Technical data

# Residual Current-operated Circuit Breakers (RCCBs) F 360 and F 370 Range

System pro *M*

When connecting aluminium conductors ensure that the contact surfaces of the conductors are cleaned, brushed and treated with grease. Re-tighten contact terminals after 6 to 8 weeks' time.

We recommend that connector sleeves be used when working with flexible conductors.

**Conditions for Delivery and Sale**

For domestic business, the Standard Terms for Delivery of Products and Services of the Electrical Industry (ABB Form 2292) shall apply in connection with the Standard Sale Terms (ABB Form 2327) in their then applicable version. For foreign business, the Standard Terms for Delivery of Products and Services of the Electrical Industry (ABB Form 2293 German-English, or ABB-Form 2294 German- French) shall apply in connection with the Standard Sale Terms (ABB-Form 2381 English) in their then applicable version.

**Warranty**

We assume warranty in accordance with the Standard Sale and Delivery Terms. Complaints shall be made in writing within eight days following receipt of the goods.

**Technical information and illustrations are not binding and subject to change without notice.**

# Residual Current-operated Circuit Breakers F 360 and F 370 Range

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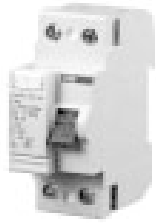
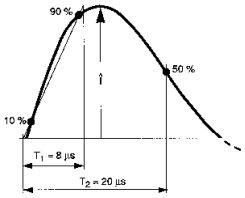
SK 0036 B 96

**F 362**



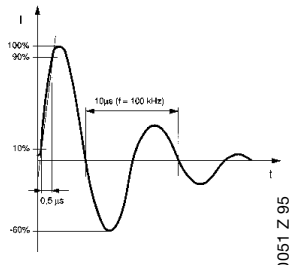
SK 0041 B 96

**F 372**




SK 0092 Z 94

Puls waveshape 8/20
Î = 250 A
acc. to DIN VDE 0432 Part 2
and IEC 60060-2




SK 0051 Z 95

Pulse waveshape acc. to
IEC 61008 (0.5µs/100kHz)

## General

### Description

The Residual Current operated Circuit-Breakers F 360 and F 370 have a measuring systems consisting of a summation current transformer with a permanent magnet tripping device.

It detects **at the F 360:**
a.c. fault currents.

**at the F 370**
a.c. fault currents and pulsating d.c. fault currents
The F 370 can withstand surge currents up to 250 A
(pulse waveshape 8/20 in accordance with DIN VDE 0432 part 2).

Transient fault current pulses can occur due to voltages pulses superimposed on the network, e.g. due to switching of fluorescent lamps, X-ray apparatus and the use of thyristor controls.

The RCCB's F 360 and F 370, when combined with an upstream fuse gl 63 A, are short-circuit proof up to 6 kA non-inductive short-circuit current (DIN VDE 0664 part 1). A STOTZ MCB S 700-E 63 can also be used instead of a fuse.

The permissible ambient temperature is + 55 °C down to – 25 °C

The types F 360 H / F 370 H have an factory assembled auxiliary contact with a potential free alternating contact, controlled by the main contact of the F 360 / F 370.

### Functions

Protection against dangerous currents through body

- in the event of touch voltage being to high due to bodily contact with the operating device (protection in the event of indirect contact with the service circuit).
- in the event of direct contact with a live conductor, when $I_{\Delta n} \leq 30$ mA and where dangerous currents through the body need to be disconnected in shortest time (protection in the event of direct contact).

### Protection against fire

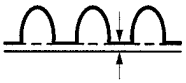
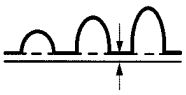
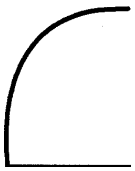
- Protection against the occurence of electrically ignited fires (with $I_{\Delta n} \leq 300$ mA).

### Application

The achievement of increased safety in all wiring installations and also in supply areas where the installation rules prescribe or recommend the use of residual current-operated protective devices.

The F 360 and F 370 are mounted on DIN rails in accordance with EN 50 022, 35 mm by snap-on fastening. Individual installation by means of a mounting kit or insulated housing (see page 10).

**Protection ensured by types AC, A and B residual currents devices (RCD) acc. to IEC 755 Amend. 2**

| | Form of residual current | | Correct functionning of residual current devices [1] Type | | |
|---|---|---|---|---|---|
| | | | AC | A | B |
| Sinusoidal a.c. | suddenly applied<br>  <br>slowly rising | SK0004 Z 96 | + | + | + |
| Pulsating d.c. | suddenly applied<br>  <br>with or without 0.006 A<br>  <br>slowly rising | SK0002 Z 96 | | + | + |
| Smooth d.c. |  | SK0001 Z 96 | | | + |

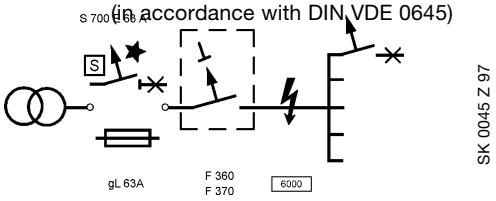
[1] Indicated by +.

**Classification of the STOTZ-Residual Current operated Devices**

| **Types** | | |
|---|---|---|
| **AC** | **A** | **B** |
| **F 360**<br>**F 660** | **F 370**<br>**F 390**<br>**F 670**<br>**F 694**<br><br>**F 270**<br>**P 270**<br><br>**F 402** | **F 804** |

