

**Semiconductor contactor BF 9250, BH 9250 powerswitch**

0231842



BF 9250 up to 10 A

BF 9250 up to 50 A



BF 9250 up to 25 A

BH 9250 up to 10 A

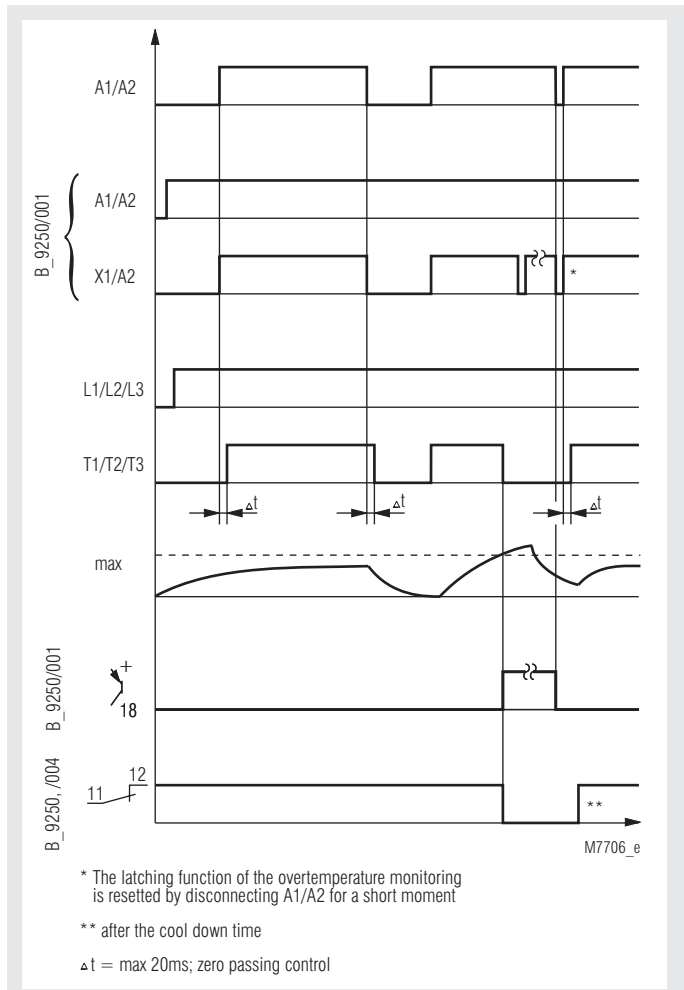
- According to IEC/EN 60 947-4-2, IEC/EN 60 947-4-3
- 1-, 2- and 3-pole models
- Load current up to 50 A
- For AC load up to 480 V
- Switching at zero crossing
- Protected by varistors
- As option temperature protection of the power semiconductors with monitoring output
- Mounting on DIN-rail
- As option with LED indicators
- As option with control input X1 with low current consumption e.g. to be controlled by a PLC
- As option up to 3 separate semiconductor contactors in one unit
- BF 9250: width 22.5 mm, 45 mm and 90 mm
- BH 9250: width 45 mm, 67.5 mm and 112.5 mm

**Approvals and marking**



\* pending

**Function diagram**



**Applications**

- Fast and noiseless switching of:
- heating elements
  - motors
  - valves
  - lighting

**Indication**

- BF 9250.\_\_\_/001 and /002  
 BH 9250.\_\_\_/001
- green LED: on, when voltage on A1/A2  
 yellow LED: on, when voltage on X1  
 red LED: on, when overtemperature
- BF 9250.\_\_\_/003
- green LED A1: on, when A1 connected  
 green LED A3: on, when A3 connected  
 green LED A5: on, when A5 connected
- BF 9250.\_\_\_/004
- green LED A1: on, when A1 connected  
 green LED A2: on, when A2 connected  
 green LED A3: on, when A3 connected

