

Ferraz Shawmut is global leader in fuse-based electrical protection solutions. Our brand is worldwide renowned for technical expertise, innovative solutions and world-class support.

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NH fuse-rails • Accessory

## NH fuse-rails

touch protected, size NHOO ~690V, 160A, width 50 mm for direct mounting on 100 or 185mm busbar system screw terminal M8 with cable cover mounted

for direct mounting on 185 mm
busbar system

## NH fuse-rails

touch protected, size NH 1 to 3 ~690V
width 100 mm

## Adaptor

for mounting NH0O, 100mm fuserails in the 185 mm system.
The adaptors bring the height into line with 250A, 400A, 630A fuse-rails in case of combined installation.


| NHOO | single for 185 mm system | 08379.011850 | 500 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| NHOO | double for 185 mm system | 08379.021850 | 1120 | 1 |

 rails in case of combined installation. Only for 185 mm

## Double adaptor

Size NH00, 185mm
The adaptor brings the height into line with 250A, 400A, 630A fuserails in case of combined installation. Only for 185 mm


## Single adaptor

Size NH00, 185mm
The adaptor brings the height into line with 250A, 400A, 630A fuse-


## Side cover

Size NH0O

Side cover
Size NH1 to 3

## Cover for gripping lugs

## Cable cover for output cable

Size NH1 to 3
Cable cover for panels with central cover plate, length 190 mm


## Craw-type clamps

for mounting without drilling for busbar thickness 5-10mm 1 set = 3 clamps


## Accessory • Technical data size NH0O

## Terminal sets

(1 set = 3 pieces)
for modification of the terminal configuration


## Label holder

mounted in the center


## Label clip

mounted on top


NH1 to 3
$08181.006000 \quad 10$

NH fuse-rails with touch protection
Size 00, 160A
08175.000000 and 08185.000000

Technical data according to EN/IEC 60269-2

|  | Fuse-rail |  |
| :---: | :---: | :---: |
|  | $\begin{gathered} 160 \mathrm{~A} \\ 100 \mathrm{~mm} \end{gathered}$ | $\begin{gathered} \text { 160A } \\ \text { 185mm } \end{gathered}$ |
| size | 00 | 00 |
| rated current with NH fuse-links | 160A | 160A |
| rated current with solid links | 200A | 200A |
| rated voltage | 690 V AC | 690 V AC |
| rated insulation voltage | 1000 V | 1000 V |
| verification of peak withstand current of a fuse base | 50kA | 50kA |
| max. permissible power dissipation of NH fuse-links | 12W | 12 W |
| max. permissible power dissipation of solid links | 1,2W | 1,2W |
| cable terminal connection: |  |  |
| standard terminal | M8 | M8 |
| for copper bars with max. width | 20 mm | 20 mm |
| for cable lugs max. | $70 \mathrm{~mm}^{2}$ | $70 \mathrm{~mm}^{2}$ |
| busbar terminal connection: |  |  |
| standard terminal | M8 | M8 |
| hooked clamps for busbars with thickness | $5-10 \mathrm{~mm}^{2}$ | $5-10 \mathrm{~mm}^{2}$ |
| ambient air temperature in service (IEC 60 269) | $-5-+35^{\circ} \mathrm{C}$ | $-5-+35^{\circ} \mathrm{C}$ |
| ambient air temperature for storage (IEC 60 269) | $-25-+55^{\circ} \mathrm{C}$ | $-25-+55^{\circ} \mathrm{C}$ |

Dimensions in millimetres


## NH fuse-rails with touch protection

Size 00, 160A, for direct installation on to 185 mm busbar systems
08185.000000

Dimensions in millimetres

$\cos ^{2}+8$

NH fuse-rails with touch protection
Size 00, 160A
08175.000000 and 08185.000000

Cable connection

| Cat. No. | 08274.000000 | 08375.00000 | 08295.007405 |
| :---: | :---: | :---: | :---: |
| type of terminal | screw | clamp strap | Al/Cu clamp |
| cross section [ $\mathrm{mm}^{2}$ ] | Cu 16-70 | Cu 4-70 | Cu 1,5-70 |
|  | Al 16-95 |  | Al 1,5-70/95 sectoral solid |
| M [ Nm ] | 15-17 | 3-4 | 3-4 |
|  |  |  |  |

Hooked clamp 08376.000000 (accessory):
Torque $\mathrm{M}=5-7 \mathrm{Nm}$

NH fuse-rails with touch protection
Size 1, 250A; size 2, 400A; size 3, 630A
08181.000000, 08182.000000 and 08183.000000

Technical data according to EN/IEC 60269-2

|  | Fuse-rail |  |  |
| :---: | :---: | :---: | :---: |
|  | 250A | 400A | 630A |
| size | 1 | 2 | 3 |
| rated current with NH fuse-links | 250A | 400A | 630A |
| rated current with solid links | 400A | 630A | 800A |
| rated voltage | 690 V AC | 690 V AC | 690 V AC |
| rated insulation voltage | 1000 V | 1000 V | 1000 V |
| verification of peak withstand current of a fuse | 50kA | 50kA | 50kA |
| max. permissible power dissipation of NH fuse-links | 23W | 34 W | 48W |
| max. permissible power dissipation of solid links | 3W | 8 W | 20W |
| cable terminal connections: |  |  |  |
| standard terminal | M10 | M12 | M12 |
| for copper bars with max. width | 40 mm | 40 mm | 40 mm |
| for cable lugs max. | $300 \mathrm{~mm}^{2}$ | $300 \mathrm{~mm}^{2}$ | $300 \mathrm{~mm}^{2}$ |
| busbar terminals: |  |  |  |
| standard terminal | M12 | M12 | M12 |
| hooked clamps for busbars with thickness | $5-10 \mathrm{~mm}^{2}$ | $5-10 \mathrm{~mm}^{2}$ | $5-10 \mathrm{~mm}^{2}$ |
| ambient air temperature in service (IEC 60 269) | $-5-+35^{\circ} \mathrm{C}$ | $-5-+35^{\circ} \mathrm{C}$ | $-5-+35^{\circ} \mathrm{C}$ |
| ambient air temperature for storage (IEC 60 269) | $-25-+55^{\circ} \mathrm{C}$ | $-25-+55^{\circ} \mathrm{C}$ | $-25-+55^{\circ} \mathrm{C}$ |

NH fuse-rails with touch protection
Size 1, 250A; size 2, 400A; size 3, 630A for direct installation on to 185 mm busbar systems 08181.000000, 08182.000000 und 08183.000000

Dimensions in millimetres


## NH fuse-rails with touch protection

Size 1, 250A; size 2, 400A; size 3, 630A for direct installation on to 185 mm busbar systems 08181.000000, 08182.000000 und 08183.000000

Cable connection

| reference | B |
| :--- | :---: |
| type of terminal | bolt |
| accessory | cable lug max. width 45 mm |
| cross section |  |
| [mm²] | max. 300 |
| $\mathrm{M}(\mathrm{an})[\mathrm{Nm}]$ | $35 \pm 3$ |

Cable cover size NH1, NH2, NH3

NH fuse-rails with touch protection
Size 1, 250A; size 2, 400A; size 3, 630A, for direct installation on to 185 mm busbar systems 08181.000000, 08182.000000 und 08183.000000

Cable cover 08380.000005 (accessory)

- for terminal connections
- with cable lugs
- on switch boards
with central cover

application:
- for terminal connetions with cable lugs
- on switch boards with central cover


NH fuse-switch-disconnector MULTIBLOC
~690V
for base mounting


In the version $3+N$ the $N$-pole is equipped with an integrated neutral link.
The N -pole closes first and opens last.