## Technical Data

| | |
|---|---|
| Regulations: | IEC 61008, EN 61008 and DIN VDE 0664 |
| No. of poles: | 2 and 4 poles |
| Rated currents $I_n$: | 16, 25, 40 and 63 A |
| Rated residual operating currents $I_{\Delta n}$: | 10, 30, 100, 300, 500 mA |
| Tripping range: ~ | 0.5 ... 1 · $I_{\Delta n}$ |
| ≈ | 0.11 ... 1.4 · $I_{\Delta n}$ |
| Tripping time: ~ | 1 x $I_{\Delta n}$: ≤ 300 ms; 5 x $I_{\Delta n}$: ≤ 40 ms |
| ≈ | 1 x 1.4 $I_{\Delta n}$: ≤ 300 ms; 5 x 1.4 $I_{\Delta n}$: ≤ 40 ms |
| Short-circuit withstand capacity: | 6000 A in combination with an upstream fuse gL 63 A or the STOTZ MCB S700 E 63 A (in accordance with DIN VDE 0645) |




| | |
|---|---|
| Surge current withstand capacity see page 4: | 250 A (Pulse waveshape 8/26)<br>200 A (Ring-wave 0.5 µs/100 kHz) |
| Rated voltage $U_n$: | 2 pole: 230 V ~<br>4 pole: 230/400 V ~ |
| Max. operating voltage $U_{B\,max}$: | $U_n$ + 10% |
| Operating voltage of test device $U_T$: | 100 up to 264 V |
| Insulation acc. DIN VDE 0110 part 1 | |
| – overvoltage category: | III |
| – pollution degree: | 2 |
| – surge voltage (1.2/50): | 4 kV |
| – dielectric strength voltage (50/60 Hz): | 2 kV acc. EN 61008, IEC 61008 |
| Frequency: | 50 to 60 Hz |
| Enclosure: | Moulded plastic, grey (RAL 7035) |
| Switch handle: | blue |
| Test button: | white |
| Degree of protection acc. DIN VDE 0100: | IP 20<br>IP 40 (in consumer units) |
| Cover dimensions: (see page 14) | acc. to DIN 43 880 size 1 |
| Depth: | 68 mm |
| Mounting position: | optional |
| Fixing: | Snap-on to DIN rail EN 50 022, 35 mm |
| Terminals: | Combi-frame terminals with screw M 5, suitable for flexible and solid conductors from 1 up to 25 mm² |
| Life expectancy: | at least 5 000 operations |
| Climatic resistance acc.: to DIN IEC 68 part 2-30: | Damp heat, cyclic (55 °C/28 cycles) |
| Ambient temperature: | + 55 °C down to – 25 °C |
| Connection: | single connection or group connection via busbars |
| Protection against unintentional direct touch: | acc. to DIN VDE 0106 part 100 |
| Vibration resistance: | acc. to IEC 61008, EN 61008 |
| Trip free: | Yes |

## Auxiliary contact

| | |
|---|---|
| Minimum operating voltage $U_{B\,min}$: | 24 V ~ |
| Minimum operating power: | 0.1 VA |
| Short-circuit withstand capacity: | 230 V ~ 1000 A with S 2 ... K 6 |
| Voltage resistance acc. DIN VDE 0110, part 1:<br>• between poles<br>• to the MCB's | 4 kV |
| Insulation acc. DIN VDE 0110 part 1 | |
| – overvoltage class: | III |
| – pollution degree: | 2 |
| – surge voltage (1.2/50): | 4 kV |
| – voltage (50/60 Hz): | 3 kV |
| Connection capacity: | up to 2 x 1.5 mm² |

**$I_{th}$ = 25 A**

| | | | | |
|---|---|---|---|---|
| AC 14 | $U_e$ | 400 V | 230 V | 24 V |
| | $I_e$ | 2 A | 6 A | 10 A |
| DC 12 | $U_e$ | 250 V | 230 V | 110 V |
| | $I_e$ | 1 A | 1 A | 1.5 A |
| DC 13 | $U_e$ | 60 V | 24 V | |
| | $I_e$ | 2 A | 4 A | |

The types F 360/F 370 ... H have an factory assembled auxiliary contact with a potential free alternating contact, controlled by the main contact of the F 360/F370.

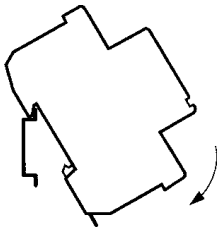


Fig. 1 Mounting

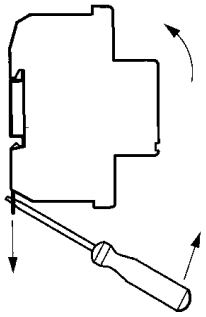
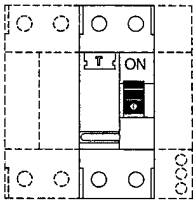
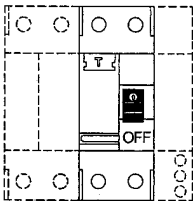


Fig. 2 Dismounting

SK 0194 Z 96




SK 0016 Z 95

Fig. 3 Switching positions

## Mounting and operating instructions

**1. Mounting**

Installation in the desired position by means of snap-on fastening to DIN-rails acc. to EN 50 022, 35 mm (fig. 1 and 2).

**Mounting and dismounting only allowed by an authorized electrician.**

**2. Connection**

The supply may be connected from above or below as required. Care should be taken to ensure a good, secure connection to the conductor. Maximum screwdriver torque 3 Nm.

**3. Operation**

The F 360 and F 370 is switched ON and OFF by means of the blue switch handle (see fig 3.)

**4. Functional test**

For the functional test, the switch must be in the ON position and the white test pushbutton is pressed. The RCCB must trip immediately (the blue switch handle jumps to the lower position with the switch position indication ”0”). See fig. 3.

**The functional test should be repeated monthly.**

**5. Testing the protective measures**

As well as the functional test of the RCCB the effectiveness of the protective measures should be tested for compliance with relevant specifications. The maximum permissible earthing resistances for the residual current-operated protective switching are:

| Max. permissible touch voltage UL | Max. permissible earthing resistance with rated residual operating current | | | | |
|---|---|---|---|---|---|
| | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA |
| 25 V | 2500 Ω | 833 Ω | 250 Ω | 83 Ω | 50 Ω |
| 50 V | 5000 Ω | 1666 Ω | 500 Ω | 166 Ω | 100 Ω |

**6. Cleaning**

RCCB’s which may have become soiled during asembly work in the switchboard can be cleaned with a damp, soapy cloth. On no account should corrosive or similar solvents be used.

**7. Faults**

STOTZ Residual Current-operated Circuit-Breakers are high quality RCCB’s which are subjected to careful adjustment and testing in the factory.

In the event of damage (e.g. due to transport or storage) no repairs should be undertaken.

