

FUSERBLOC BS88 Rear

Fuse combination switches with rear connection

from 32 to 400 A



fuser_740.eps

The solution for

- > Data centre
- > Healthcare
- > Industry
- > Building

Strong points

- > Connection flexibility
- > Optimum safety
- > High breaking capacity
- > Multi-use
- > Simplified use

Conformity to standards

- > IEC 60947-3
- > IEC 60269-1
- > IEC 60269-2



Available on request

- > Multipolar Fuserbloc with various coupling possibilities such as: 3 x 400 A + 3 x 50 A with front or side operation

Function

FUSERBLOC BS88 Rear units are fuse combination switches with rear connection and right frontside manual control which are available in various connection combinations.

They provide make and break on load, safety disconnection and overcurrent protection for any low voltage electrical circuit.

This range includes versions for direct and external operation, 3 and 4 poles and up to 400 A.

Advantages

Connection flexibility

Fuse combination switches can combine the various types of connections:

- rear/rear (R/R),
- front/rear (F/R)

This flexibility simplifies separation between control, switching and connection spaces while reducing the required space of the overall solution.

Optimum safety

Double phase breaking (upstream and downstream of the fuse) and fully visible isolation keep people and equipment protected from overcurrent.

High breaking capacity

High breaking capacity fuses (100 kA rms) provide protection from overloads and short circuits.

Multi-use

The unit can be equipped with front or side operation handle, mounted directly on the product, or outside, with the possibility of installing it on the door or on the side of an electrical box or cabinet.

Simplified use

The TEST position enables testing of the control circuits without turning on the power thanks to the use of U-type auxiliary contacts. In the TEST position, the cabinet door can be opened.

General characteristics

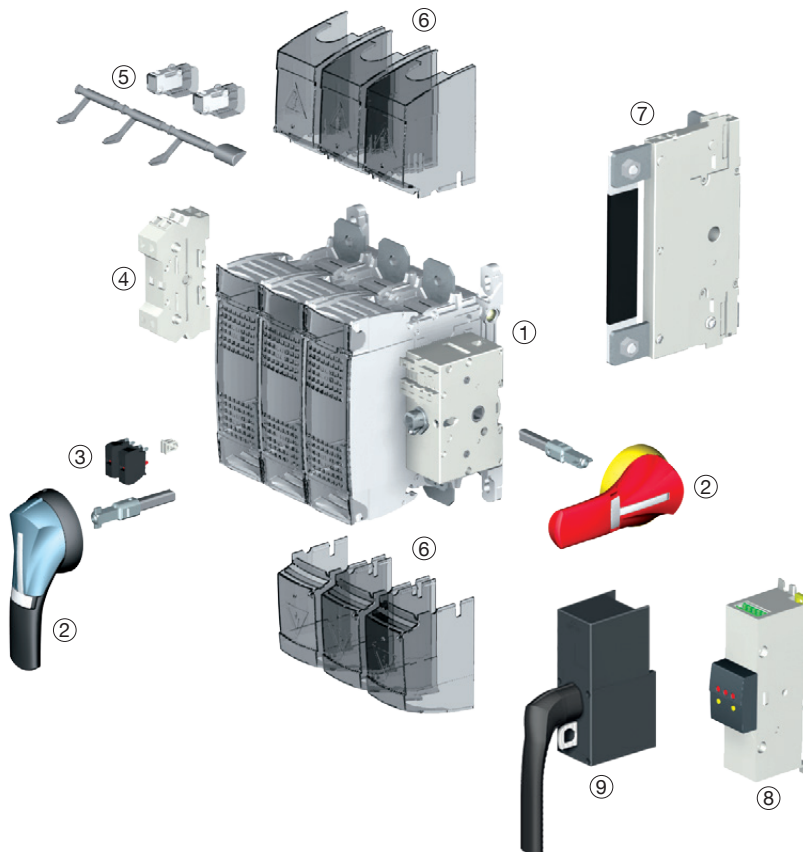
- For fuses up to 400 A.
- Up to 690 VAC.
- Up to 100 kA.
- Available in 3P or 4P versions.
- Connection types: R/R and F/R.

FUSERBLOC BS88 Rear

Fuse combination switches with rear connection
from 32 to 400 A

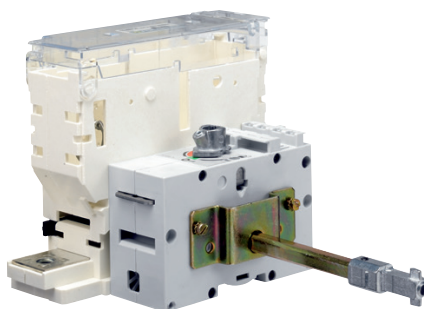
What you need to know

- In addition to the FUSERBLOC rating, product selection also depends on the fuse characteristics and functional specifications, which need to be in accordance with the application. SOCOMEC FUSERBLOC are available for utilisation with **BS88 fuses**.



- FUSERBLOC switch fuse
- External front or side operation handle
- U type auxiliary contact (pré-break and switch position signalling)
- S and ST auxiliary equipment control and switch position signalling contacts
- Melted fuse mechanical detection and indication device (DDMM)
- Top and bottom terminal shrouds
- Integrated solid neutral link
- Electronic fuse monitoring device (FMD) detects worked fuse and provides signals to operator, PLC or supervision systems. Compatible with BS88, DIN and UL fuse types.
 - LED visual indication
 - Bi-stable relay for PLC: alarm, remote device tripping, etc.
 - TEST button: any time functional product verification
 - FUSERBLOC direct mounting, either back plate, DIN-rail or door mounting
- Direct control handle.

Visuel non contractuel.



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For ratings 32 to 400 A, the flat mounting kit provides a compact solution ideally suited to withdrawable applications.