NH fuse-switch-disconnector MULTIBLOC
$\sim 690 \mathrm{~V}$, direct contact on 5 oder 10 mm busbar

Cable covers 1-pole
(1 set = 2 pieces)
Can be used also for 2-pole switches, two sets are required per 2-pole switch.
For extension of the cover on top or bottom.
Modular, can be put on each other.


for 40 mm busbar system

| NH0O | 160 | 3 | Screw M8, clamp 4-70mm ${ }^{2}$ | 08255.000000 | 924 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| for 60mm busbar system |  |  |  |  |  |  |
| NHOOO | 100 | 3 | Cage terminal $1,5-50 \mathrm{~mm}^{2}$ | 08266.000000 | 570 | 1 |
| NHOO | 160 | 3 | Screw M8, clamp 4-70mm ${ }^{2}$ | 08265.000000 | 924 | 1 |
| NH1 | 250 | 3 | Screw M10 | 08261.000000* | 2721 | 1 |
| NH2 | 400 | 3 | Screw M10 | 08262.000000* | 4500 | 1 |

* also suitable for 40 mm busbar system Size 000: Output on bottom
Size $00,1,2$ : Output on top/bottom can be chosen



## Accessory

## Cable covers 3-pole

(1 set $=2$ pieces)
For extension of the cover on top or bottom.
Modular, can be put on each other.

## Touch protection <br> for busbar mounting

(1 set = 2 pieces)
Covers the side not in use, but fits on both sides, also fits on cable cover.


## Trim frame

## DIN rail mounting

| NH000, 3-pole | single | 08236.001000 | 30 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| NH00, 3-pole | single | 08235.001000 | 20 | 1 |
| NHOO, 3-pole | double | 08235.002000 | 30 | 1 |
| NH00, 3-pole | double, 1 switch, | 08235.008000 | 30 | 1 |
|  | 1 empty field right |  |  |  |
| NHOO, 3-pole | triple | 08235.003000 | 30 | 1 |
| NH1, 3-pole | single | 08231.001000 | 70 | 1 |
| NH2, 3-pole | single | 08232.001000 | 320 | 1 |
| NH3, 3-pole | single | 08233.001000 | 1130 | 1 |



| NH00, 1-pole | 150 mm distance | 08215.500000 | 81 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| NH0O, 1-pole | 125 mm distance | 08215.700000 | 65 | 1 |
| NH00, 3-pole | 150 mm d dstance | 08231.500000 | 134 | 1 |
| NH00, 3-pole | 125 mm distance | 08231.700000 | 108 | 1 |
| NH1, 1-pole | 150 mm distance | 08211.500000 | 134 | 1 |
| NH1, 1-pole | 125 mm distance | 08211.700000 | 106 | 1 |
| NH1, 3-pole | 150 mm distance | 08235.500000 | 232 | 1 |
| NH1, 3-pole | 125 mm distance | 08235.700000 | 185 | 1 |

For mounting between two DIN rails, distance of DIN rails 125 or 150 mm .

## Window lock

(1 set = 3 pieces)
To be inserted into switch cover. Blocks the opening of the window.


Sealing set
Turning the knob blocks the switch cover. Knob may be sealed.


| NHOO | Screw M8 with spring washer | 08274.000000 | 34 | 1 |
| :---: | :---: | :---: | :---: | :---: |
| NH00 | NH0O clamp terminal set $4-70 \mathrm{~mm}^{2}$ | 08375.000000 | 34 | 1 |
| NH00 | NHOO clamp terminal set for Al and Cu $4-70 \mathrm{~mm}^{2}$ | 08295.007405 | 76 | 1 |
| NH1 | NH 1 clamp terminal set for Al and Cu $70-150 \mathrm{~mm}^{2}$ | 08276.000000 | 100 | 1 |
| NH2 | NH 2 clamp terminal set for Al and Cu $120-240 \mathrm{~mm}^{2}$ | 08277.000000 | 251 | 1 |
| NH3 | NH3 clamp terminal set for Al and Cu $150-300 \mathrm{~mm}^{2}$ | 08278.000000 | 320 | 1 |



Microswitch
For montioring of the switch cover position


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cy-vid


## MULTIBLOC Technical data

## MULTIBLOC NH fuse-switch-Disconnector

## Overview

The production progamme of MULTIBLOC comprises NH fuse-switch-disconnectors from 100A to 1600A. The design for bottom fitting size 00 and 1 includes single pole, double pole, triple pole and quadruple pole units. Products for direct installation on to busbars are designed for installation in 40 mm and 60 mm busbar systems.
For the installation of MULTIBLOC NH fuse-switch-disconnectors of different sizes in distribution units with central cover, respective covers are used to obtain a uniform profile in height and length.
MULTIBLOC are designed for NH fuse-links in accordance with IEC/EN 60 269-2 and VDE 0636, size 000, 100A, size 00, 160A; size $1,250 \mathrm{~A}$; size $2,400 \mathrm{~A}$; and size $3,630 \mathrm{~A}$.
This system is a modular system, which allows the installation and combination of individual components.
MULTIBLOC offers the user the possibility of fast and easy installation as well as a high degree of security during installation and maintenance.

## Product range

- designed for bottom fitting: single pole, double pole, triple pole and quadruple pole (size 00 and 1)
- NH fuse-switch-disconnectors for direct installation on to triple pole busbar systems (size 000 to 2)
symmetrical switch suitable for bottom / top cable terminal connections
or 40 mm and 60 mm busbar systems
universally useable for busbars with width of 5 mm and 10 mm
for horizontal and vertical use (size 00, 1, 2)
switch can still be adjusted after being snapped on to busbars and fixed after adjustment
- touch protection IP20 - IP rating is maintained also when checking voltage at the fuse-links
- parking position of switch operating cover
- modular system of cover cover for cable termination area can be extended as required
- cover for touch protection for direct installation on to 60 mm busbar systems
- locking and sealing facility - optional for size 00 and 1
- materials used are free of halogen, self extinguishing, marked for classified recycling
locking and
sealing devices

easy direct installation
by snapping on to the busbars

touch protection IP20 with fuse-links in test mode



## Design

Base
The base is touch protected (degree of protection IP20). The main base consists of glass fibre strengthened, thermically high stable, self extinguishing synthetic material free of halogen. There are no metal parts except the current carrying contact system.

Contact system
The contact system is corrosion resistant as well as torsion resistant. The copper contacts are galvanic surface coated. The contact springs are made of stainless steel.

Touch protection
The one- piece or two- piece protective cover consists of additionally strengthened thermically high stable, self extinguishing, thermoplastic material free of halogen. It is snapped into the main base.

Switch operating cover
The switch operating cover consists of glass fibre strengthened self extinguishing, thermoplastic material free of halogen. In the ON position a spring cover plate lock secures the switch operating cover. In order to change the NH fuse-links the switch operating cover can be removed in the OFF position. The switch operating cover is supplied with large windows which enable the label and the indicator of the fuse-link to be clearly seen. These windows can be opened to check the condition of the fuse-links, a touch protection of IP 20 is guaranteed also when checking voltage at the fuse-links. If necessary the window can be secured against unauthorised opening by a locking device (accessory) - (size 00 to 2). The switch operating cover can be parked (parking position). The switch operating cover of MULTIBLOC size 00 and 1 can be sealed (optional) and locked as a protection against unauthorised connection.