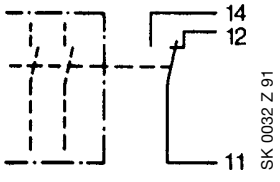
If the Residual Current-operated Circuit-Breaker trips immediately when being commissioned a check should be made for connections to earth in the downstream electrical circuits and the applicances connected to them. Any insulation faults between the neutral conductor and the protective conductor should be eliminated.

If the Residual Current-operated Circuit-Breaker does not trip during the first functional test, a check should then be made as to whether the test circuit has been correctly connected.

If the installation is correct and the RCCB continues to trip or if the functional test has not been successful the Residual Current-operated Circuit-Breaker must be replaced.

**In case of opening the RCCB, the right to claim under guarantee expires.**

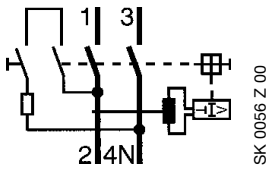
## Connection diagrams




SK 0032 Z 91

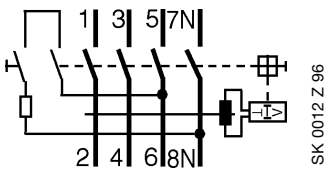
**F 360**
**F 370**

**Auxiliary contact**




SK 0056 Z 00

**F 362, F 372**




SK 0012 Z 96

**F 364, F 374**

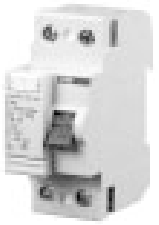
# Residual Current-operated Circuit Breakers
# F 360 and F 370 Range


SK 0047 B 98

F 362


SK 0037 B 96

F 364


SK 0041 B 96

F 372


SK 0048 B 98

F 374

## Selection table

| Rated residual current $I_{\Delta n}$ mA | Rated current $I_n$ A | **Ordering details** **Type No.** | Order code | **bbn 4012233** **EAN** | **Price** 1 piece **DM** | Weight 1 piece kg | Pack. unit pcs. |
|---|---|---|---|---|---|---|---|
| **F 362 – 2 pole** | | | | | | | |
| 10 | 16 | **F 362-16/0.01** | GH F362 0001 R1460 | **02210 6** | | 0.345 | 1 |
| 30 | 25 | **F 362-25/0.03** | GH F362 0001 R2510 | **02220 5** | | 0.345 | 1 |
| | 40 | **F 362-40/0.03** | GH F362 0001 R2550 | **02230 4** | | 0.345 | |
| | 63 | **F 362-63/0.03** | GH F362 0001 R2590 | **02240 3** | | 0.365 | |
| 100 | 25 | **F 362-25/0.1** | GH F362 0001 R3510 | **02250 2** | | 0.345 | 1 |
| | 40 | **F 362-40/0.1** | GH F362 0001 R3550 | **02260 1** | | 0.345 | |
| | 63 | **F 362-63/0.1** | GH F362 0001 R3590 | **76830 1** | | 0.365 | |
| 300 | 25 | **F 362-25/0.3** | GH F362 0001 R4510 | **02270 0** | | 0.345 | 1 |
| | 40 | **F 362-40/0.3** | GH F362 0001 R4550 | **02280 9** | | 0.345 | |
| | 63 | **F 362-63/0.3** | GH F362 0001 R4590 | **02290 8** | | 0.365 | |
| **F 364 – 4 pole** | | | | | | | |
| 30 | 25 | **F 364-25/0.03** | GH F364 0001 R2510 | **02400 1** | | 0.405 | 1 |
| | 40 | **F 364-40/0.03** | GH F364 0001 R2550 | **02410 0** | | 0.430 | |
| | 63 | **F 364-63/0.03** | GH F364 0001 R2590 | **02420 9** | | 0.490 | |
| 100 | 25 | **F 364-25/0.1** | GH F364 0001 R3510 | **02430 8** | | 0.405 | 1 |
| | 40 | **F 364-40/0.1** | GH F364 0001 R3550 | **02440 7** | | 0.430 | |
| | 63 | **F 364-63/0.1** | GH F364 0001 R3590 | **02450 6** | | 0.490 | |
| 300 | 25 | **F 364-25/0.3** | GH F364 0001 R4510 | **02460 5** | | 0.415 | 1 |
| | 40 | **F 364-40/0.3** | GH F364 0001 R4550 | **02470 4** | | 0.430 | |
| | 63 | **F 364-63/0.3** | GH F364 0001 R4590 | **02480 3** | | 0.490 | |
| 500 | 25 | **F 364-25/0.5** | GH F364 0001 R5510 | **02490 2** | | 0.415 | 1 |
| | 40 | **F 364-40/0.5** | GH F364 0001 R5550 | **02500 8** | | 0.430 | |
| | 63 | **F 364-63/0.5** | GH F364 0001 R5590 | **02510 7** | | 0.490 | |
| **F 372 – 2 pole** | | | | | | | |
| 10 | 16 | **F 372-16/0.01** | GH F372 0001 R1460 | **02680 7** | | 0.345 | 1 |
| 30 | 25 | **F 372-25/0.03** | GH F372 0001 R2510 | **02690 6** | | 0.345 | 1 |
| | 40 | **F 372-40/0.03** | GH F372 0001 R2550 | **02700 2** | | 0.345 | |
| | 63 | **F 372-63/0.03** | GH F372 0001 R2590 | **02710 1** | | 0.365 | |
| 100 | 25 | **F 372-25/0.1** | GH F372 0001 R3510 | **02720 0** | | 0.345 | 1 |
| | 40 | **F 372-40/0.1** | GH F372 0001 R3550 | **02730 9** | | 0.345 | |
| | 63 | **F 372-63/0.1** | GH F372 0001 R3590 | **20090 5** ① | | 0.365 | |
| 300 | 25 | **F 372-25/0.3** | GH F372 0001 R4510 | **64670 8** | | 0.345 | 1 |
| | 40 | **F 372-40/0.3** | GH F372 0001 R4550 | **02740 8** | | 0.345 | |
| | 63 | **F 372-63/0.3** | GH F372 0001 R4590 | **20100 1** ① | | 0.365 | |
| **F 374 – 4 pole** | | | | | | | |
| 30 | 25 | **F 374-25/0.03** | GH F374 0001 R2510 | **02830 6** | | 0.405 | 1 |
| | 40 | **F 374-40/0.03** | GH F374 0001 R2550 | **02840 5** | | 0.430 | |
| | 63 | **F 374-63/0.03** | GH F374 0001 R2590 | **02850 4** | | 0.490 | |
| 100 | 25 | **F 374-25/0.1** | GH F374 0001 R3510 | **02860 3** | | 0.405 | 1 |
| | 40 | **F 374-40/0.1** | GH F374 0001 R3550 | **02870 2** | | 0.430 | |
| | 63 | **F 374-63/0.1** | GH F374 0001 R3590 | **02880 1** | | 0.490 | |
| 300 | 25 | **F 374-25/0.3** | GH F374 0001 R4510 | **02890 0** | | 0.415 | 1 |
| | 40 | **F 374-40/0.3** | GH F374 0001 R4550 | **02900 6** | | 0.430 | |
| | 63 | **F 374-63/0.3** | GH F374 0001 R4590 | **02910 5** | | 0.490 | |
| 500 | 25 | **F 374-25/0.5** | GH F374 0001 R5510 | **02920 4** | | 0.415 | 1 |
| | 40 | **F 374-40/0.5** | GH F374 0001 R5550 | **02930 3** | | 0.430 | |
| | 63 | **F 374-63/0.5** | GH F374 0001 R5590 | **02940 2** | | 0.490 | |