FUSERBLOC BS88 Rear

Fuse combination switches with rear connection
from 32 to 400 A

References

BS 88 - External front and side operation - 32 to 400 A

| Rating (A) Fuse size Frame size | No. of poles | Rear / Front Switch I - 0 -TEST | Rear / Rear Switch I - 0 -TEST | External front handle I - 0 | TEST External front handle I - 0 - TEST | External right side handle I - 0 | Shaft extensions for handle | Terminal shrouds ⁽³⁾ | U type A/C ⁽²⁾ | Integrated solid neutral link | | | | | | | |
|---------------------------------------|--------------|---------------------------------------|--------------------------------------|---|--|---|-----------------------------------|------------------------------------|----------------------------------|--|--|--|--|--|--|--|----------------------------------|
| 32 A A1 11 | 3 P | 3841 3203 | 3841 3103 | S1 type | S1 type | S1 type | 320 mm 1400 1032 | IP2x as standard | 1 contact NO 3999 0701 | 3829 9310 | | | | | | | |
| | 4 P | 3841 6203 | 3841 6103 | Black IP65 1413 2111⁽¹⁾ | Black IP65 1413 2115⁽¹⁾ | Black IP65 1417 2111⁽¹⁾ | | | | | | | | | | | |
| 63 A A2-A3 12 | 3 P | 3841 3206 | 3841 3106 | S2 type | S2 type | S2 type | | | | | Red/Yellow IP65 1414 2111 | Red/Yellow IP65 1414 2115 | Red/Yellow IP65 1418 2111 | 3829 9310 | | | |
| | 4 P | 3841 6206 | 3841 6106 | | | | | | | | | | | | | | |
| 100 A A4 ⁽⁴⁾ 13 | 3 P | 3841 3210 | 3841 3110 | | | | | | | | S2 type | S2 type | S2 type | Red/Yellow IP65 1423 2111⁽¹⁾ | Red/Yellow IP65 1423 2115⁽¹⁾ | Red/Yellow IP65 1427 2111⁽¹⁾ | 1 contact NO 3999 0701 |
| | 4 P | 3841 6210 | 3841 6110 | | | | | | | | | | | | | | |
| 160 A B1-B2 14 | 3 P | 3841 3216 | 3841 3116 | | | | S2 type | S2 type | S2 type | Red/Yellow IP65 1424 2111 | | | | Red/Yellow IP65 1424 2115 | Red/Yellow IP65 1428 2111 | 1 contact NC 3999 0702 | |
| | 4 P | 3841 6216 | 3841 6116 | | | | | | | | | | | | | | |
| 250 A B1-B2-B3 15 | 3 P | 3841 3224 | 3841 3124 | S2 type | S2 type | S2 type | | | | Red/Yellow IP65 1424 2111 | | | | Red/Yellow IP65 1424 2115 | Red/Yellow IP65 1428 2111 | Rear / Front 3829 2325 | |
| | 4 P | 3841 6224 | 3841 6124 | | | | | | | | | | | | | Rear / Rear 3829 1325 | |
| 400 A B1-B2- B3-B4 16 | 3 P | 3841 3239 | 3841 3139 | | | | | | | S2 type | S2 type | S2 type | Red/Yellow IP65 1424 2111 | Red/Yellow IP65 1424 2115 | Red/Yellow IP65 1428 2111 | Rear / Front 3829 2339 | |
| | 4 P | 3841 6239 | 3841 6139 | | | | | | | | | | | | | Rear / Rear 3829 1339 | |

(1) Standard.

(2) 4 auxiliary contacts as standard without additional contact holder.

(3) Top/bottom.

(4) For fuse size A4: max diameter 31 mm.

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Fuse combination switches with rear connection
from 32 to 400 A

Accessories

Frame front handle can be locked in position 0 for direct control

| Rating (A) | Frame size | Command | Handle colour | Reference |
|------------|-------------|----------|---------------|------------------|
| 32 - 160 | 11-12-13-14 | I-O-TEST | Black | 3999 5020 |
| 250 - 400 | 15-16 | I-O-TEST | Black | 3999 5021 |



External front operation handle

| Padlockable handle in position 0 | | | | | | | |
|----------------------------------|------------|-------------|---------------|--------------|----------------------------|-------------------|------------------|
| Rating (A) | Frame size | Handle type | Handle colour | Operation | External IP ⁽¹⁾ | Defeatable handle | Reference |
| 32 ... 63 | 11/12 | S1 | Black | I - 0 | IP55 | Yes | 1411 2111 |
| | 11/12 | S1 | Black | I - 0 | IP65 | Yes | 1413 2111 |
| | 11/12 | S1 | Red/Yellow | I - 0 | IP65 | Yes | 1414 2111 |
| | 11/12 | S1 | Black | I - 0 - Test | IP65 | Yes | 1413 2115 |
| | 11/12 | S1 | Red/Yellow | I - 0 - Test | IP65 | Yes | 1414 2115 |
| 100 ... 400 | 13 ... 16 | S2 | Black | I - 0 | IP55 | Yes | 1421 2111 |
| | 13 ... 16 | S2 | Black | I - 0 | IP65 | Yes | 1423 2111 |
| | 13 ... 16 | S2 | Red/Yellow | I - 0 | IP65 | Yes | 1424 2111 |
| | 13 ... 16 | S2 | Black | I - 0 - Test | IP65 | Yes | 1423 2115 |
| | 13 ... 16 | S2 | Red/Yellow | I - 0 - Test | IP65 | Yes | 1424 2115 |

(1) IP: protection degree according to IEC 60529 standard.

| Padlockable handle in position 0 and I | | | | | | |
|--|------------|-------------|---------------|----------------------------|------------------|--|
| Rating (A) | Frame size | Handle type | Handle colour | External IP ⁽¹⁾ | Reference | |
| 32 ... 63 | 11/12 | S1 | Black | IP65 | 1413 2311 | |
| 100 ... 400 | 13 ... 16 | S2 | Black | IP65 | 1423 2311 | |

(1) IP: protection degree according to IEC 60529 standard.



S1 type handle



S2 type handle

External right side operation handle

| Rating (A) | Frame size | Handle type | Handle colour | External IP ⁽¹⁾ | Reference |
|-------------|------------|-------------|---------------|----------------------------|------------------|
| 32 ... 63 | 11/12 | S1 | Black | IP55 | 1415 2111 |
| | 11/12 | S1 | Black | IP65 | 1417 2111 |
| | 11/12 | S1 | Red/Yellow | IP65 | 1418 2111 |
| 100 ... 400 | 13 ... 16 | S2 | Black | IP55 | 1425 2111 |
| | 13 ... 16 | S2 | Black | IP65 | 1427 2111 |
| | 13 ... 16 | S2 | Red/Yellow | IP65 | 1428 2111 |

(1) IP: protection degree according to IEC 60529 standard.



S1 type handle

External front operation handle with metal padlocking lever

| Rating (A) | Frame size | Handle type | Handle colour | External IP ⁽¹⁾ | Defeatable handle | Reference |
|-------------|------------|-------------|---------------|----------------------------|-------------------|------------------|
| 32 ... 63 | 11/12 | S1 | Black | IP65 | Yes | 141D 2911 |
| | 11/12 | S1 | Red/Yellow | IP65 | Yes | 141E 2911 |
| 100 ... 400 | 13 ... 16 | S2 | Black | IP65 | Yes | 142D 2911 |
| | 13 ... 16 | S2 | Red/Yellow | IP65 | Yes | 142E 2911 |

(1) IP: protection degree according to IEC 60529 standard.



S2 type handle

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Accessories (continued)

S-type handle adapter

Use

Enables S-type handles to be fitted in place of existing older style Socomec handles. Adapter can be utilised as a spacer to increase the distance between the panel door and the handle lever.