Functions
Protection ${ }^{11}$

- Protection of circuits against overload and short circuit (current limiting)
- Protection of equipment and installations for short circuits up to 120 kA against dynamic short circuit effects through current limitation
- Selective isolation of defective circuits up to highest short circuit currents of 120 kA
- Protection of equipment (e.g. short circuit protection of circuit breakers, busbar systems and contactors)
- Safe load breaking, even with frequent short circuits, as fuse-links are replaced
- Protection of persons and animals against shock hazards (in TN-systems)

Disconnection

- large visible isolating distance

Short circuits

- dynamic short- circuit withstand with NH fuse-links up to 120kA

Switching

- safe short circuit making with NH fuse-links up to $80 \mathrm{kA}{ }^{2)}$
- utilization category (AC 23 B )

Touch protection

- touch protection ${ }^{3)}$ IP 10 in open position
- IP 20 in closed position ${ }^{4)}$

Electromagnetic compatibility

- in accordance with EN 60947-3
${ }^{1)}$ with fuse-links inserted
${ }^{2)}$ see technical data
${ }^{3)}$ touch protection only guaranteed when the area of cable termination is also touch protected (e.g. with central cover)
${ }^{\text {4) IP }} 30$ can be reached (e.g. with cover shroud for switch or respective central cover)
Standard service, mounting and transport conditions
MULTIBLOC installation and maintenance. The standard conditions to IEC/EN 60 947-1 and IEC/EN 60947-3 are as follows:
a) Ambient air temperature: must not exceed $+40^{\circ} \mathrm{C}$ and its average over a period of 24 hours does not exceed $35^{\circ} \mathrm{C}$. The lower limit of ambient air temperature is $-5^{\circ} \mathrm{C}$. Ambient air temperature is that existing in the vicinity of the equipment if supplied without enclosure. (Please note - a derating factor must be applied to the maximum load current when the ambient air temperature in the vicinity of the switchgear exceeds $25^{\circ} \mathrm{C}$. The cross sectional areas of copper busbars together with all other connected cables or conductors must meet the minimum cross sectional area used in the verification of the temperature rise tests at the rated current measurement of the switchgear. In case of doubt contact Ferraz Shawmut. Follow the specification of the manufacturer of the NH fuse-links installed.)
b) Altitude: up to 2.000 m . For equipment to be used at higher altitudes contact Ferraz Shawmut prior to use.
c) Humidity: The relative humidity of the air must not exceed $50 \%$ at a maximum temperature of $+40^{\circ} \mathrm{C}$. Higher relative humidity may be permitted at lower temperatures, e.g. $90 \%$ at $+20^{\circ} \mathrm{C}$. Special measures may be necessary in cases of occasional condensation due to variations in temperature.
d) Pollution degree: The switchgear is rated according pollution degree 3 (conductive pollution occurs, or dry or non conductive polIution occurs which becomes conductive due to condensation).
e) Transport and Storage: Values according a) and b) are valid with the exception, that for transport and storage, but not service, the ambient temperatures can be between $-25^{\circ} \mathrm{C}$ to $+55^{\circ} \mathrm{C}$.
f) Certification and Test Reports: All equipment of the MULTIBLOC series are tested and approved by third party testing according the above-mentioned standards and with the technical data mentioned. Tests have been made in conditions described by the standard. Other service conditions (e.g. in enclosures, at higher ambient air temperatures, higher power dissipation of fuse-links, etc.) correction factors to the rated values have to be observed. These correction factors can be found in standards IEC 60 269, IEC 60890 or IEC 60439.
g) Mounting and Service: Equipment has to be mounted and installed according the mounting, installation and service manuals of Ferraz Shawmut.
h) Fuse-links: The equipment requires the use of NH fuse-links according to IEC 60 269-2 (NH-System). The power dissipation of the fuse-links used must not exceed the power acceptance of the equipment.

MULTIBLOC Transport. The standard conditions to IEC/EN 60 439-1 are as follows:
8.3. Routine tests
8.3.1. Inspection of the assembly including inspection of wiring and, if necessary, electrical operation test

The effectiveness of mechanical actuating elements, interlocks, locks, etc., shall be checked. The conductors and cables shall be checked for proper laying devices for proper mounting. A visual inspection is also necessary to ensure that the prescribed degree of protection, creepage and clearance distances are maintained.
The connections, especially the screwed connections, shall be checked for adequate contact, possibly by random tests.

Technical data according to EN 60947

| size |  | 000 |
| :---: | :---: | :---: |
| number of poles |  | 3 |
| conventional free air thermal current with fuse-links $\mathrm{I}_{\text {th }}$ |  | 100A |
| max. allowed power dissipation of NH fuse-links $P_{n}$ |  | 7,5W |
| conventional free air thermal current with solid links $\mathrm{I}_{\text {th }}$ |  | - |
| max. allowed power dissipation of solid links $\mathrm{P}_{\mathrm{n}}$ |  | 1,2W |
|  |  |  |
| utilization-category rated operational voltage $U_{e}$ | rated operational current $I_{e}$ |  |
| AC 21 B 690V | $I_{e}=$ | 100A |
| AC 21B 400V | $\mathrm{I}_{\mathrm{e}}=$ | 100A |
| DC21 B ${ }^{11} 440 \mathrm{~V}$ | $\mathrm{I}_{\mathrm{e}}=$ | 100A |
|  |  |  |
| rated operational voltage $U_{\text {e }}$ |  | 690 V |
| rated insulation voltage $U_{i}$ |  | 690 V |
| rated impulse withstand voltage $\mathrm{U}_{\text {imp }}$ |  | 6 kV |
| rated frequency |  | $50-60 \mathrm{~Hz}$ |
| degree of protection |  | IP20 |
| pollution degree |  | 3 |
| rated duty |  | uninterrupted duty |
| rated short-circuit making capacity with solid links $\mathrm{I}_{\mathrm{cm}}$ |  | - |
| rated short-circuit making capacity with fuse-links 400 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=100 \mathrm{~A}$ |
| rated short-time withstand current with solid links ${ }_{\text {cw }}$ |  | - |
| power dissipation $I_{\text {th }}$ without NH fuse-links $\mathrm{I}_{\text {th }}=100 \mathrm{~A}$ |  | 9 W |
| power dissipation $I_{\text {th }}$ without solid links |  | - |
| cable terminal connections: |  |  |
| standard terminal |  | direct $1,5-50 \mathrm{~mm}^{2}$ |

[^0]NH fuse-switch-disconnector MULTIBLOC

## Size 000, for busbar mounting ( 60 mm system), 3-pole

 08266.000000Technical data according to EN 60947

| size |  | 000 |
| :---: | :---: | :---: |
| number of poles |  | 3 |
| conventional free air thermal current with fuse-links $I_{\text {th }}$ |  | 100A |
| max. allowed power dissipation of NH fuse-links $\mathrm{P}_{\mathrm{n}}$ |  | 12W |
|  |  |  |
| utilization-category rated operational voltage $\mathrm{U}_{\text {e }}$ | rated operational current ${ }_{\text {e }}$ |  |
| AC 22 B 690V | $\mathrm{I}_{\mathrm{e}}=$ | 100A |
| DC 21 B 440V | $\mathrm{I}_{\mathrm{e}}=$ | 100A |
|  |  |  |
| rated operational voltage $U_{\text {e }}$ |  | 690 V |
| rated insulation voltage $U_{i}$ |  | 750 V |
| rated impulse withstand voltage $\mathrm{U}_{\text {imp }}$ |  | 8 kV |
| rated frequency |  | $50-60 \mathrm{~Hz}$ |
| degree of protection |  | IP20 |
| pollution degree |  | 3 |
| rated duty |  | uninterrupted duty |
| rated short-circuit making capacity with solid links ${ }_{\text {cm }}$ |  |  |
| $690 \mathrm{~V} / 500 \mathrm{~V}$ AC |  | 50kA |
| 220 V / 440V DC |  | 25kA |
| electrical endurance (operating cycles) |  | 300 |
| mechanical endurance (operating cycles) |  | 1700 |
| over voltage category |  | III |
| standard terminal: lift clamp |  | 1,5-50 $\mathrm{mm}^{2}$ |
| busbar terminals: |  |  |
| busbar system |  | 60 mm |
| min. busbar dimensions |  | $20 \times 5 \mathrm{~mm}^{2}$ |
| max. busbar dimensions |  | $30 \times 10 \mathrm{~mm}^{2}$ |

NH fuse-switch-disconnector MULTIBLOC
Size 000, for base mounting, 3-pole
08236.000000

Dimensions in millimetres


NH fuse-switch-disconnector MULTIBLOC
Size 000, for busbar mounting ( 60 mm system), 3-pole 08266.000000