① **bbn-No. 40 16779**

# Residual Current-operated Circuit Breakers
# F 360 and F 370 Range


SK 0039 B 96

F 362 ... H


SK 0040 B 96

F 364 ... H


SK 0044 B 96

F 372 ... H


SK 0045 B 96

F 374 ... H

## Selection table

| Rated residual current $I_{\Delta n}$ mA | Rated current $I_n$ A | **Ordering details** **Type No.** | Order code | **bbn 4012233** **EAN** | **Price** 1 piece **DM** | Weight 1 piece kg | Pack. unit pcs. |
|---|---|---|---|---|---|---|---|
| **F 362 H – 2 pole*** with factory assembled auxiliary contact (potential free alternating contact) | | | | | | | |
| 10 | 16 | **F 362-16/0.01 H** | GH F362 5001 R1460 | **74970 6** | | 0.345 | 1 |
| 30 | 25 | **F 362-25/0.03 H** | GH F362 5001 R2510 | **74980 5** | | 0.345 | 1 |
| | 40 | **F 362-40/0.03 H** | GH F362 5001 R2550 | **74990 4** | | 0.345 | |
| | 63 | **F 362-63/0.03 H** | GH F362 5001 R2590 | **75000 9** | | 0.365 | |
| 100 | 25 | **F 362-25/0.1 H** | GH F362 5001 R3510 | **75010 8** | | 0.345 | 1 |
| | 40 | **F 362-40/0.1 H** | GH F362 5001 R3550 | **75020 7** | | 0.345 | |
| 300 | 25 | **F 362-25/0.3 H** | GH F362 5001 R4510 | **75030 6** | | 0.345 | 1 |
| | 40 | **F 362-40/0.3 H** | GH F362 5001 R4550 | **75040 5** | | 0.345 | |
| **F 364 H – 4 pole*** with factory assembled auxiliary contact (potential free alternating contact) | | | | | | | |
| 30 | 25 | **F 364-25/0.03 H** | GH F364 5001 R2510 | **18820 3** ① | | 0.405 | 1 |
| | 40 | **F 364-40/0.03 H** | GH F364 5001 R2550 | **18850 0** ① | | 0.430 | |
| | 63 | **F 364-63/0.03 H** | GH F364 5001 R2590 | **18890 6** ① | | 0.490 | |
| 100 | 25 | **F 364-25/0.1 H** | GH F364 5001 R3510 | **18830 2** ① | | 0.405 | 1 |
| | 40 | **F 364-40/0.1 H** | GH F364 5001 R3550 | **18860 9** ① | | 0.430 | |
| | 63 | **F 364-63/0.1 H** | GH F364 5001 R3590 | **18900 2** ① | | 0.490 | |
| 300 | 25 | **F 364-25/0.3 H** | GH F364 5001 R4510 | **75110 5** ① | | 0.415 | 1 |
| | 40 | **F 364-40/0.3 H** | GH F364 5001 R4550 | **18870 8** ① | | 0.430 | |
| | 63 | **F 364-63/0.3 H** | GH F364 5001 R4590 | **18910 1** ① | | 0.490 | |
| **F 372 H – 2 pole*** with factory assembled auxiliary contact (potential free alternating contact) | | | | | | | |
| 10 | 16 | **F 372-16/0.01 H** | GH F372 5001 R1460 | **61300 7** | | 0.345 | 1 |
| 30 | 25 | **F 372-25/0.03 H** | GH F372 5001 R2510 | **61310 6** | | 0.345 | 1 |
| | 40 | **F 372-40/0.03 H** | GH F372 5001 R2550 | **61320 5** | | 0.345 | |
| | 63 | **F 372-63/0.03 H** | GH F372 5001 R2590 | **61330 4** | | 0.365 | |
| 100 | 25 | **F 372-25/0.1 H** | GH F372 5001 R3510 | **64700 2** | | 0.345 | 1 |
| | 40 | **F 372-40/0.1 H** | GH F372 5001 R3550 | **64690 6** | | 0.345 | |
| 300 | 25 | **F 372-25/0.3 H** | GH F372 5001 R4510 | **20290 9** ① | | 0.345 | 1 |
| | 40 | **F 372-40/0.3 H** | GH F372 5001 R4550 | **64680 7** | | 0.345 | |
| **F 374 H – 4 pole*** with factory assembled auxiliary contact (potential free alternating contact) | | | | | | | |
| 30 | 25 | **F 374-25/0.03 H** | GH F374 5001 R2510 | **61340 3** | | 0.405 | 1 |
| | 40 | **F 374-40/0.03 H** | GH F374 5001 R2550 | **61350 2** | | 0.430 | |
| | 63 | **F 374-63/0.03 H** | GH F374 5001 R2590 | **61360 1** | | 0.490 | |
| 300 | 25 | **F 374-25/0.3 H** | GH F374 5001 R4510 | **61370 0** | | 0.415 | 1 |
| | 40 | **F 374-40/0.3 H** | GH F374 5001 R4550 | **61380 9** | | 0.430 | |
| | 63 | **F 374-63/0.3 H** | GH F374 5001 R4590 | **61390 8** | | 0.490 | |
| 500 | 25 | **F 374-25/0.5 H** | GH F374 5001 R5510 | **61400 4** | | 0.415 | 1 |
| | 40 | **F 374-40/0.5 H** | GH F374 5001 R5550 | **61410 3** | | 0.430 | |
| | 63 | **F 374-63/0.5 H** | GH F374 5001 R5590 | **61420 2** | | 0.490 | |