Dimensions

Adds 12 mm to the depth of the handle.



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| Handle colour | To be ordered in multiples of | External IP ⁽¹⁾ | Reference |
|---------------|-------------------------------|----------------------------|-----------|
| Black | 1 | IP65 | 1493 0000 |

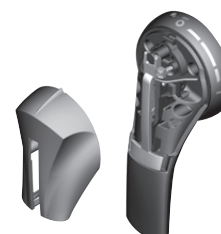
(1) IP: protection degree according to IEC 60529 standard.

Alternative S-type handle cover colours

Use

For single lever handles S1 and S2 type. Other colours: please consult us.

| Handle colour | To be ordered in multiples of | Handle type | Reference |
|---------------|-------------------------------|-------------|-----------|
| Light grey | 50 | S1, S2 | 1401 0001 |
| Dark grey | 50 | S1, S2 | 1401 0011 |



access_198_a_1_cat

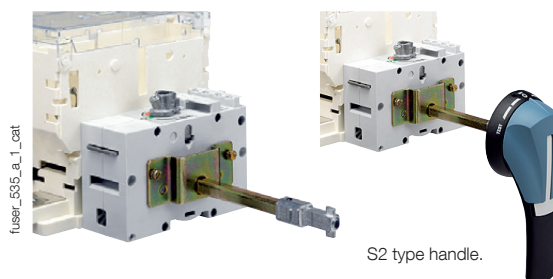
Flat mounting kit

Use

The flat mounting providing compact solution ideally suited to withdrawable applications. Kit to be used with a handle for flat mounting.

| Rating (A) | Frame size | Type | Reference |
|------------|------------|--------------------|--------------------------|
| 32 ... 400 | 11 ... 16 | Kit + Shaft 200 mm | 1429 7710 ⁽¹⁾ |

(1) External operation handle to be ordered separately.



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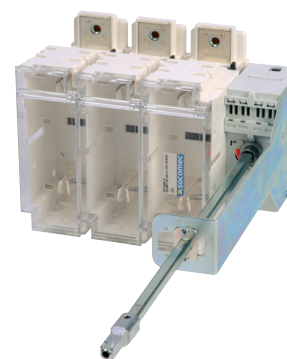
S2 type handle.

Front operation shaft support accessory

Use

This support maintains shaft position for extension shafts greater than 320 mm in length.

| Rating (A) | Frame size | Reference |
|------------|------------|-----------|
| 32 ... 400 | 11 ... 16 | 3899 0400 |

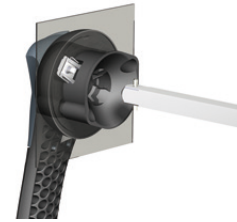


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Shaft guide for external operation

Use

To guide the shaft extension into the external handle.
This accessory enables the handle to engage the extension shaft with a misalignment of up to 15 mm.
Required for a shaft lengths over 320 mm.



access_260_a_2_cat

| Description | Reference |
|-------------|-----------|
| Shaft guide | 1429 0000 |

Shaft for external front operation handle

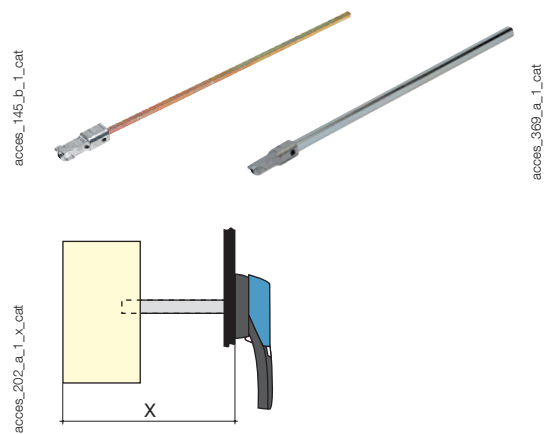
Use

Standard lengths:
- 200 mm
- 320 mm
- 500 mm.

Other lengths: consult us.

| Rating (A) | Frame size | Shaft length (mm) | Reference |
|------------|------------|-------------------|--------------------------|
| 32 ... 400 | 11 ... 16 | 200 | 1400 1020 |
| 32 ... 400 | 11 ... 16 | 320 | 1400 1032 |
| 32 ... 400 | 11 ... 16 | 500 | 1400 1050 ⁽²⁾ |

(1) Use the shaft guide accessory for external operation.
(2) Use the front operation shaft support accessory.



access_145_b_1_cat

access_360_a_1_cat

access_202_a_1_X_cat

Dimension X (mm) for FUSERBLOC BS88

| Rating (A) | 32 | 63 ... 100 | 160 | 250 ... 400 |
|-------------------|-------------|-------------|-------------|-------------|
| Fuse size | A1 | A2-A3/A4 | B1-B2 | B1-B2-B3 |
| Frame size | 11 | 12/13/14 | 14/15 | 15/16 |
| Shaft length (mm) | | | | |
| 200 | 100 ... 230 | 125 ... 230 | 135 ... 230 | 160 ... 230 |
| 320 | 100 ... 350 | 125 ... 350 | 135 ... 350 | 160 ... 350 |
| 500 | 100 ... 530 | 125 ... 530 | 135 ... 530 | 160 ... 530 |

Dimension X (mm) for FUSERBLOC NFC and DIN

| Rating (A) | 50 | 100 ... 160 | 160 | 250 ... 400 |
|-------------------|-------------|-------------|-------------|-------------|
| Fuse size | 14x51 | 22x58/00 | 0 | 1/2 |
| Frame size | 11 | 13 | 14 | 15/16 |
| Shaft length (mm) | | | | |
| 200 | 100 ... 230 | 135 ... 230 | 145 ... 230 | 160 ... 230 |
| 320 | 100 ... 350 | 135 ... 350 | 145 ... 350 | 160 ... 350 |
| 500 | 100 ... 530 | 135 ... 530 | 145 ... 530 | 160 ... 530 |

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from 32 to 400 A

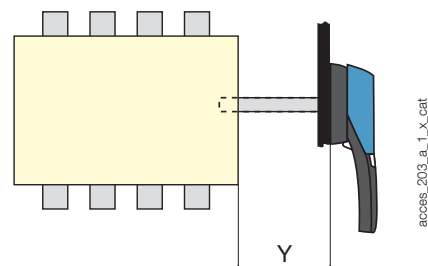
Accessories (continued)

Shaft extensions for external side operation

Use

Standard lengths, 200 mm.

| Rating (A) | Frame size | Handle type | Dimension Y (mm) | Shaft length (mm) | Reference |
|------------|------------|-------------|------------------|-------------------|------------------|
| 32 ... 400 | 11 ... 16 | S | 36 ... 172 | 200 | 1400 1020 |



Integrated solid neutral link

Use

Fixing the solid neutral onto the mechanism produces a device with a solid neutral of the same size as a standard three-pole device (+ 6 mm).