## Dimensions in millimetres



## 多 <br> MULTIBLOC <br> NH fuse-switch-disconnector MULTIBLOC Size 00, for base mounting, 1-pole 08215.000000

Constitution and accessories

|  | Fuse-switch-disconnector NH00 160A 1-pole | - | 08215.000000 |
| :---: | :---: | :---: | :---: |
| 1 | cover for cable terminal connection single pole | - | 08215.004000 |
| 2 | device for mounting on 125 mm DIN rails | - | 08215.700000 |
| 3 | device for mounting on 150 mm DIN rails | - | 08215.500000 |
| 4 | locking device for window (e.g. against unauthorized connection) | - | 08280.000000 |
| 5 | cover sealing device | - | 08281.000000 |
| 6 | M8 terminal screw | - | 08274.000000 |
| 7 | clamp strap Cu $4-70 \mathrm{~mm}^{2}$ | - | 08375.000000 |
| 8 | $\mathrm{Al} / \mathrm{Cu}$ clamp $1,5-70 \mathrm{~mm}^{2}$ round stranded, $95 \mathrm{~mm}^{2}$ sectoral solid | - | 08295.007405 |

NH fuse-switch-disconnector MULTIBLOC

## Size 00, for base mounting, 3-pole

 08235.000000 and 08235.2000000Constitution and accessories


|  | Fuse-switch-disconnector NH00 160A 3-pole | - | 08235.000000 |
| :---: | :---: | :---: | :---: |
| 1 | cover for cable terminal connection triple pole | $\bullet$ | 08235.004000 |
| 2 | cover shield for installation in distribution units | $\bullet$ | 08235.001000 |
| 3 | device for mounting on 125 mm DIN rails | - | 08231.700000 |
| 4 | device for mounting on 150 mm DIN rails | - | 08231.500000 |
| 5 | locking device for window (e.g. against unauthorized connection) | - | 08280.000000 |
| 6 | sealing device | $\bullet$ | 08281.000000 |
| 7 | M8 screw | - | 08274.000000 |
| 8 | clamp strap $\mathrm{Cu} 4-70 \mathrm{~mm}^{2}$ | - | 08375.000000 |
| 9 | Al/Cu clamp $1,5-70 \mathrm{~mm}^{2}$ round stranded, $95 \mathrm{~mm}^{2}$ sectoral solid | - | 08295.007405 |

NH fuse-switch-disconnector MULTIBLOC
Size 00, for busbar mounting, 3-pole
08255.000000 und 08265.000000

Constitution and accessories



Technical data according to EN 60947

| size |  | 00 |
| :---: | :---: | :---: |
| number of poles/phases |  | 1 |
| conventional free air thermal current with fuse-links $I_{\text {th }}$ |  | 160A |
| max. allowed power dissipation of NH fuse-links $\mathrm{P}_{\mathrm{n}}$ |  | 12W |
| conventional free air thermal current with solid links $I_{\text {th }}$ |  | 200A |
| max. allowed power dissipation of solid links $P_{n}$ |  | 1,2W |
|  |  |  |
| utilization-category rated operational voltage $U_{\text {e }}$ | rated operational current ${ }_{\text {e }}$ |  |
| AC 23 B 400V | $\mathrm{I}_{\mathrm{e}}=$ | 160A |
| AC 22 B 500V | $\mathrm{I}_{\mathrm{e}}=$ | 160A |
| AC 21 B 690V | $\mathrm{I}_{\mathrm{e}}=$ | 125A |
| DC 22 B 220V | $I_{e}=$ | 160A |
|  |  |  |
| rated operational voltage $U_{\text {e }}$ |  | 690 V |
| rated insulation voltage $U_{i}$ |  | 1000V |
| rated impulse withstand voltage $\mathrm{U}_{\text {imp }}$ |  | 8 kV |
| rated frequency |  | $50-60 \mathrm{~Hz}$ |
| degree of protection |  | IP20 |
| pollution degree |  | 3 |
| rated duty |  | uninterrupted duty |
| rated short-circuit making capacity with solid links ${ }^{11}{ }^{\text {cm }}$ |  | 6,2kAsw |
| rated short-circuit making capacity with fuse-links |  |  |
| 400 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=100 \mathrm{~A}$ |
| 500 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=100 \mathrm{~A}$ |
| 690 V AC |  | $50 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=125 \mathrm{~A}$ |
| rated short-ime withstand current with solid links $\mathrm{I}_{\mathrm{ow}}$ |  | $4 \mathrm{kA} / 1 \mathrm{~s}$ |
| power dissipation by $\mathrm{I}_{\text {th }}$ without NH fuse-links $\mathrm{I}_{\text {th }}=160 \mathrm{~A}$ |  | 2,3W |
| power dissipation by $\mathrm{I}_{\text {th }}$ without solid links $\mathrm{I}_{\text {th }}=200 \mathrm{~A}$ |  | 3,3W |
| cable terminal connection: |  |  |
| standard terminal |  | M8 |
| for cable lugs |  | max. $2 \times 70 \mathrm{~mm}^{2}$ |
| for copper busbars with max. width |  | 20 mm |

1) size 00

NH fuse-switch-disconnector MULTIBLOC
Size 00, for base mounting, 3-pole 08235.000000 und 08235.200000

Technical data according to EN 60947

${ }^{1)}$ all poles in series
${ }^{2)}$ size 00

Technical data according to EN 60947

${ }^{1)}$ all poles in series
${ }^{2)}$ size 00

MULTIBLOC

NH fuse-switch-disconnector MULTIBLOC

## Size 00, for base mounting, 1-pole

08215.000000

## Dimensions in millimetres



NH fuse-switch-disconnector MULTIBLOC

## Size 00, for base mounting, 2-pole

08225.000000

Dimensions in millimetres


NH fuse-switch-disconnector MULTIBLOC
Size 00, for base mounting, 3-pole 08235.000000

## Dimensions in millimetres


dimension for bottom fixing


NH fuse-switch-disconnector MULTIBLOC
Size 00, for base mounting, 3+N
08245.000000

Dimensions in millimetres


MULTIBLOC
NH fuse-switch-disconnector MULTIBLOC

## Size 00, for busbar mounting ( $\mathbf{6 0} \mathbf{~ m m}$ system), 3-pole

 08265.000000Dimensions in millimetres


NH fuse-switch-disconnector MULTIBLOC
Size 00, accessories
08245.000000

Cable connection

| Cat. No. | 08274.000000 | 08375.000000 | 08295.007405 |
| :--- | :---: | :---: | :---: |
| term | Screw | clamp strap | $\mathrm{Cl} / \mathrm{Cu}$ clamp |
| cross section | $\mathrm{Cu} 16-70$ | $\mathrm{Cu} 4-50$ | $\mathrm{Cu} 1,5-70$ |
| $\left(\mathrm{~mm}^{2}\right)$ | $\mathrm{Al} \mathrm{16-95}$ | $\mathrm{Al}---$ | $\mathrm{Al} 1,5-70 / 95 \mathrm{se}$ |
| $\mathrm{M}(\mathrm{an})(\mathrm{Nm})$ | $15-17$ | $3-4$ | $3-4$ |

# 年 <br> Technical data size NH1 <br> NH fuse-switch-disconnector MULTIBLOC <br> Size 1, for base mounting, 1-pole <br> <br> 08211.000000 

 <br> <br> 08211.000000}


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Constitution and accessories


NH fuse-switch-disconnector MULTIBLOC
Size 1, for base mounting, 3-pole
08231.000000

Constitution and accessories


NH fuse-switch-disconnector MULTIBLOC
Size 1, for busbar mounting
( 40 mm and 60 mm system), 3-pole
08261.000000

Constitution and accessories



NH fuse-switch-disconnector MULTIBLOC
Size 1, for base mounting, 1-pole 08211.000000