## Technical data

### Input

#### Control voltage

##### BF 9250.\_ \_

A1/A2: AC/DC 110 ... 230 V

##### BF 9250.\_ \_/003:

A1/A2: DC 24 V, control of T<sub>a</sub>

A3/A4: DC 24 V, control of T<sub>b</sub>

A5/A6: DC 24 V, control of T<sub>c</sub>

##### BF 9250.\_ \_/004:

A1/A4: DC 24 V, control of T<sub>a</sub>

A2/A4: DC 24 V, control of T<sub>b</sub>

A3/A4: DC 24 V, control of T<sub>c</sub>

**Auxiliary voltage U<sub>H</sub> A1/A2:** DC 24 V

Voltage tolerance: ± 10 %

Pick-up voltage: DC 20 V

Drop-out voltage: DC 8 V

Input current: 35 mA

##### BF 9250.\_ \_/001

#### Control input X1

Control voltage: DC 3 ... 48 V

Pick-up voltage: DC 3 V

Drop-out voltage: DC 2 V

Input current: 0,5 mA at DC 3 ... 10 V

10 mA at DC 10 ... 48 V

### Output

#### Load output T1, T2, T3

##### Load currents at 100 % duty cycle:

BF 9250 BH 9250	Ambient temperature	Devices without heat sink	Devices with small heat sink	Devices with large heat sink
1-pole	25°C	13 A	30 A	55 A
	40°C	10 A	25 A	50 A
2-pole	25°C	7 A	17.5 A	28 A
	40°C	6,5 A	15 A	25 A
3-pole	25°C	6 A	14 A	20 A
	40°C	5 A	10 A	15 A

Tasks are for AC 51: Switching of resistive/inductive loads of  $\cos \varphi = 0.1 \dots 1$

#### Current reduction over 40°C

BF 9250 BH 9250	Device without heat sink	Device with small heat sink	Device with large heat sink
1-pole	0.2 A / °C	0.4 A / °C	0.6 A / °C
2-pole	0.2 A / °C	0.3 A / °C	0.4 A / °C
3-pole	0.2 A / °C	0.2 A / °C	0.3 A / °C

**Load voltage range:** AC 24 ... 530 V

**Frequency range:** 50 / 60 Hz

#### Leakage current in off state

##### at nominal voltage U<sub>N</sub> and nominal frequency

(T<sub>j</sub>=125°C, max.): 1.0 mA

**at load voltage up to:** AC 480 V

Peak inverse voltage: ± 1 200 V<sub>p</sub>

#### Short circuit current

at t=10 ms

BF 9250.01; .02; .92;

BH 9250.01; .02: 600 A

BF 9250.03; .93;

BH 9250.03: 400 A

#### Power dissipation

$P = 1.2 [V] \times I \text{ eff. } [A] / k [W]$

with k as formfactor and

k = 1.1 for sinusoidal current

## Technical data

### Semiconductor fuse

BF 9250 BH 9250	I <sub>N</sub>	load limit integral of the semiconductor	Semiconductor fuse		
			Type	Article-No.	Brand
1-pole devices	10 A	1800 A <sup>2</sup> s	fuse 10 x 38	6003434.16	SIBA
	25 A	1800 A <sup>2</sup> s	fuse 10 x 38	6003434.30	SIBA
	50 A	1800 A <sup>2</sup> s	NH-00	2020920.63	SIBA
2-pole devices	2x6.5 A	1800 A <sup>2</sup> s	fuse 10 x 38	6003434.10	SIBA
	2x15 A	1800 A <sup>2</sup> s	fuse 10 x 38	6003434.20	SIBA
	2x25 A	1800 A <sup>2</sup> s	fuse 10 x 38	6003434.30	SIBA
3-pole devices	3x5 A	800 A <sup>2</sup> s	fuse 10 x 38	6003434.8	SIBA
	3x10 A	800 A <sup>2</sup> s	fuse 10 x 38	6003434.16	SIBA
	3x15 A	800 A <sup>2</sup> s	fuse 10 x 38	6003434.20	SIBA

**Varistor voltage:** AC 510 V

### Semiconductor monitoring output

**Output (Terminal 18):** transistor, plus switching

**switched auxiliary voltage:** DC 24 V

**Switching capacity:** 100 mA, short circuit proof

**Residual voltage:** typ. 0.6 V

**Output (NC contact 11, 12)**

**Switching capacity:** AC 240 V / 2.0 A  $\cos \varphi = 1$

AC 240 V / 1.0 A  $\cos \varphi = 0.6$  inductive

DC 24 V / 1.0 A

## Variants

BF 9250._ _/001:	With low current input X1
BH 9250._ _/001:	With bigger diameter for control wires
BF 9250.92/003, BF 9250.93/003:	2 or 3 power semiconductor controlled by a separate input with galvanic isolation, without temperature monitoring of the semiconductors
BF 9250.02/004, BF 9250.03/004:	2 or 3 power semiconductor controlled by a separate input with common ground with temperature monitoring of the semiconductors signal output not latching without LED display of $\vartheta$ .

### Ordering example for Variants