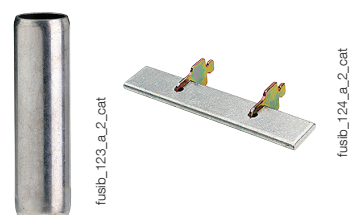
| Rating (A) | Switch body size | Bar rating (A) | Rear / Front Reference | Rear / Rear Reference |
|------------|------------------|----------------|------------------------|-----------------------|
| 32 ... 125 | 11/12/13 | 125 | 3829 9310 | 3829 9310 |
| 160 | 13/14 | 200 | 3829 9320 | 3829 9320 |
| 250 | 15 | 250 | 3829 2325 | 3829 1325 |
| 400 | 16 | 400 | 3829 2312 | 3829 3312 |



Solid links

| BS88 switches | | | | |
|---------------|------------|-------------|----------------------|------------------|
| Rating (A) | Frame size | Fuse size | I _{max} (A) | Reference |
| 32 | 11 | A1 | 32 | 3629 9003 |
| 63 | 12 | A2-A3 | 63 | 3629 9006 |
| 100 | 13 | A4 | 160 | 3629 9010 |
| 160 | 14 | B1-B2 | 200 | 3629 9016 |
| 250 | 15 | B1-B2-B3 | 315 | 3629 9025 |
| 400 | 16 | B1-B2-B3-B4 | 400 | 3629 9040 |

| NFC and DIN switches | | | | |
|----------------------|------------|-----------|----------------------|------------------|
| Rating (A) | Frame size | Fuse size | I _{max} (A) | Reference |
| 50 | 11 | 14 x 51 | 50 | 6029 0000 |
| 100 | 13 | 22 x 58 | 125 | 6039 0000 |
| 160 | 13 | 00 | 160 | 6420 0000 |
| 160 | 14 | 0 | 160 | 6421 0000 |
| 250 | 15 | 1 | 250 | 6421 0001 |
| 400 | 16 | 2 | 400 | 6421 0002 |



U-type auxiliary contacts⁽¹⁾

Use

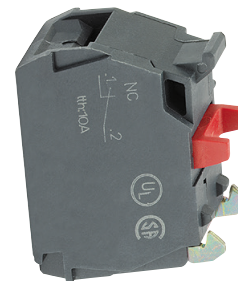
Compact universal type auxiliary contacts which can be configured for operation in either, or both, ON and TEST positions for CD 20 to 1250 A FUSERBLOC. Each slot can accommodate up to two interlocked A/Cs.

Connection to the control circuit

By terminals with max. section 2 x 2.5 mm².

For FUSERBLOC CD 20 to 400 A: Pre-break and signalling of positions 0, I and TEST.

For FUSERBLOC ≥ 630 A: Pre-break and position 0 and I signalling.



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References

| NO auxiliary contacts | | | |
|-----------------------|------------|------------|--------------------------|
| Rating (A) | Frame size | Contact(s) | Reference ⁽¹⁾ |
| 32 ... 400 | 11 ... 16 | 1 | 3999 0701 ⁽²⁾ |

| NC auxiliary contacts | | | |
|-----------------------|------------|------------|--------------------------|
| Rating (A) | Frame size | Contact(s) | Reference ⁽¹⁾ |
| 32 ... 400 | 11 ... 16 | 1 | 3999 0702 ⁽²⁾ |

⁽¹⁾ Cannot be mounted in direct operation CD20 - CD32 switches..

⁽²⁾ 4 auxiliary contacts as standard without additional A/C holder.

| Contact holder for additional auxiliary contacts | | | |
|--|------------|---------------|-----------|
| Rating (A) | Frame size | Contact(s) | Reference |
| 32 ... 400 | 11 ... 16 | 4 (2 x 2 max) | 3999 0600 |

Characteristics

| Rating (A) | Operating current I _o (A) | | | |
|------------|--------------------------------------|------------------|-----------------|-----------------|
| | 250 VAC AC-15 | 400 VAC AC-15 | 24 VDC DC-13 | 48 VDC DC-13 |
| 32 ... 400 | 3 | 1.8 | 2.8 | 1.4 |

S and ST-type auxiliary contacts

Use

For FUSERBLOCs 32 to 1250 A, position 0 and I signalling by 1 to 4 NO + NC auxiliary contacts.

Electrical principle

The NO + NC S-type auxiliary contacts can be configured as 2 NC or 2 NO.

Connection

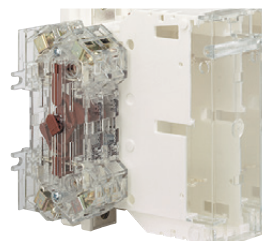
By terminals with max. cross-section 10 mm².

Mechanical characteristics

30 000 operations.



access_051_a_2_cat



access_053_a_1_cat

References

| S-type auxiliary contacts 0-I for external front and right-side operation (Standard operation) | | | | |
|---|------------|--------------|--------------------------|----------------------------------|
| Rating (A) | Frame size | Contact type | S-type AC Reference | Drive shaft (optional) Reference |
| 32 ... 400 | 11 ... 16 | NC+NO | 3999 0041 ⁽¹⁾ | 3999 0003 |

| ST-type auxiliary contacts I-0-TEST for external front and right-side operation (TEST operation) | | | | | |
|---|------------|--------------|-------------|--------------------------|-----------------------|
| Rating (A) | Frame size | Contact type | Description | ST-type AC Reference | Drive shaft Reference |
| 32 ... 400 | 11 ... 16 | NC+NO | TEST + ON | 3999 0141 ⁽²⁾ | 3999 0103 |
| 32 ... 400 | 11 ... 16 | 2 O | TEST + ON | 3999 0241 ⁽²⁾ | 3999 0103 |

⁽¹⁾ Drive shaft included with S-type Auxiliary Contact.

⁽²⁾ Drive shaft to be ordered in addition to the ST-type Auxiliary Contact.

Characteristics

| Rating (A) | Current nominal (A) | Operating current I _o (A) | |
|------------|---------------------|--------------------------------------|------------------|
| | | 250 VAC AC-13 | 400 VAC AC-13 |
| 32 ... 400 | 20 | 10 | 8 |

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Accessories (continued)

Terminal shrouds

Use

Top or bottom IP20 protection (on the front) against direct contact with terminals or connection parts.

