguishing
 Illuminated pushbutton material: all-insulated
 Front collar material: plastic
 Calotte material: plastic
 Illuminated pushbutton - protection class: IP 65
 Rated operating voltage U_i : max. 24 V
 Fuse rating: 2.5 A slow-blow
 Rated insulation voltage U_i : 60 V
 Wiring labels: to DIN EN 50005 or DIN EN 50013: X1/X2

Lamp values illuminated pushbutton:
 Lamp fitting: Ba5S
 LED replacement: from front

Safety classification emergency stop command device:
 Standards: EN ISO 13849-1
 B_{10d} : 100,000
 Mission time: 20 years

$$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}} \quad n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$$

Approvals

under preparation

Ordering details

BDF 200-①-②-③-④-⑤

No.	Option	Description
①	NH	Emergency stop latching pushbutton without protective collar
	NHK	with protective collar
	...	Operating element pos. 1
②	20 *	2 NO contacts
	11 *	1 NO / 1 NC contact
③	...	Operating element pos. 2
④	...	Operating element pos. 3
⑤	...	Operating element pos. 4

Unused positions are labelled „B“ and are sealed with a blanking plug in factory.

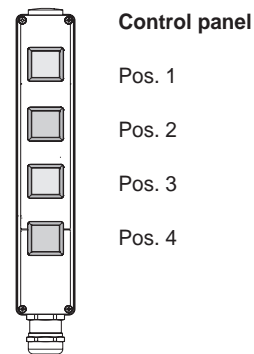
Note

* Contact variant -20 or -11 continuous for all positions (exception: emergency stop with 1 NO / 2 NC contacts)
Contact variants -20 or -11 cannot be combined to each other

Example:
 BDF 200-NH-20-DTYE-B-LMGN


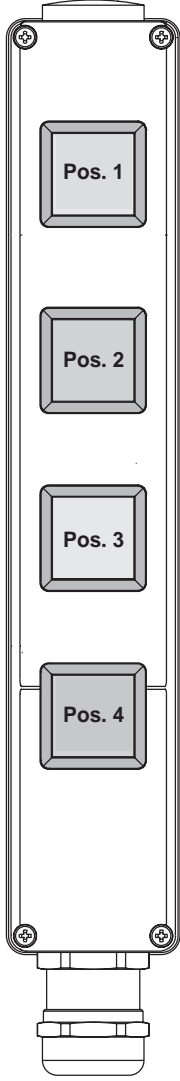



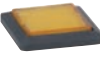



The description of the suitable control elements can be found as of page 42.

Note



Possible equipment of the positions 1 to 4, refer to table page 41.

Innovations 2010/2011 - Control panel BDF 200

Control elements		Pos. 1	Pos. 2	Pos. 3	Pos. 4	Control panel
	NH	•				
	NHK	•				
	PT..	•	•	•	•	
	DT..	•	•	•	•	
	LT..	•	•	•	•	
	LM..	•	•	•	•	
	SWS20 SWT20		•	•		
	WS20 WS30 WT20 WT30 WTS30		•	•		
	WS21 WS31 WT21 WT31 WTS31		•	•		

Description of the control elements, as of page 42.

Note

The colour of the upper enclosure cap basically is yellow when the emergency stop command devices NH and NHK are used. If there is no control element in position 1, the control panel is supplied with a black enclosure cap.

Innovations 2010/2011 - Control panel BDF 200

NH / NHK



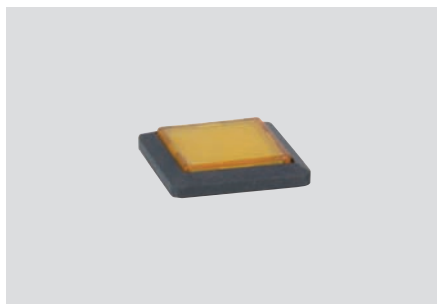
- **Emergency stop latching pushbutton**
- Mushroom-shaped plastic pushbutton, Ø 30 mm
- Pull to reset
- 1 NO contact / 2 NC contacts
- Without protective collar: ordering suffix **NH**
- With protective collar: ordering suffix **NHK**

DT..



- **Pushbutton**
- With concave button
- Contact surface 19 x 19 mm
- 2 NO contacts or 1 NO/1 NC contact
- Available in 6 different colours
- Prints on device on request
- Ordering suffix, refer to table below

LM..