① **bbn-No. 40 16779**

① **bbn-No. 40 16779**

*more types on request

SK 0091 B 93

DSW 2 ... 6

SK 0076 B 96

PCD 2 N

SK 0077 B 96

PCD 4 N

SK 0078 B 96

PCD 6 N

SK 0019 B 98

QES 4/3 N

SK 0018 B 98

QES 10/3 N

## Supplementary devices

| Description | Ordering details Type No. | Order code | bbn 4012233 EAN | Price 1 piece DM | Weight 1 piece kg | Pack. unit pcs. |
|---|---|---|---|---|---|---|

### DIN-rail mounting

Mounting rails (to EN 50 022-35 x 7.5) for mounting RCCB's by means of two screws to flat surface (1 modul = 17.5 mm)

| | | | | | | |
|---|---|---|---|---|---|---|
| for 2 modules | **DSW 2** | GH S210 1926 R0002 | **13590 5** | | 0.012 | 10 |
| 3 modules | **DSW 3** | GH S210 1926 R0003 | **13600 1** | | 0.018 | 10 |
| 4 modules | **DSW 4** | GH S210 1926 R0004 | **13610 0** | | 0.024 | 10 |
| 6 modules | **DSW 6** | GH S210 1926 R0006 | **13620 9** | | 0.030 | 10 |

### Terminal covers with base plate, degree of protection IP 20

Terminal cover is snapped onto the base plate and is sealable. The base plate has an integrated mounting rail for snap-onequipment such as M.C.B.'s, RCD's, manual motor starters an other modular installation equipment.

| | | | | | | |
|---|---|---|---|---|---|---|
| for 2 modules | **PCD 2 N** | GH S270 1921 R0002 | **38530 8** | | | 1 |
| 4 modules | **PCD 4 N** | GH S270 1921 R0004 | **28540 7** | | | 1 |
| 6 modules | **PCD 6 N** | GH S270 1921 R0006 | **28550 6** | | | 1 |
| 8 modules | **PCD 8 N** | GH S270 1921 R0008 | **28560 5** | | | 1 |

Earth (PE)-bar for subsequent mounting in terminal covers PCD ...

| | | | | | | |
|---|---|---|---|---|---|---|
| | **ES** | GH S270 1912 R0001 | **36660 6** | | 0.08 | 10 |

Blanking plate with half division (1 Module = 17.5 mm)

| | | | | | | |
|---|---|---|---|---|---|---|
| | **BP** | GH S270 1913 R0001 | **36670 5** | | 0.005 | 10 |

### Enclosure of moulded plastic, Protection cat. IP 55

Complete with mounting DIN rail EN 50 022, 35 mm and cable entry sockets.

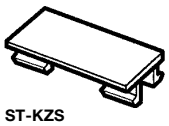
| Design knockouts | enclosed cable entry sockets | Ordering details Type No. | Order code | bbn 4012233 EAN | Price 1 piece DM | Weight 1 piece kg | Pack. unit pcs. |
|---|---|---|---|---|---|---|---|
| for 4 modules | | | | | | | |
| 2 x ∅ 27 | 2 | **QES 4/3 N** | GH L111 2304 R0013 | **12644 0** | | 0.370 | 18 |
| Unit for 6 modules | | | | | | | |
| 2 x ∅ 27 | 2 | **QES 6/3 N** | GH L111 2306 R0013 | **12646 4** | | 0.440 | 12 |
| Unit for 10 modules | | | | | | | |
| 6 x ∅ 32 | 3 | **QES 10/3 N** | GH L111 2310 R0013 | **12650 1** | | 0.690 | 10 |

SK 0187 B 91

**ST + STE**

SK 0120 B 91

**ST**



SK 0018 Z 94

**ST-KZS**

| Description | **Ordering details** Type No. | Order code | **bbn 4012233 EAN** | **Price** 1 piece **DM** | Weight 1 piece kg | Pack. unit pcs. |
|---|---|---|---|---|---|---|

## Single label

consisting of transparent label carrier and labelled or unlabelled etiquettes which can be plugged in. Used for switches, pushbuttons, indicator lights, latching relays, installation relays as well as MCB's, RCCB's and SIGMA-i-Bus EIB components.

| | | | | | | |
|---|---|---|---|---|---|---|
| Label carrier snap-on fixing | **ST** | GH S210 1945 R0002 | **13820 3** | | | 10 |
| Description label sheet = 300 pcs. | **ST-E** | GH S210 1946 R0002 | **13830 2** | | | 1 sheet |
| Description label numbering 1-100 1 sheet = 5 x 1-100 | **ST-EN** | GH S210 1946 R0003 | **64530 5** | | | 1 sheet |

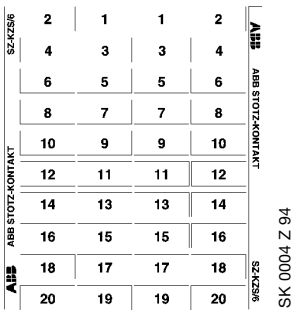
## Label mats

á 40 labels labelled or unlabelled. The unlabelled can be labelled by water-resistant and permanent marker or by means of computer-controlled labelling systems (plotter)