Two sets required to fully shroud both incoming and outgoing terminals.

| Rating (A) | Frame size | Position | No. of poles | Reference |
|-------------|------------|--------------|--------------|------------------|
| 32 ... 63 | 11/12 | top / bottom | 3 / 4 P | integrated |
| 100 ... 160 | 13/14 | top / bottom | 3 P | 3998 3016 |
| 100 ... 160 | 13/14 | top / bottom | 4 P | 3998 4016 |
| 200 ... 400 | 15/16 | top / bottom | 3 P | 3998 3025 |
| 200 ... 400 | 15/16 | top / bottom | 4 P | 3998 4025 |



fuser_314_a_1_cat

Electronic fuse monitoring device (FMD)

Use

Provides fuse state monitoring and worked fuse indication even for fuse links without monitoring device strikers. Suitable for use with BS88, DIN and UL type fuses.

Principle

The Fuse Monitoring Device (FMD) detects the worked fuse and provides a signal via: a relay and a bi-stable relay and 3 LEDs (FMD30).

The FMD can be DIN rail or back plate mounted close to the Fuserbloc, directly mounted on the FUSERBLOC, or it can be door mounted to provide information directly on the front of a panel.

References

| For FUSERBLOC 32 to 400 A | | |
|---------------------------|-------------------------|------------------|
| Nb of LEDs | Operating voltage Ph/Ph | Reference |
| 3 (FMD30) | 120 - 260 VAC | 3899 3120 |
| 3 (FMD30) | 380 - 690 VAC | 3899 3380 |

| Accessories | | Reference |
|--------------------------------|--------------|------------------|
| Kit for connection accessories | Standard | 3819 9120 |
| Kit for connection accessories | Door mounted | 3829 9120 |

Relay characteristics

| Rating (A) | Relay operating current I_c (A) | |
|------------|-----------------------------------|-------|
| | AC-15 | DC-13 |
| 63 ... 400 | 2.5 A | 0.2 |



3 LED version (FMD30)

FUSERBLOC BS88 Rear

Fuse combination switches with rear connection
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Cage terminals

Use

Connection of bare copper cables onto the terminals (without lugs).

References

| Rating max (A) | Frame size | No. of poles | Reference |
|----------------|------------|--------------|------------|
| 32 ... 63 | 11 ... 12 | 3 / 4 P | integrated |
| 100 ... 160 | 13/14 | 3 P | 5400 3016 |
| 100 ... 160 | 13/14 | 4 P | 5400 4016 |
| 250 | 15 | 3 P | 5400 3025 |
| 250 | 15 | 4 P | 5400 4025 |
| 400 | 16 | 3 P | 5400 3040 |
| 400 | 16 | 4 P | 5400 4040 |

Connections

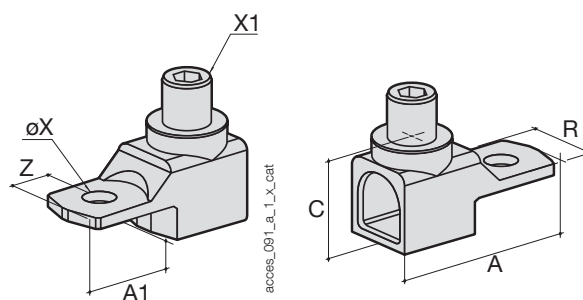
| Rating (A) | Flexible cable cross-section (mm ²) | Rigid cable cross-section (mm ²) | Flexible bar width (mm) | Stripped over (mm) |
|-------------|---|--|-------------------------|--------------------|
| 100 ... 160 | 16 ... 95 | 16 ... 95 | 13 | 22 |
| 250 | 16 ... 185 | 16 ... 185 | 18 | 27 |
| 400 | 50 ... 240 | 50 ... 300 | 20 | 34 |

Dimensions

| Rating (A) | A | A1 | C | R | ØX | X1 | Z |
|-------------|------|------|------|----|------|-----|----|
| 100 ... 160 | 47.5 | 22.5 | 25 | 20 | 8.5 | M12 | 10 |
| 250 | 62 | 31.5 | 31.5 | 25 | 10.5 | M16 | 14 |
| 400 | 71.5 | 32 | 38 | 32 | 10.5 | M20 | 15 |



access_063_a_1_cat



access_091_a_1_x_cat

access_092_a_1_x_cat

Handle key interlocking accessories

Use

Locking in position 0 of the direct, front or right side operation:

- using a padlock (not supplied) in direct right side operation: integrated into the handle,

- using a padlock (not supplied): right-side or front operation switch from 32 to 1250 A, factory integrated

- using a padlock (not supplied) in external operation.

Locking using RONIS EL 11 AP lock (not supplied)

| Rating (A) | Frame size | Operation | Figure n° | Reference |
|------------|------------|----------------|-----------|-----------|
| 32 ... 400 | 11 ... 16 | external front | 2 | 1499 7701 |

Locking using K-type CASTELL lock (not supplied)

| Rating (A) | Frame size | Operation | Figure n° | Reference |
|------------|------------|----------------|-----------|-----------|
| 32 ... 400 | 11 ... 16 | external front | 3 | 1499 7702 |

Locking using FS-type CASTELL lock (not supplied)

| Rating (A) | Frame size | Operation | Figure n° | Reference |
|------------|------------|----------------|-----------|-----------|
| 32 ... 400 | 11 ... 16 | external front | 3 | 1499 7703 |

Locking using XOP (not supplied)

| Rating (A) | Frame size | Operation | Reference |
|------------|------------|----------------|-----------|
| 32 ... 400 | 11 ... 16 | external front | 1499 7702 |

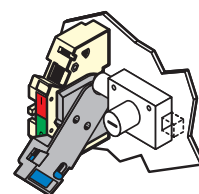


Fig. 1

access_042_a_1_x_cat

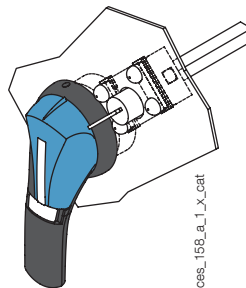


Fig.2

access_158_a_1_x_cat

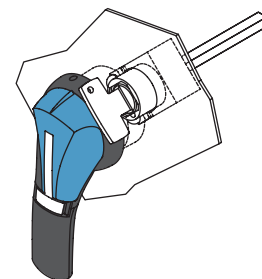


Fig. 3

access_157_a_1_x_cat

FUSERBLOC BS88 Rear

Fuse combination switches with rear connection
from 32 to 400 A

Characteristics according to IEC 60947-3

32 to 400 A

| Reference | 3841 X003 | 3841 X006 | 3841 X010 | 3841 X016 | 3841 X024 | 3841 X039 |
|---|-----------|-----------|------------|------------|------------|-------------|
| Type | Mod. 32 A | Mod. 63 A | Mod. 100 A | Mod. 160 A | Mod. 250 A | Mod. 400 A |
| Frame size | 11 | 12 | 13 | 14 | 15 | 16 |
| Power pole pitch (mm) | 27 | 32 | 36 | 50 | 60 | 66 |
| Number of pole (SWN= switched neutral, SLN=solid neutral) | 3, 4 | 3, 4 | 3, 4 | 3, 4 | 3, 4 | 3, 4 |
| Thermal current I _{th} (35°C) | 32A | 63A | 100A | 160A | 250A | 400A |
| Fuse size BS88 & NFC/DIN | A1 | A2-A3 | A4* | B1-B2 | B1-B2-B3 | B1-B2-B3-B4 |
| Rated operational voltage Ue (V) | 690V | 690V | 690V | 690V | 690V | 690V |
| Rated insulation voltage Ui (V) | 800 | 800 | 800 | 800 | 800 | 1000 |
| Rated impulse withstand voltage Uimp (kV) | 8 | 8 | 8 | 8 | 8 | 12 |