- **Signalling device**
- Illuminated surface 19 x 19 mm
- Lamp replacement from front
- Available in 5 different colours
- Prints on device on request
- Ordering suffix, refer to table below

PT..



- **Mushroom-shaped pushbutton**
- Contact surface 25 x 25 mm with rounded sides
- Not latching
- 2 NO contacts or 1 NO/1 NC contact
- Available in 6 different colours
- Prints on device on request
- Ordering suffix, refer to table below

LT..



- **Illuminated pushbutton**
- With concave button
- Contact surface 19 x 19 mm
- 2 NO contacts or 1 NO/1 NC contact
- Lamp replacement from front
- Available in 5 different colours
- Prints on device on request
- Ordering suffix, refer to table below

Suffix	yellow	red	green	blue	black	white
Mushroom-shaped pushbutton PT..	PTYE	PTRD	PTGN	PTBU	PTBK	PTWH
Pushbutton DT..	DTYE	DTRD	DTGN	DTBU	DTBK	DTWH
Illuminated pushbutton LT..	LYE	LTRD	LTGN	LTBU		LTWH
Signalling device LM..	LMYE	LMRD	LMGN	LMBU		LMWH

Innovations 2010/2011 - Control panel BDF 200

W..0



- **Selector switch / Spring-return selector switch**
- Version with standard knob, anthracite grey
- Ordering suffix, refer to table below

W..1



- **Selector switch / Spring-return selector switch**
- Version with long knob, anthracite grey
- Ordering suffix, refer to table below

SW.20



- **Key-operated selector switch / Spring-return selector switch**
- Version with high-grade cylinder lock, therefore IP 65 as well
- Ordering suffix, refer to table below

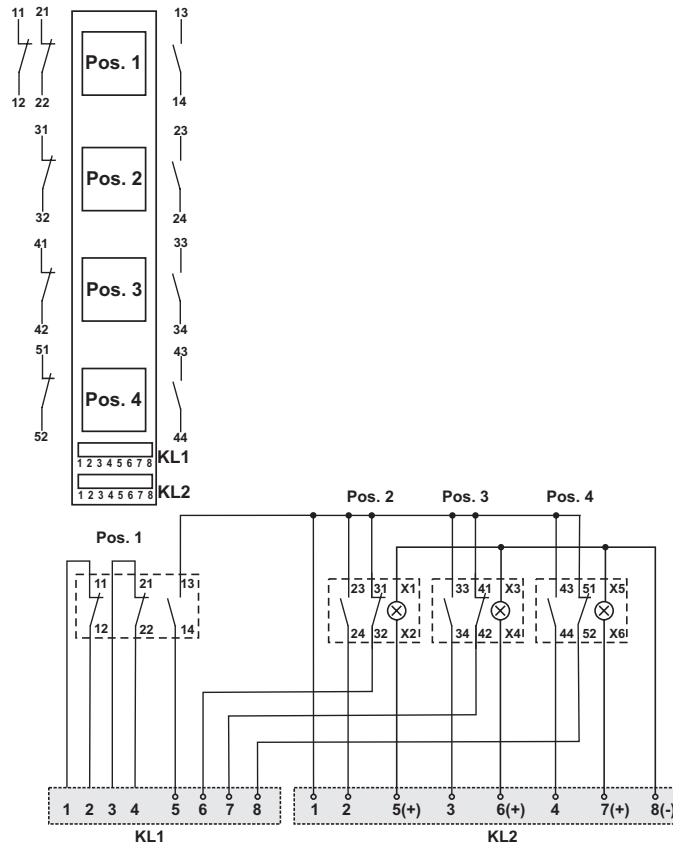
Ordering suffix	Selector switch	Selector switch	Spring-return	Spring-return	Selector switch
	1 latching position	2 latching positions left and right of the zero position	1 touch position and automatic return to the zero position	2 touch positions left and right of the zero position and automatic return to the zero position	1 touch position right and automatic return to the zero position + 1 latching position left of the zero position
	2 NO contacts or 1 NO/1 NC contact	1 NO contact for each switching position or 1 NC contact (position 1) and 1 NO contact (position 2)	2 NO contacts or 1 NO/1 NC contact	1 NO contact for each switching position or 1 NC contact (position 1) and 1 NO contact (position 2)	1 NO contact for each switching position or 1 NC contact (position 1) and 1 NO contact (position 2)
Standard knob	WS20	WS30	WT20	WT30	WTS30
Long knob	WS21	WS31	WT21	WT31	WTS31
Key-operated switch	SWS20		SWT20		

BDF 200-NH-11-...