Technical data according to EN 60947

${ }^{1)}$ size 1

Technical data according to EN 60947

| size |  | 1 |
| :---: | :---: | :---: |
| number of poles/phases |  | 3 |
| conventional free air thermal current with fuse-links $\mathrm{I}_{\text {th }}$ |  | 250A |
| max. allowed power dissipation of NH fuse-links $\mathrm{P}_{\mathrm{n}}$ |  | 23W |
| conventional free air thermal current with solid links $I_{\text {th }}$ |  | 400A |
| max. allowed power dissipation of solid links $\mathrm{P}_{\mathrm{n}}$ |  | 2,6W |
|  |  |  |
| utilization-category rated operational voltage $U_{e}$ | rated operational current ${ }_{\text {e }}$ |  |
| AC 23 B 400V | $I_{e}=$ | 250A |
| AC 22 B 500V | $\mathrm{I}_{\mathrm{e}}=$ | 250A |
| AC 21 B 690V | $\mathrm{I}_{\mathrm{e}}=$ | 200A |
| DC $21 \mathrm{~B}^{11} 440 \mathrm{~V}$ | $\mathrm{I}_{\mathrm{e}}=$ | 250A |
|  |  |  |
| rated operational voltage $U_{\text {e }}$ |  | 690 V |
| rated insulation voltage $U_{i}$ |  | 1000 V |
| rated impulse withstand voltage $\mathrm{U}_{\text {imp }}$ |  | 12kV |
| rated frequency |  | $50-60 \mathrm{~Hz}$ |
| degree of protection |  | IP20 |
| pollution degree |  | 3 |
| rated duty |  | uninterrupted duty |
| rated short-circuit making capacity with solid links ${ }^{2)} \mathrm{I}_{\mathrm{cm}}$ |  | 8,2kAsw |
| rated short-circuit making capacity with fuse-links |  |  |
| 400 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=250 \mathrm{~A}$ |
| 500 V AC |  | $50 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=250 \mathrm{~A}$ |
| 690 V AC |  | $50 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=200 \mathrm{~A}$ |
| rated short-time withstand current with solid links $\mathrm{I}_{\text {cw }}$ |  | $8 \mathrm{kA} / 1 \mathrm{~s}$ |
| power dissipation by $\mathrm{I}_{\text {th }}$ without NH fuse-links $\mathrm{I}_{\text {th }}=250 \mathrm{~A}$ |  | 10W |
| power dissipation by $\mathrm{I}_{\mathrm{th}}$ without solid links $\mathrm{I}_{\mathrm{th}}=400 \mathrm{~A}$ |  | 24W |
| cable terminal connection: |  |  |
| standard terminal |  | M10 |
| for cable lugs |  | $2 \times 150 \mathrm{~mm}^{2} \mathrm{Cu} ; 2 \times 185 \mathrm{~mm}^{2} \mathrm{Al}$ |
| for copper busbars with max. width |  | 18 mm |

${ }^{1}$ ) all poles in series
${ }^{2)}$ size 1

NH fuse-switch-disconnector MULTIBLOC
Size 1, for busbar mounting ( 40 mm and 60 mm system), 3-pole 08261.000000

Technical data according to EN 60947

| size |
| :--- |
| number of poles/phases |
| conventional free air thermal current with fuse-links $I_{\text {th }}$ |
| max. allowed power dissipation of NH fuse-links $P_{n}$ |
| conventional free air thermal current with solid links $I_{\text {th }}$ |
| max. allowed power dissipation of solid links $P_{n}$ |

${ }^{1)}$ all poles in series
${ }^{2)}$ size 1

Dimensions size NH1
NH fuse-switch-disconnector MULTIBLOC
Size 1, for base mounting, 1-pole
08211.000000

## Dimensions in millimetres



NH fuse-switch-disconnector MULTIBLOC
Size 1, for base mounting, 2-pole
08221.000000

Dimensions in millimetres


MULTIBLOC
NH fuse-switch-disconnector MULTIBLOC
Size 1, for base mounting, 3-pole 08231.000000

Dimensions in millimetres


NH fuse-switch-disconnector MULTIBLOC
Size 1, for base mounting, 3+N
08241.000000

Dimensions in millimetres


MULTIBLOC
NH fuse-switch-disconnector MULTIBLOC
Size 1, for busbar mounting ( 40 mm and 60 mm system), 3-pole 08261.000000

## Dimensions in millimetres



NH fuse-switch-disconnector MULTIBLOC
Size 1, accessories
Cable connection

| terminal connection: screw (standard) | with clamp terminal set 08276.000000 (accessory) |
| :---: | :---: |
|  |  |
| size 1 :for values x smaller than $2,5 \mathrm{~mm}$ use washer in addition |  |
| size 1:for cable lugs in accordance with DIN 46234 max. $150 \mathrm{~mm}^{2}$ DIN 46235 max. $150 \mathrm{~mm}^{2}$ DIN 46329 max. $185 \mathrm{~mm}^{2}$ <br> for copper bars | size 1:for round stranded conductors $70-150 \mathrm{~mm}^{2}$ <br> for bars or laminated copper $18 \times 7-18$ |

MULTIBLOC

NH fuse-switch-disconnector MULTIBLOC

## Size 2, for base mounting, 3-pole

 08232.000000
## Constitution and accessories



NH fuse-switch-disconnector MULTIBLOC

## Size 2, for busbar mounting

( 40 mm and 60 mm system), 3-pole 08262.000000

Constitution and accessories



Technical data according to EN 60947

| size |  | 2 |
| :---: | :---: | :---: |
| number of poles/phases |  | 3 |
| conventional free air thermal current with fuse-links $\mathrm{l}_{\text {th }}$ |  | 400A |
| max. allowed power dissipation of NH fuse-links $\mathrm{P}_{\mathrm{n}}$ |  | 34 W |
| conventional free air thermal current with solid links $\mathrm{I}_{\text {th }}$ |  | 630A |
| max. allowed power dissipation of solid links $\mathrm{P}_{\mathrm{n}}$ |  | 9 W |
|  |  |  |
| utilization-category rated operational voltage $U_{\text {e }}$ | rated operational current ${ }_{\text {e }}$ |  |
| AC 23 B 400V | $\mathrm{I}_{\mathrm{e}}=$ | 400A |
| AC 22 B 500V | $\mathrm{I}_{\mathrm{e}}=$ | 400A |
| AC 21 B 690V | $\mathrm{I}_{\mathrm{e}}=$ | 315A |
| DC $21 \mathrm{~B}^{11} 440 \mathrm{~V}$ | $I_{e}=$ | 400A |
|  |  |  |
| rated operational voltage $U_{\text {e }}$ |  | 690 V |
| rated insulation voltage $U_{i}$ |  | 1000 V |
| rated impulse withstand voltage $\mathrm{U}_{\text {imp }}$ |  | 12 kV |
| rated frequency |  | $50-60 \mathrm{~Hz}$ |
| degree of protection |  | IP20 |
| pollution degree |  | 3 |
| rated duty |  | uninterrupted duty |
| rated short-circuit making capacity with solid links ${ }^{2}{ }^{\text {l }}{ }_{\text {cm }}$ |  | 10,6kAsw |
| rated short-circuit making capacity with fuse-links |  |  |
| 400 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=400 \mathrm{~A}$ |
| 500 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=400 \mathrm{~A}$ |
| 690 V AC |  | $80 \mathrm{kA} ; \mathrm{I}_{\mathrm{e}}=315 \mathrm{~A}$ |
| rated short-time withstand current with solid links $\mathrm{I}_{\text {cw }}$ |  | 13kA/1s |
| power dissipation $\mathrm{I}_{\text {th }}$ without NH fuse-links $\mathrm{I}_{\text {th }}=400 \mathrm{~A}$ |  | 20W |
| power dissipation $I_{\text {th }}$ without solid links $\mathrm{I}_{\text {th }}=630 \mathrm{~A}$ |  | 50W |
| cable terminal connection: |  |  |
| standard terminal |  | M10 |
| for cable lugs |  | $2 \times 185 \mathrm{~mm}^{2} \mathrm{Cu} ; 2 \times 240 \mathrm{~mm}^{2} \mathrm{Al}$ |
| for copper busbars with max. width |  | 35 mm |
| busbar terminal: |  |  |
| standard terminal |  | - |