Rated conditional short-circuit current (kA) in withstand and closing with gM/gG fuse

| | | | | | | |
|--|------|-----|------|-------|------|------|
| Associated gM/gG fuse rating (A) | 50 | 63 | 100 | 160 | 250 | 400 |
| Prospective short-circuit current at Ue 400/415 VAC (kA rms) | 100 | 100 | 100 | 100 | 100 | 50 |
| Prospective short-circuit current at Ue 660/690 VAC (kA rms) | 100 | 100 | 100 | 50 | 50 | 50 |
| Dynamic withstand in I _{sc} Ue 415 VAC (peak kA) | 5,52 | 7,3 | 11,9 | 22,66 | 23,9 | 33,5 |
| Dynamic withstand in I _{sc} Ue 690 VAC (peak kA) | 6,5 | 7,3 | 15,8 | 14 | 29 | 29,9 |

Rated operational currents I_e (A)

| Nominal voltage | Category of use | A/B ⁽¹⁾ | A/B ⁽¹⁾ | A/B ⁽¹⁾ | A/B ⁽¹⁾ | A/B ⁽¹⁾ | A/B ⁽¹⁾ |
|------------------------|-------------------|--------------------|---------------------|--|--------------------|--|----------------------|
| 415 VAC | AC 21 A / AC 21 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | 400/400 |
| 415 VAC | AC 22 A / AC 22 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | 400/400 |
| 415 VAC | AC 23 A / AC 23 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | 400/400 |
| 500 VAC | AC 21 A / AC 21 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | -/400 |
| 500 VAC | AC 22 A / AC 22 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | -/400 |
| 500 VAC | AC 23 A / AC 23 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | - |
| 690 VAC ⁽⁰⁾ | AC 20 A / AC 20 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | 400/400 |
| 690 VAC ⁽⁰⁾ | AC 21 A / AC 21 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | -/400 |
| 690 VAC ⁽⁰⁾ | AC 22 A / AC 22 B | 50/50 | 63/63 | 100/100 | 160/160 | 250/250 | -/400 |
| 690 VAC ⁽⁰⁾ | AC 23 A / AC 23 B | 50/50 | 63/63 | 100/100 | 160/160 | 160/160 | 250/315 |
| 220 VDC | DC 21 A / DC 21 B | - | -/63 | 100/100 | - | 250/250 | - |
| 220 VDC | DC 22 A / DC 22 B | - | - | 100/100 | - | 250/250 | - |
| 220 VDC | DC 23 A / DC 23 B | - | - | 100/100 | - | 200/200 | - |
| 400 VDC | DC 21 A / DC 21 B | - | -/63 ⁽³⁾ | 100 ⁽³⁾ /100 ⁽³⁾ | - | 250 ⁽³⁾ /250 ⁽³⁾ | -/250 ⁽¹⁾ |
| 400 VDC | DC 21 A / DC 21 B | - | - | - | - | - | -/350 ⁽³⁾ |
| 400 VDC | DC 22 A / DC 22 B | - | - | 100 ⁽³⁾ /100 ⁽³⁾ | - | 250 ⁽³⁾ /250 ⁽³⁾ | -/350 ⁽³⁾ |
| 400 VDC | DC 23 A / DC 23 B | - | - | 100 ⁽³⁾ /100 ⁽³⁾ | - | 200 ⁽³⁾ /200 ⁽³⁾ | - |
| 440 VDC | DC 21 A / DC 21 B | - | -/63 ⁽³⁾ | 100 ⁽³⁾ /100 ⁽³⁾ | - | 250 ⁽³⁾ /250 ⁽³⁾ | - |
| 440 VDC | DC 22 A / DC 22 B | - | - | 100 ⁽³⁾ /100 ⁽³⁾ | - | 250 ⁽³⁾ /250 ⁽³⁾ | - |
| 440 VDC | DC 23 A / DC 23 B | - | - | 100 ⁽³⁾ /100 ⁽³⁾ | - | 200 ⁽³⁾ /200 ⁽³⁾ | - |
| 500 VDC | DC 21 A / DC 21 B | - | -/63 ⁽³⁾ | 100 ⁽³⁾ /100 ⁽³⁾ | - | 250 ⁽³⁾ /250 ⁽³⁾ | - |
| 500 VDC | DC 22 A / DC 22 B | - | - | 100 ⁽³⁾ /100 ⁽³⁾ | - | 250 ⁽³⁾ /250 ⁽³⁾ | - |
| 500 VDC | DC 23 A / DC 23 B | - | - | 100 ⁽³⁾ /100 ⁽³⁾ | - | 200 ⁽³⁾ /200 ⁽³⁾ | - |

Rated operational power in AC-23 (kW)

| | | | | | | |
|---|-------|-------|-------|---------|---------|---------|
| At Ue 415 VAC w/o pre-break auxiliary contact ⁽¹⁾⁽⁶⁾ | 25/25 | 30/30 | 51/51 | 80/80 | 132/132 | 220/220 |
| At Ue 690 VAC w/o pre-break auxiliary contact ⁽¹⁾⁽⁶⁾ | 45/45 | 55/55 | 90/90 | 110/110 | 220/220 | 220/295 |

Reactive power (kvar)

| | | | | | | |
|------------------------------|----|----|----|----|-----|-----|
| At Ue 415 VAC ⁽⁶⁾ | 23 | 28 | 45 | 75 | 115 | 185 |
|------------------------------|----|----|----|----|-----|-----|

| | | | | | | |
|---------------------------------------|------|------|------|------|------|------|
| Power dissipation (W/pole) | 7,3 | 8,4 | 14,5 | 23 | 41,1 | 65,6 |
| Power dissipated by the fuse (W/pole) | 4,6 | 6 | 9 | 15 | 23 | 33 |
| Power dissipation by device (W/pole) | 2,45 | 4,35 | 6,8 | 10,4 | 19 | 29,6 |