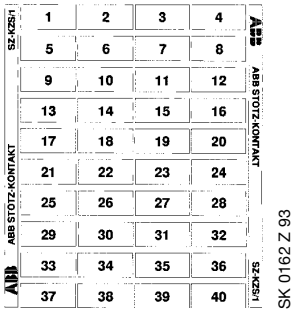
| | | | | | | |
|---|---|---|---|---|---|---|
| Label unlabelled | **SZ-KZS** | GH S210 1946 R0004 | ① **00850 1** | | | 30 |
| Label numbering 1-40 | **SZ-KZS/1** | GH S210 1946 R0005 | ① **00860 0** | | | 30 |
| Label numbering 41-80 | **SZ-KZS/2** | GH S210 1946 R0006 | ① **00870 9** | | | 30 |
| Label numbering 81-120 | **SZ-KZS/3** | GH S210 1946 R0007 | ① **00880 8** | | | 30 |
| Label numbering 121-160 | **SZ-KZS/4** | GH S210 1946 R0008 | ① **00890 7** | | | 30 |
| Label with pictograms | **SZ-KZS/5** | GH S210 1946 R0009 | ① **00900 3** | | | 30 |
| Label numbering 2x1-20 | **SZ-KZS/6** | GH S210 1946 R0010 | ① **05080 7** | | | 30 |
| Label numbering 4x1-10 | **SZ-KZS/9** | GH S210 1946 R0013 | ① **39050 7** | | | 30 |
| Label numbering 4x11-20 | **SZ-KZS/10** | GH S210 1946 R0014 | ① **39060 6** | | | 30 |

① **bbn-No.: 4016779**

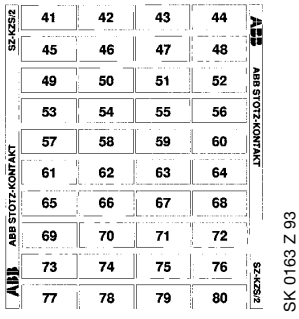
SK 0202 B 93



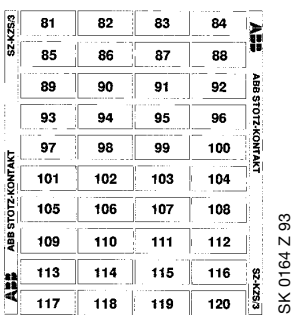

SK 0004 Z 94



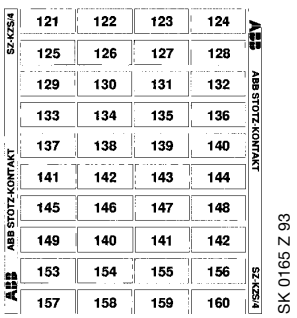

SK 0162 Z 93



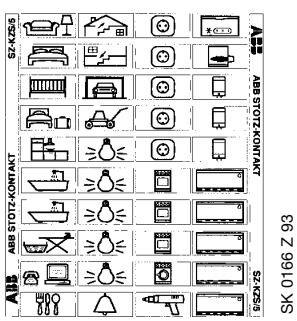

SK 0163 Z 93




SK 0164 Z 93




SK 0165 Z 93




SK 0166 Z 93


SK 0038 B 96


SK 0108 B 91


SK 0109 B 91

**SA 1** **SA 2**

**Locking device for RCCB's**

For securing single- or multi-pole RCCB's against unauthorized switching on or off.

For padlock with hasp diameter max. 4 mm and lock width max. 17 mm

**Application**

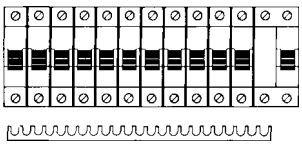
Locking against switching on:

- Locking against undesired switching on during maintenance work
- Locking with commissioning notice
- Locking when supply is being blocked

Lock against swtiching off:

- Prevention of unwanted manual switching off, e.g. of alarm, air conditioning, computer installation etc.
- Reclosing after tripping only allowed by authorised persons.

| Description | **Ordering details** | | **bbn 4012233** | **Price** 1 piece | Weight 1 piece | Pack. unit |
|---|---|---|---|---|---|---|
| | **Type No.** | Order code | **EAN** | **DM** | kg | pcs. |
| Adapter | **SA 1** | GJ F110 1903 R0001 | **58760 5** | | 0.02 | 10 |
| Padlock with 2 keys | **SA 2** | GJ F110 1903 R0002 | **58770 4** | | 0.004 | 10 |
| Adapter and padlock with 3 keys in a box | **SA 3** | GJ F110 1903 R0003 | **58780 3** | | | |


**SZ-KS 1/12** SK 0037 Z 94

## Busbars

| cross section mm² | Length mm | Poles No. | **Ordering details** **Type No.** | Order code | **bbn 4012233** **EAN** | **Price** 1 piece **DM** | Weight 1 piece kg | Pack. unit pcs. |
|---|---|---|---|---|---|---|---|---|

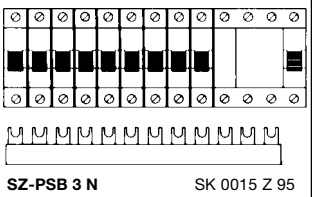
**Universal comb-busbar**

for interconnection of STOTZ-RCCB's F 362/F 372 and STOTZ-MCB's S2

Supply: 1 phase

By using the comb-busbar the allround protection against unintentional touch of live parts acc. to DIN VDE 0106/part 100 is not reduced nor neutralized

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 | 210 | 12 x 1 | **SZ-KS 1/12** | GJ I232 2322 R0001 | **59790 1** | | 0.015 | 100 |
| 24 | 210 | 12 x 1 | **SZ-KS 2/12** | GJ I232 2322 R0003 | **59810 6** | | 0.031 | 100 |

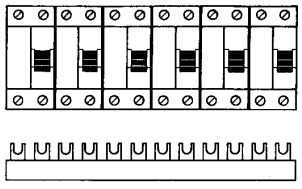

**SZ-PSB 3 N** SK 0015 Z 95

**Comb-busbar blocks**

for interconnection of STOTZ-RCCB's F 364/F 374 and STOTZ-MCB's S2

Supply: 3 phase

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10 | 213 | 4 x 3 | **SZ-PSB 3 N** | GH L520 1915 R0003 | **05930 0** | | 0.12 | 30 |
| 16 | 213 | 4 x 3 | **SZ-PSB 11 N** | GH L520 1916 R0003 | **05950 8** | | 0.2 | 30 |