${ }^{11}$ all poles in series
${ }^{2}$ ) size 2

NH fuse-switch-disconnector MULTIBLOC
Size 2, for busbar mounting ( 40 mm and 60 mm system), 3-pole 08262.000000

Technical data according to EN 60947

| size |
| :--- |
| number of poles/phases |
| conventional free air thermal current with fuse-links $I_{\text {th }}$ |
| max. allowed power dissipation of NH fuse-links $P_{n}$ |
| conventional free air thermal current with solid links $I_{\text {th }}$ |
| max. allowed power dissipation of solid links $P_{n}$ |

${ }^{1)}$ all poles in series
${ }^{2)}$ size 2

Dimensions size NH2
NH fuse-switch-disconnector MULTIBLOC
Size 2, for base mounting, 3-pole
08232.000000

## Dimensions in millimetres



NH fuse-switch-disconnector MULTIBLOC
Size 1, for busbar mounting ( 40 mm and 60 mm system), 3-pole
08262.000000

Dimensions in millimetres



MULTIBLOC

NH fuse-switch-disconnector MULTIBLOC
Size 2, accessories
Cable connection

| terminal connection: screw <br> (standard) |
| :--- |

NH fuse-switch-disconnector MULTIBLOC

## Size 3, for base mounting, 3-pole

 08233.000000Constitution and accessories


Technical data according to EN 60947


1) size 3

MULTIBLOC
NH fuse-switch-disconnector MULTIBLOC

## Size 3, for base mounting, 3-pole

 08233.000000Dimensions in millimetres


NH fuse-switch-disconnector MULTIBLOC
Size 2, accessories

## Cable connection

| terminal connection: screw <br> (standard) |
| :---: |

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## MULTIVERT

NH fuse-switch-disconnector Size NH00,~690V, 160A width 50 mm
with cable cover included output on top or bottom can be chosen, mounting without drilling for busbar system $\mathbf{6 0 m m}$ thikness of bars 10 mm width $20-30 \mathrm{~mm}$
3 -pole switching

## MULTIVERT

NH fuse-switch-disconnector Size NH00, ~690V, 160A width 50 mm with cable cover included output on top or bottom can be chosen, mounting with screws, mounting without drilling possible with claw-type clamp 08376.000000 (accessory). for busbar system $\mathbf{1 0 0} \mathbf{m m}$ 3 -pole switching

## MULTIVERT

NH fuse-switch-disconnector Size NH00, ~690V, 160A width 50 mm
with cable cover included output on top or bottom can be chosen, mounting with screws, mounting without drilling possible with claw-type clamp 08376.000000 (accessory). for busbar system $\mathbf{1 8 5 m m}$ 1 -pole switching

## MULTIVERT

NH fuse-switch-disconnector
Size NH1 to NH3
~690V
width 100 mm
output on top or bottom can be chosen, mounting with screws, mounting without drilling possible with claw-type clamp 08366.000000 (accessory). for busbar system 185mm



| NH00 | 160 | Screw M8 | 08389.001000 | 1120 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| with integrated cabling for connection of the Electronic | System Monitor |  |  |  |  |
| NH00 | 160 | Screw M8 | 08389.081000 | 1470 | 1 |



| NH1 | 250 | Bolt M10 | 08391.000000 | 4520 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| NH2 | 400 | Bolt M12 | 08392.000000 | 4600 | 1 |
| NH3 | 630 | Bolt M12 | 08393.000000 | 5430 | 1 |
| 3 -pole switching |  |  |  |  |  |
| NH1 | 250 | Bolt M10 | 08395.000000 | 4670 | 1 |
| NH2 | 400 | Bolt M12 | 08396.000000 | 4760 | 1 |
| NH3 | 630 | Bolt M12 | 08397.000000 | 5590 | 1 |
| 3 -pole switching, with integrated cabling for connection of the Electronic System Monitor |  |  |  |  |  |
| NH1 | 250 | Bolt M10 | 08395.080000 | 5100 | 1 |
| NH2 | 400 | Bolt M12 | 08396.080000 | 5200 | 1 |
| NH3 | 630 | Bolt M12 | 08397.080000 | 6100 | 1 |

Adaptor for MULTIVERT
for mounting NH00 100mm switches in the 185 mm system. The adaptors bring the height into line with MULTIVERT 250A, 400A, 630A in case of combined installation.
For alignment with the length of the 185 mm system additional covers 08374.000000 (accessory) are required.

Single adaptor for MULTIVERT
Size NH00,185mm
The adaptors bring the height into line with MULTIVERT 250A, 400A, 630A in case of combined installation.
Only for 185 mm .

Double adaptor for MULTIVERT
Size NH00,185mm
The adaptors bring the height into line with MULTIVERT 250A, 400A, 630A in case of combined installation. Only for 185 mm .

Cover for MULTIVERT NH00, 100 mm
for alignment with length of the 185 mm system
Only needed, when an adaptor is used (1set = 2 covers, 1 cover for top, 1 cover for bottom).

Cover for adaptation of MULTIVERT Size NH00, 185 mm
to MULTIVERT sizes NH1, NH2, NH3.
(Only needed when output on top) ( 1 set = 2 covers, 1 cover for top, 1 cover for bottom)


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## Accessory

## Cable cover

Sizes NH1 to NH3
The cable cover for output on bottom is integrated in the switches.
An extension cover 08381.000000 (accessory) can be added.
For output on top cable covers 08380.000000 or 08380.000005 are required.

## Support angle for the support of a central cover plate

1 set = 4 angles
The angles are fixed on the side of the switch and support the central cover plate.


## Cover profile

length 605 mm
Screwed on the side of the switch to support the central cover plate


| NH 1 to 3 | 08382.000000 | 150 | 1 |
| :--- | :--- | :--- | :--- |

## Residual field

for 185 mm systems
For mounting into central cover plate. Legth 630 mm


| NH1 bis 3Cable cover, top, for panels with <br> central cover, lenght 190mm | 08380.000005 | 125 | 1 |
| :--- | :--- | :--- | :--- |
| NH1 bis 3Cable cover, top, low version, <br> for panels with central cover, <br> height reduced by 16mm, <br> lenght 145mm | 08380.000000 | 170 | 1 |
| NH1 bis 3Extension cover, bottom <br> (70mm long) | 08381.000000 | 120 | 1 |




Terminal sets
(1 set = 3 pieces) for modification of the terminal configuration


Electronic System Monitor
for fuse monitoring for phase monitoring mounted on top of switch



Multivert Vertical NH Fuse-Switch-Disconnectors
Overview
MULTIVERT vertical NH fuse-switch-disconnectors meet all the functions of NH fuse-switch-disconnectors. MULTIVERT are designed for direct installation on to busbar systems in triple pole arrangement.

Positions for installation:

- Vertical (standard)
- Horizontal (for vertical busbar systems)

Product range

- Vertical NH fuse-switch-disconnectors 160A to 630A
- Direct installation on to $60 \mathrm{~mm}, 100 \mathrm{~mm}$ und 185 mm bus bar systems
- 1-pole or 3-pole switching

MULTIVERT NH fuse-switch-disconnectors are designed for NH fuse-links according to IEC/EN 60 269-2 und VDE 0636: size 00, 160A; size 1, 250A; size 2, 400A; and size 3, 630A.
The system is a modular system that allows the installation of individual components. MULTIVERT offers the user the possibility of fast and easy installation as well as a high degree of protection during installation and maintenance.


MULTIVERT Technical data
All products of the MULTIVERT series are developed and designed to the latest standards and regulations. MULTIVERT NH fuse-switch-disconnectors are tested and certified to IEC/EN 60947-3 (VDE 0660 Teil 107).