Connection capacity

| | | | | | | |
|---|----|----|----|----|-----|-------|
| Minimum copper cable cross section (mm ²) | 6 | 10 | 25 | 50 | 95 | 1x185 |
| Maximum copper cable cross section (mm ²) | 25 | 25 | 95 | 95 | 240 | 1x240 |
| Maximum bar width (mm) | - | - | 20 | 20 | 32 | 45 |
| Minimum tightening torque (Nm) | 3 | 3 | 9 | 9 | 20 | 20 |

Mechanical characteristics

| | | | | | | |
|---|--------|--------|--------|--------|--------|--------|
| Durability (number of operating cycles) | 10 000 | 10 000 | 10 000 | 10 000 | 10 000 | 10 000 |
| Operating torque (Nm) | 8,7 | 8,7 | 9,7 | 9,7 | 13 | 17 |
| Weight of a non-accessorized 3-pole device (kg) | 0.80 | 1 | 1.5 | 1.8 | 3.2 | 4.7 |
| Weight of a non-accessorized 4-pole device (kg) | 1 | 1.3 | 2 | 2.3 | 4.5 | 5.9 |
| Weight in additional 1 P (kg) | 0.2 | 0.3 | 0.5 | 0.5 | 1.3 | 1.4 |

| | | | | | | |
|----------------------------|--------------------------|---|---|---|---|---|
| Storage temperature (°C) | -50 ... +85 | | | | | |
| Operating temperature (°C) | -20 ... +70 | | | | | |
| Normative compliance | IEC 60947-3 | | | | | |
| Certification | IEC, KEMA, Loyd's et CCC | | | | | |
| Pollution degree | 3 | 3 | 3 | 3 | 3 | 3 |

⁽¹⁾ Catégorie avec indice A = manoeuvres fréquentes / Catégorie avec indice B = manoeuvres non fréquentes.

⁽³⁾ Appareil 3 pôles avec 2 pôles "+" en série et 1 pôle "-".

FUSERBLOC BS88 Rear

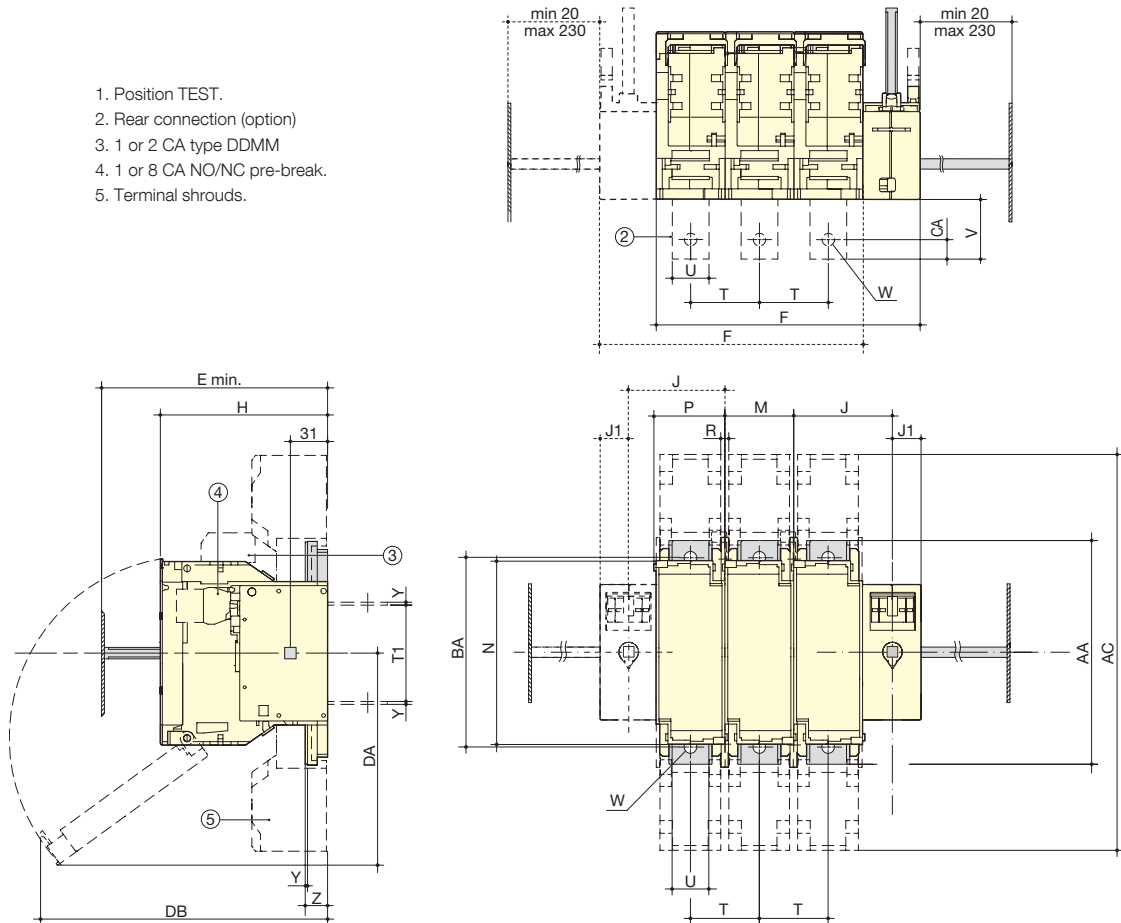
Fuse combination switches with rear connection
from 32 to 400 A