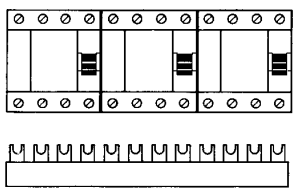

**SZ-PSB 53 N** SK 0097 Z 91

**Comb-busbar blocks**

for interconnection of STOTZ-RCCB's F 362/F 372 in a row

Supply: 1 phase + Neutral

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10 | 213 | 6 x 2 | **SZ-PSB 53 N** | GH V036 0874 R0031 | **54940 5** | | 0.078 | 30 |
| 16 | 213 | 6 x 2 | **SZ-PSB 55 N** | GH V036 0874 R0033 | **54960 3** | | 0.106 | 30 |


**SZ-PSB 61 N** SK 0098 Z 91

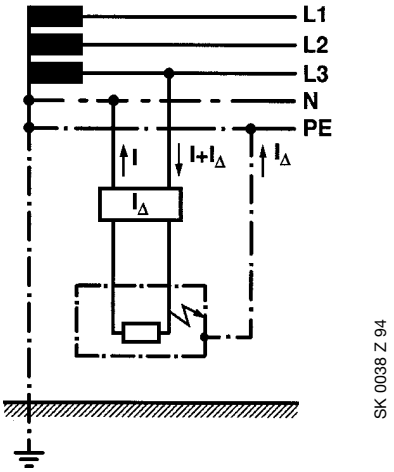
**Comb-busbar blocks**

for interconnection of STOTZ-RCCB's F 364/F 374 in a row

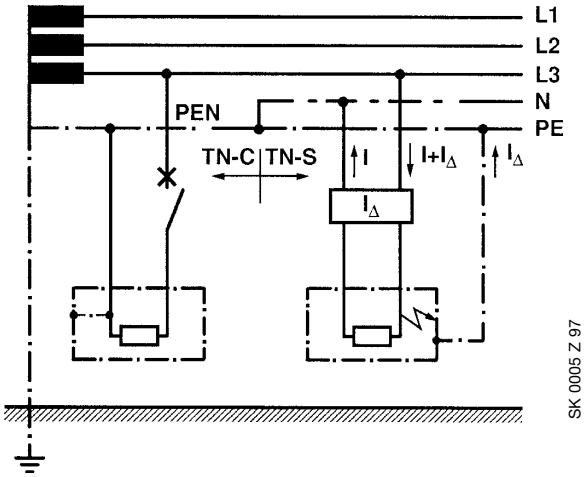
Supply: 3 phase + Neutral

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10 | 213 | 3 x 4 | **SZ-PSB 61 N** | GH V036 0874 R0039 | **55020 3** | | 0.112 | 30 |
| 16 | 213 | 3 x 4 | **SZ-PSB 63 N** | GH V036 0874 R0041 | **55040 1** | | 0.156 | 30 |

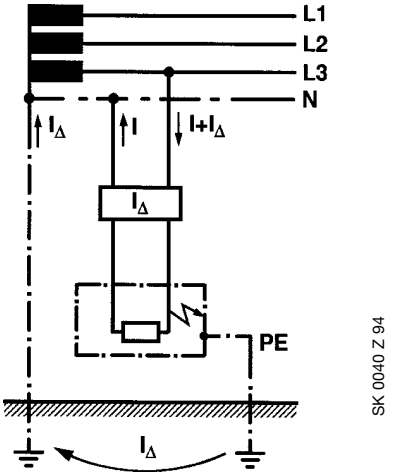
# Residual Current-operated Circuit Breakers
# Examples of protection against dangerous currents through the body



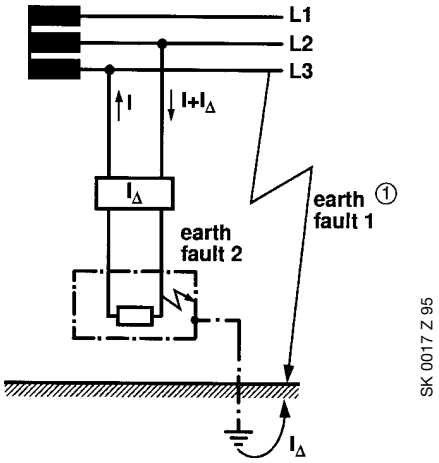

**TN-S system** (neutralization)
Neutral and protective earth conductor separated in the whole system




**TN-C-S system**
Neutral and protective earth conductor (PEN) connected together in a part of the system




**TT system**




① Will only be indicated by means of the insulation monitor

**IT system**
The Residual Current-operated Circuit-Breaker trips if a double earth fault is present, e.g. earth fault 1 and earth fault 2 as shown

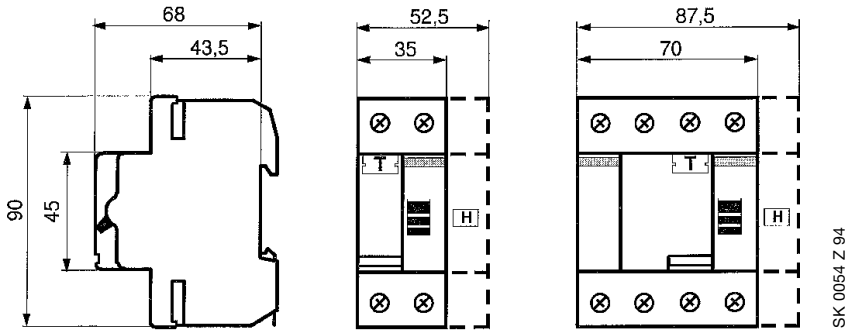
**Explanation of the symbols**

| | | | |
|---|---|---|---|
| L1, L2, L3 | ”**l**ine” External conductors | I | ”**i**sulation” Insulated |
| PE | ”**p**rotection **e**arth” Protective earth conductor | C | ”**c**ombined” PE and N (= PEN) combined in the system |
| N | ”**n**eutral” Neutral conductor | S | ”**s**eparated” PE and N separated in the system |
| PEN | PE and N combined | ”...” | are terms in the IEC recommendations |
| T | ”**t**erre” Direct bond to earth | | |