Applications:

- Feeder pillars
- Transformer substations
- Switch boards for industrial applications
- Residential and industrial distribution units
- Cable distribution cabinets


## Product advantages

- Versions for 1-pole and for 3-pole switching

- Suitable for top/bottom cable connection (chosen during installation)
- Direct installation on to $60 \mathrm{~mm}, 100 \mathrm{~mm}$ and 185 mm busbar systems without disassembly of equipment
- Installation on to live busbars
- Installation without drilling via hooked clamps is possible

- Horizontal or vertical installation possible
- Materials used are free of halogen, self extinguishing, marked for classified recycling
- Touch protection IP30 with central cover
- Park position with visible disconnection

- Combined handle for version with 1-pole switching with reduced installation depth of 158 mm with handle in closed position

- Direct installation of ESM Electronic System Monitor for fuse monitoring. Integration of cabling and all instrument leads contained in the base.

padlocking and sealing device for switch operation cover
voltage test

integrated shroud for bottom cable termination with large labelling area

supplementary exterior installation of indicating switch for switch door positor 08378.000000 (acessory)

busbar cover closes automatically when switch operating cover with inserted fuse-link is closed




## Cover shrouds for cable termination MULTIVERT 250A, 400A, 630A

## Standard design: Integrated shroud for

 bottom cable termination

## Cable connection MULTVERT 160A

screws (standard)


Extension shroud for bottom cable termination (accessory)

clamp straps 08375.000000 (accessory)


Shrouds for top cable termination (accessory )


Al/Cu clamp 08375.007405 (accessory)


Cable connection MULTIVERT 250A, 400A, 630A with bolt M8 or M10


## Design

The base is touch protected (degree of protection IP 20). The main base consists of glass fibre strengthened, thermically high stable, self extinguishing synthetic material (thermosetting plastic ${ }^{11}$ ) free of halogen. There are no metal parts except the current carrying contact system.

## Contact system

The contact system is corrosion resistant as well as torsion resistant. The copper contacts are galvanic surface coated. The contact springs are made of stainless steel.

## Touch protection

The one-piece protective cover consists of extra strengthened, thermically high stable, self extinguishing thermosetting plastics free of halogen. The cover is interlocked to the main base and does not have to be removed for installation purposes.

## Switch operating cover

The switch operating cover consists of extra strengthened, self extinguishing thermosetting plastics free of halogen. The single pole switching operating cover of MULTIVERT 250A, 400A and 630A is equipped with a combined handle which allows a reduced installation depth of 158 mm in closed position. The switch operating cover has large windows, which enables the label and the indicator of the inserted NH fuse-link to be clearly seen. The slidable windows have testing holes to check voltage or the switching condition of the fuse-links. During measurement and after withdrawing the test leads the degree of protection is IP30 with central cover. The switch operating cover of MULTIVERT 250A, 400A and 630A can be sealed and locked in closed position. Park position for switch operating cover is possible for MULTIVERT units with single pole switching 250A, 400A and 630A as well as triple pole switching 160A. For all MULTIVERT units 250A, 400A and 630A NH fuse-links are snapped on to the windows of the switch operating cover for park position. All MULTIVERT can be padlocked and sealed in closed position.
${ }^{11}$ Main base of Multivert 160A, single pole switching: thermoplastic

## Functions

Protection ${ }^{11}$

- Protection of circuits against overload and short circuit (current limiting)
- Protection of equipment and installations for short circuits up to 120 kA against dynamic short circuit effects through current limitation
- Selective isolation of defective circuits up to highest short circuit currents of 120 kA
- Protection of equipment (e.g. short circuit protection of circuit breakers, busbar systems and contactors))
- Safe load breaking, even with frequent short circuits, as fuse-links are replaced
- Protection of persons and animals against shock hazards (in TN-systems)

Disconnection

- large visible isolating distance

Short circuits

- dynamic short- circuit withstand with NH fuse-links up to 120kA

Switching

- safe short circuit making with NH fuse-links up to 80kA ${ }^{2)}$
- utilization category (AC 23 B)

Touch protection

- touch protection IP 20 for complete fuse-switch-disconnector
- IP 30 with central cover

Electromagnetic compatibility

- in accordance with EN 60947-3
${ }^{11}$ with fuse-links inserted
${ }^{2)}$ see technical data

Standard service, mounting and transport conditions (see MULTIBLOC page 15)

NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A
08389.000600, 08389.001000 und 08389.001850

Constitution and accessories

| 1 | main base | $\bullet$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 2 | protection cover | - |  |  |
| 3 | switch operating cover | - |  |  |
| 3 a | park pasition - MULTIVERT 160A, $3 x$ single pole switching | - |  |  |
| 3b | open - MULTIVERT 160A, $3 x$ single pole switching | - |  |  |
| 3c | closed - MULTIVERT 160A, $3 x$ single pole switching | $\bullet$ |  |  |
| 4 | handle | - |  |  |
| 5 | busbar fixing access/protectiv door | - |  |  |
| 6 | labelling area/label | - |  |  |
| 7 | cover shroud | - |  |  |
| 8 | label holder |  | - | 08377.000000 |
| 9 | support angle |  | - | 08382.000005 |
| 10 | cover shield for support of the central cover, length 605 mm , for MULTIVERT 160A 08389.001850 |  |  | 08382.000000 |

MULTIVERT 160A/100mm 1x triple pole switching
(1)


MULTIVERT 160A/185mm $3 x$ single pole switching


NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A
08389.000600, 08389.001000 und 08389.001850

Technical data according to EN 60947


1) size 00
${ }^{2)}$ on request
${ }^{3)} \mathrm{I}_{\mathrm{th}}=250 \mathrm{~A}$ for MULTIVERT triple pole switching
$\mathrm{I}_{\mathrm{th}}=250 \mathrm{~A}$ for MULTIVERT single pole switching

Dimensions size NHOO

NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A, direct installation with screws on to 100 mm busbar systems 08389.001000

Dimensions in millimetres


NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A, direct installation without drilling with hooked clamps on to 100 mm busbar systems 08389.001000

Dimensions in millimetres


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## MULTIVERT

NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A, direct installation with screws on to 185 mm busbar systems 08389.001850

Dimensions in millimetres


NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A, direct installation without drilling with hooked clamps (accessory 08376.000000 ) on to 185 mm busbar systems 08389.001850

Dimensions in millimetres


NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A, direct installation without drilling on to 60 mm busbar systems 08389.000600

Dimensions in millimetres


NH vertical fuse-switch-disconnector MULTIVERT
Size 00, 160A, Accessories
Cable connection

| Cat. No. | 08274.000000 | 08375.00000 | 08295.007405 |
| :--- | :---: | :---: | :---: | :---: |
| type of terminal | screw | clamp strap | $\mathrm{Al} / \mathrm{Cu}$ clamp |
| cross section <br> $\left[\mathrm{mm}^{2}\right]$ | $\mathrm{Cu} \mathrm{16-70}$ | $\mathrm{Cu} 4-70$ | $\mathrm{Cu} 1,5-70$ |
| $\mathrm{M}[\mathrm{Nm}]$ | $\mathrm{Al} 16-95$ |  | $\mathrm{Al} 1,5-70 / 95$ sectoral solid |
| $15-17$ | $3-4$ | $3-4$ |  |

Hooked clamp 08376.000000 (accessory):
Torque M = 5-7Nm

NH vertical fuse-switch-disconnector MULTIVERT, 1-pole switching Size 1, 250A; size 2, 400A; size 3, 630A; 08391.000000, 08392.000000, 08393.000000

Constitution and accessories


NH vertical fuse-switch-disconnector MULTIVERT, 3-pole switching Size 1, 250A; size 2, 400A; size 3, 630A 08395.000000, 08396.000000, 08397.000000