Dimensions

External operation

BS88 32 to 400 A

1. Position TEST.
2. Rear connection (option)
3. 1 or 2 CA type DDM
4. 1 or 8 CA NO/NC pre-break.
5. Terminal shrouds.



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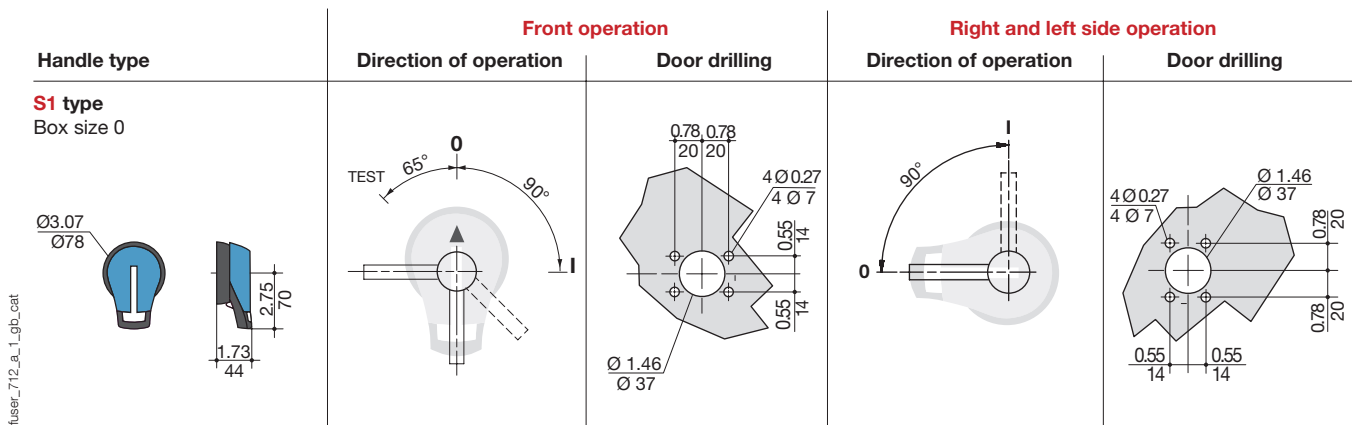
| Rating (A) | BS88 Fuse size | Frame size | Overall dimensions | | Terminal shrouds | | Switch body | | | | | | Switch mounting | | | | | Connection | | | | | | | |
|------------|----------------|------------|--------------------|-----|------------------|-------|-------------|----|----|-----|-----|----|-----------------|----|-----|----|----|------------|-----|-----|------|-----|-----|------|----|
| | | | E min. | AC | F 3p. | F 4p. | H | J | J1 | DA | DB | M | N | P | R | T | T1 | U | W | Y | Z | AA | BA | CA | V |
| 32 | A1 | 11 | 100 | - | 121 | 148 | 87 | 45 | 18 | 85 | 153 | 27 | 106 | 31 | 6 | 27 | 59 | 12 | - | 2 | - | 118 | - | 6 | 15 |
| 63 | A2-A3 | 12 | 125 | - | 136 | 168 | 116 | 50 | 18 | 159 | 145 | 32 | 106 | 36 | 5.4 | 32 | 59 | 12 | - | 2 | - | 118 | - | 6 | 15 |
| 100 | A4 | 13 | 135 | 268 | 148 | 184 | 116 | 54 | 18 | 141 | 179 | 36 | 127 | 40 | 5.4 | 36 | 62 | 20 | 8.5 | 2.5 | 19.5 | 162 | 141 | 8 | 41 |
| 160 | - | 13 | 135 | 268 | 148 | 184 | 126 | 54 | 18 | 141 | 189 | 36 | 127 | 40 | 5.4 | 36 | 62 | 20 | 8.5 | 2.5 | 19.5 | 162 | 141 | 8 | 41 |
| 250 | B1-B2-B3 | 15 | 154 | 345 | 234 | 294 | 146 | 86 | 25 | 185 | 251 | 60 | 162 | 64 | 6.4 | 60 | 84 | 32 | 11 | 2.5 | 19.5 | 195 | 166 | 17 | 52 |
| 400 | B1-B2-B3-B4 | 16 | 157 | 255 | 252 | 318 | 149 | 91 | 25 | 200 | 260 | 66 | 172 | 70 | 6.4 | 66 | 84 | 50 | 11 | 3 | 20 | 205 | 175 | 14.5 | 54 |

FUSERBLOC BS88 Rear

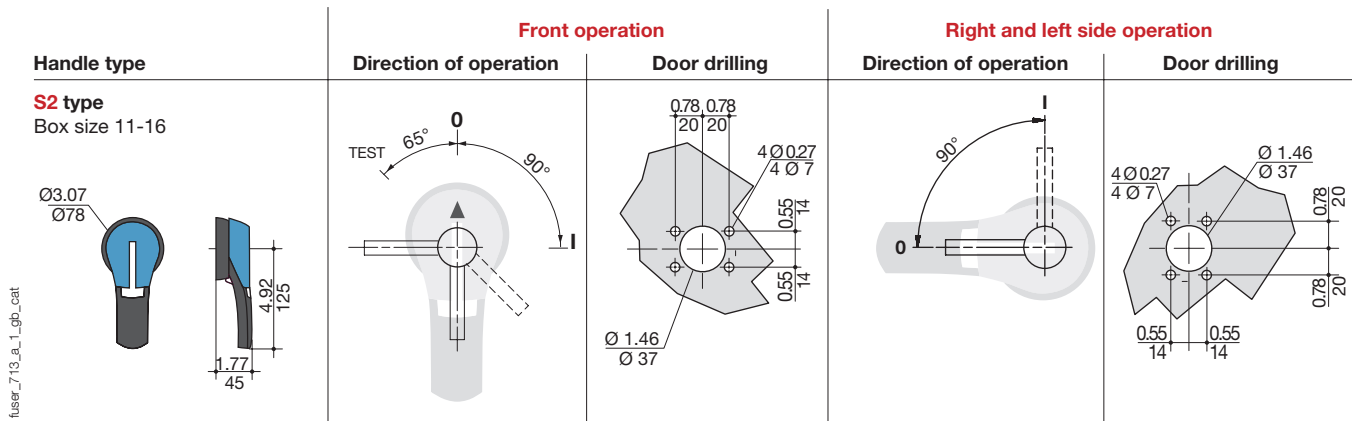
Fuse combination switches with rear connection
from 32 to 400 A

Dimensions for external operation handles

BS88 - 32 to 63 A

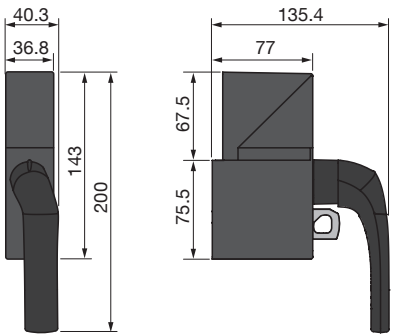
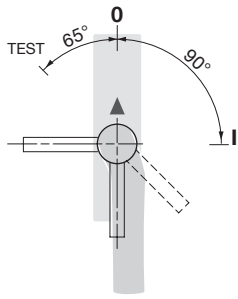
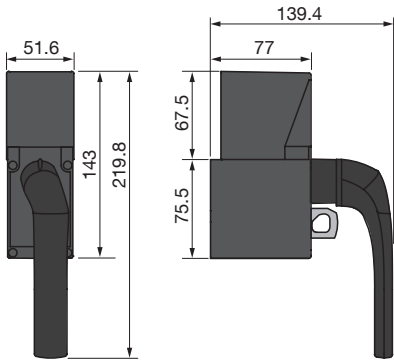
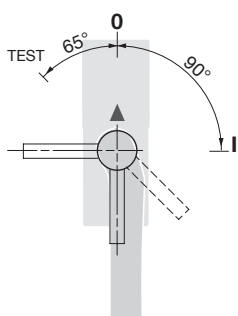


BS88 - 100 to 400 A



Dimensions for direct-control casings

50 to 400 A

| Case handle type | Direct control Operating direction |
|---|--|
| <p>50 to 160 A Case 11 to 14</p>  |  |
| <p>250 to 400 A Case 15 to 16</p>  |  |

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