## Dimension drawings

**Dimension in mm**

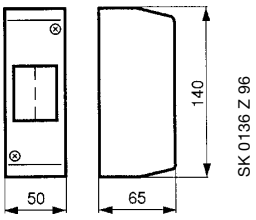
**RCCB**
**F 360, F 360 ... H**
**F 370, F 370 ... H**



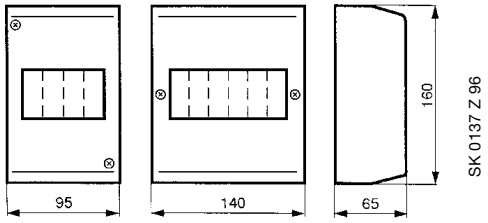

**F 362**
**F 362 ... H**
**F 372**
**F 372 ... H**

**F 364**
**F 364 ... H**
**F 374**
**F 374 ... H**

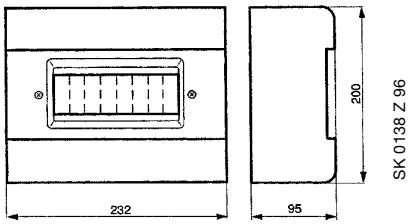
## Terminal covers




**PCD/N 2**

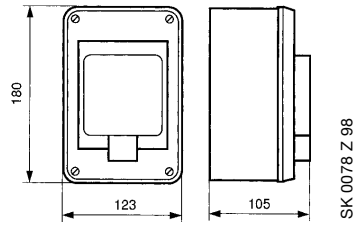



**PCD/N 4** **PCD/N 6**

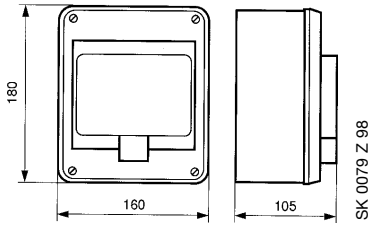



**PCD/N 8**

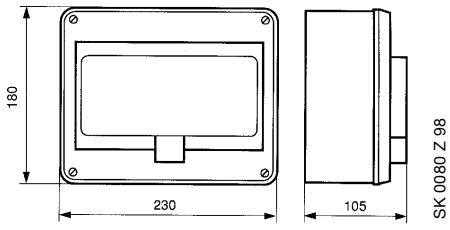
## Insulated enclosure




**QES 4/3 N**

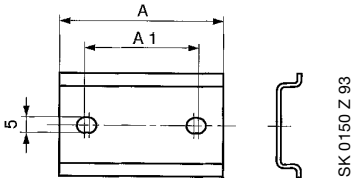



**QES 6/3 N**




**QES 10/3 N**

## Mounting rails




**DSW 4 and 6**

| Type | A | A1 |
|---|---|---|
| DSW 2 | 35 | 20 |
| DSW 4 | 70 | 55 |
| DSW 6 | 105 | 90 |

# Residual Current-operated Circuit Breakers F 360 and F 370 Range Definitions

## Excerpt from the standard EN 61008 / IEC 61008

### Rated residual making and breaking capacity ($I_{\Delta m}$)

The r.m.s. value of the a.c. component of residual prospective current, assigned by the manufacturer, which a RCCB can make, carry and break under specified conditions.

### Rated making and breaking capacity ($I_m$)

The r.m.s. value of the a.c. component of prospective current, assigned by the manufacturer, which a RCCB can make, carry and break under specified conditions.

### Rated conditional short-circuit current ($I_{nc}$)

The r.m.s. value of prospective current, assigned by the manufacturer, which a RCCB, protected by a SCPD, can withstand under specified conditions without undergoing alterations impairing its functions.

### Rated conditional residual short-circuit current ($I_{\Delta c}$)

The value of residual prospective current, assigned by the manufacturer, which a RCCB, protected by a SCPD, can withstand under specified conditions without undergoing alterations impairing its functions.

ABB STOTZ-KONTAKT, the Heidelberg-based company, develops, manufactures and sells highly modern, modular systems for electrical building installations.
It offers complete installation ranges for a wide variety of applications:

## System pro *M*

### For classic installation applications

The modular **System pro *M*** for installation on DIN rails incorporates Europe's best-selling miniature circuit-breakers and residual-current-operated circuit-breakers as well as a complete range of built-in devices.
The system components have been designed with various functions and performance capabilities and are therefore to able optimally cover the complete range of applications in building installation:

- conventional domestic electrical installations
- industrial and commercial installations
- protection and switch functions
- checking and monitoring tasks
- control and time-dependent tasks etc.

## System pro *M* compact ®

The extension of **System pro *M*** for targeted use in domestic electrical installations stands out due to its compact and easily comprehensible range of miniature circuit-breakers, residual-current-operated circuit-breakers and cross wiring tools as well as an optimised installation technology taking into account the special circumstances and requirements of domestic electrical installations.

## System *Connect*

This pioneering system concept contains seamlessly integrated system units – consisting of miniature circuit-breakers and residual-current-operated circuit-breakers as well as apparatus racks and flush-mounted wall boxes - was designed to suit the special requirements of domestic electrical installations.

The new plug-in connection technology for the devices and apparatus rack ensures quick and reliable installations: assembly, connection of the devices and cross wiring are carried out time-effectively in one single step.
If need be, component sets may still be changed quickly and flexibly right until transfer takes place; devices may also be exchanged easily at some later date, and economically in terms of both money and time, at that.

The entire **System *Connect*** was developed by ABB STOTZ-KONTAKT and Striebel & John, within the framework of their successful system partnership.

## EIB Installation Systems

### For intelligent Building Installation

Highly modern, programmable installation systems with bus technology based on the European EIB standard.

### ABB i-bus® EIB

System with special 2-core bus cable, primarily for new buildings.

### ABB Powernet EIB

System for retrofitting in existing buildings. Transfer of information via the existing network.

## Security Systems

### All-in-one Protection

Wide range of security systems and components: intruder and fire alarm systems, radio-controlled alarm systems, door locking system and signalling components.

During the century-long experience of the company, it has always contributed pioneering solutions to the safe application of electricity.

Today, ABB STOTZ-KONTAKT GmbH is an integral part of the ABB Group, a major player on the electrical and electronic markets.

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