1 NO / 2 NC contacts
for emergency stop at Pos. 1

1 NO / 1 NC contact
for operating elements at Pos. 2 - 4

Terminal configuration

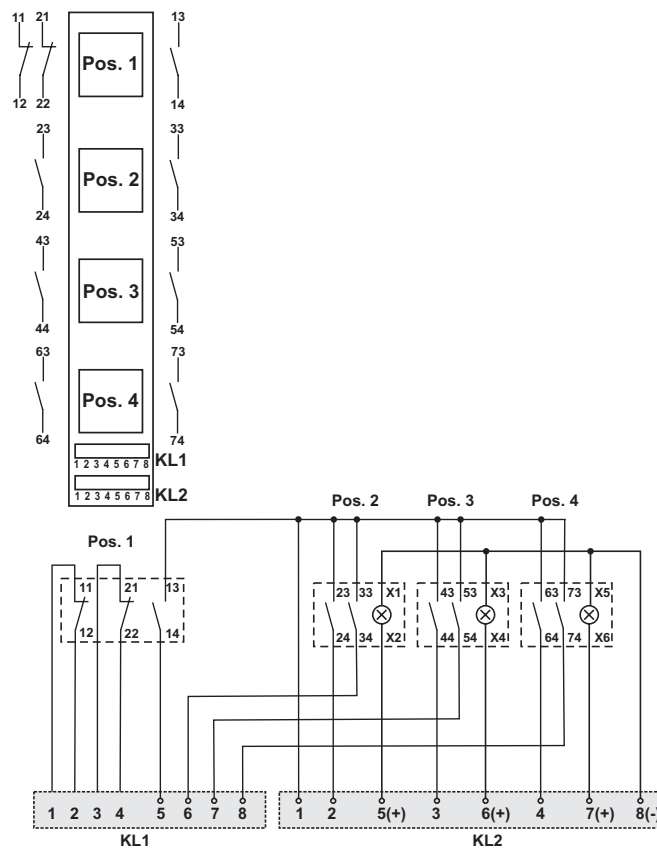


BDF 200-NH-20-...

1 NO / 2 NC contacts
for emergency stop at Pos. 1

2 NO contacts
for operating elements at Pos. 2 - 4

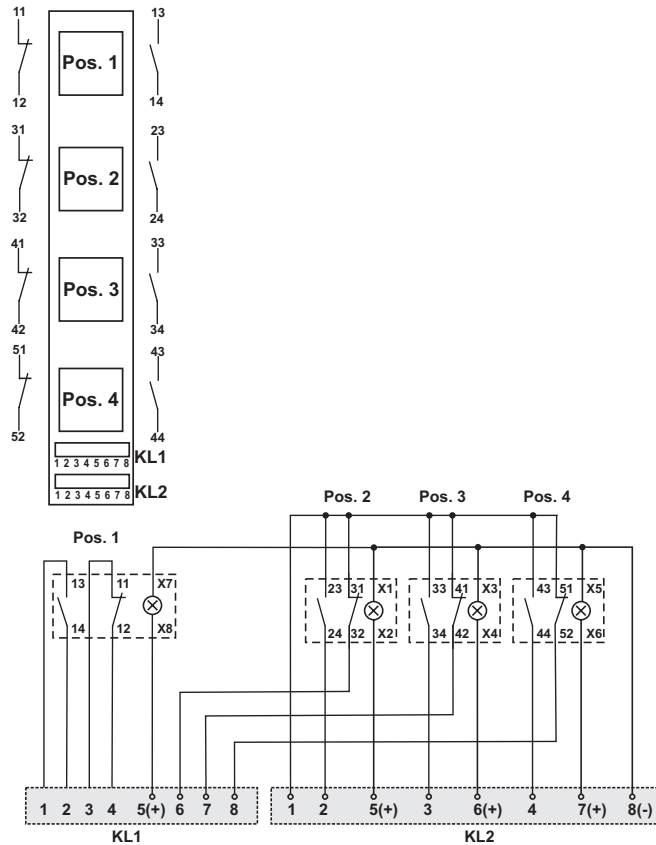
Terminal configuration



BDF 200-..-11-...

1 NO / 1 NC contact
for operating elements at Pos. 1 - 4

Terminal configuration



BDF 200-..-20-...

2 NO contacts
for operating elements at Pos. 1 - 4

Terminal configuration