Constitution and accessories


| 1 | main base | $\bullet$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 2 | protection cover (removable) | - |  |  |
| 3 | switch operating cover triple pole | - |  |  |
| 4 | handle | - |  |  |
| 5 | labelling area/label | - |  |  |
| $6^{11}$ | label holder |  | - | 08385.000005 |
| 7 | indicating switch for switch door position |  | - | 08378.000000 |
| $8^{11}$ | hooked clamps for installation on to busbars without drilling |  | - | 08366.000000 |
| $9^{11}$ | support angle for installation of center cover |  | - | 08382.000005 |
| 10 | integrated cover shroud | - |  |  |
| $11^{1 /}$ | extension shroud for bottom cable termination |  | $\bullet$ | 08381.000000 |
| $12^{1 /}$ | cover shield for support of central cover, length 605 mm |  | - | 08382.000000 |


${ }^{1)}$ accessory is shown in the drawing for the 1-pole switching version

Technical data according to EN 60947

|  |  | MULTIVERT |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 250A | 400A | 630A |
| size |  | 1 | 2 | 3 |
| number of poles/phases |  | 3 | 3 | 3 |
| conventional free air thermal current with fuse-links $\mathrm{I}_{\text {th }}$ |  | 250A | 400A | 630 A |
| max. allowed power dissipation of NH fuse-links $\mathrm{P}_{\mathrm{n}}$ |  | 23W | 34 W | 43W |
| conventional free air thermal current with solid links $\mathrm{I}_{\text {th }}$ |  | 400A | 630 A | 800A |
| max. allowed power dissipation of solid links $\mathrm{P}_{\mathrm{n}}$ |  | 2,6W | 9 W | 17,5W |
|  |  |  |  |  |
| utilization-category $\quad \begin{gathered}\text { rated operational } \\ \text { voltage } U_{e}\end{gathered}$ | rated operational current ${ }^{\text {e }}$ |  |  |  |
| AC 23 B 500V | $\mathrm{I}_{\mathrm{e}}=$ | 250A | - | - |
| AC 23 B 400V | $\mathrm{I}_{\mathrm{e}}=$ | 250A | 400A | 630A |
| AC 22 B 690V | $\mathrm{I}_{\mathrm{e}}=$ | 250A | - | - |
| AC 22 B 500V | $\mathrm{I}_{\mathrm{e}}=$ | - | 400A | 630A |
| AC 21 B 690V | $\mathrm{I}_{\mathrm{e}}=$ | - | 400A | 630A |
|  |  |  |  |  |
| rated operational voltage $U_{\text {e }}$ |  | 690 V AC | 690 V AC | 690 V AC |
| rated insulation voltage $U_{i}$ |  | 1000 V | 1000 V | 1000V |
| rated impulse withstand voltage $\mathrm{U}_{\text {imp }}$ |  | 8 kV | 8 kV | 8 kV |
| rated frequency |  | $50-60 \mathrm{~Hz}$ | $50-60 \mathrm{~Hz}$ | $50-60 \mathrm{~Hz}$ |
| degree of protection (with central cover) |  | IP30 | IP30 | IP30 |
| pollution degree |  | 3 | 3 | 3 |
| rated duty |  | uninterrupted duty | uninterrupted duty | uninterrupted duty |
| rated short-circuit making capacity with solid links $\mathrm{I}_{\mathrm{cm}}$ |  | 16kAsw | 16kAsw | 16kAsw |
| rated short-circuit making capacity with fuse-links |  |  |  |  |
| 400 V AC |  | 120kA/250A | 120kA/400A | 80kA/630A |
| 500 V AC |  | 120kA/250A | 120kA/400A | 80kA/630A |
| 690 V AC |  | 120kA/250A | 120kA/315A | 80kA/500A |
| 690 V AC |  | - | 100kA/400A |  |
| rated short-time withstand current with solid links $\mathrm{I}_{\text {cw }}$ |  | $8 \mathrm{kA} / 1 \mathrm{~s}$ | $8 \mathrm{kA} / 1 \mathrm{~s}$ | 12,6kA/1s |
| power dissipation by Ith without NH fuse-links |  | 24W | 46 W | 92W |
| power dissipation by $\mathrm{I}_{\text {th }}$ without solid links ${ }^{\text {1/ }}$ |  | 65 W | 126W | 161W |
| cable termination: |  |  |  |  |
| bolt/insert nut |  | M10 | M12 | M12 |
| for copper bars with max. width |  | 40 mm | 40 mm | 40 mm |
| for cable lugs max. |  | $300 \mathrm{~mm}^{2}$ | $300 \mathrm{~mm}^{2}$ | $300 \mathrm{~mm}^{2}$ |
| busbar termination: |  |  |  |  |
| standard termination (screws) |  | M12 | M12 | M12 |
| hooked clamps ${ }^{21}$ for busbars with a width |  | $5-10 \mathrm{~mm}$ | $5-10 \mathrm{~mm}$ | 5-10mm |

${ }^{1)} I_{\text {th }}$ of solid links: MULTIVERT 250A, size $1=400 \mathrm{~A}$, MULTIVERT 400A, size $2=630 \mathrm{~A}$, MULTIVERT 630A, size $3=800 \mathrm{~A}$
${ }^{2)}$ hooked clamps 08366.000000 (accessory)

MULTIVERT
NH vertical fuse-switch-disconnector MULTIVERT, 1-pole switching
Size 1, 250A; size 2, 400A; size 3, 630A
08391.000000, 08392.000000, 08393.000000

Direct installation with screws on to 185 mm busbar systems
Dimensions in millimetres


NH vertical fuse-switch-disconnector MULTIVERT, 3-pole switching
Size 1, 250A; size 2, 400A; size 3, 630A
08395.000000, 08396.000000, 08397.000000

Direct installation with screws on to 185 mm busbar systems
Dimensions in millimetres


1) dimensions from upper edge of busbar

Eर
Dimensions• Cable connection size NH1, NH2, NH3
NH vertical fuse-switch-disconnector MULTIVERT, 1-pole switching
Size 1, 250A; size 2, 400A; size 3, 630A
08391.000000, 08392.000000, 08393.000000

Direct installation without drilling with hooked clamps (accessory 08366.000000) on to 185 mm busbar systems
Dimensions in millimetres


* 158 mm handle in closed position (folded) $=$ total installation depth of MULTIVERT
** 190 mm handle in open position (fixed) $=$ switching position

NH vertical fuse-switch-disconnector MULTIVERT, 1-pole or 3-pole switching
Size 1, 250A; size 2, 400A; size 3, 630A
08391.000000, 08392.000000, 08393.000000, 08395.000000, 08396.000000, 08397.000000

Cable connection

| reference | B |
| :--- | :---: |
| type of terminal | bolt |
| accessory | cable lug max. width 45 mm |
| cross section |  |
| $\left[\mathrm{mm}^{2}\right]$ |  |

Hooked clamp 08366.000000 (accessory):
Torque $\mathrm{M}=15-20 \mathrm{Nm}$ MULTIVERT

NH vertical fuse-switch-disconnector MULTIVERT, 1-pole or 3-pole switching
Size 1, 250A; size 2, 400A; size 3, 630A
08391.000000, 08392.000000, 08393.00000, 08395.000000, 08396.00000, 08397.000000

Cable cover for cable connection on bottom
standard design:
integrated shroud for bottom cable terminal for terminal connections with cable lugs (bolt) on switch boards with central cover


Extension shroud for bottom cable termination Catalogue No. 08381.000000 (accessory)


Cable cover size NH1, NH2, NH3

NH vertical fuse-switch-disconnector MULTIVERT, 1-pole or 3-pole switching
Size 1, 250A; size 2, 400A; size 3, 630A
08391.000000, 08392.000000, 08393.000000, 08395.000000, 08396.000000, 08397.000000

Cable cover for cable connection on top without shroud for cable termination
shroud for top cable termination
Catalogue No. 08380.000005 (accessory)
for terminal connections with cable lugs (bolt)
on switch boards with central cover

shroud for top cable termination
Catalogue No. 08380.000000 (accessory)
for terminal connections with cable lugs
for installation in distribution units with central cover


Notes


Eerraz
1 rue Jean Nove
69626 Villeurbanne cedex - France
Tél. 33 (0)4 72226611 - Fax 33 (0)4 72226713


[^0]:    ${ }^{11}$ all poles in series

