



Powering Business Worldwide

**193858****NmRB4-20/3N/D/003-A**[Overview](#)[Specifications](#)[Resources](#)[Delivery program](#)[Technical data](#)[Design verification as
per IEC/EN 61439](#)[Technical data ETIM 8.0](#)

DELIVERY PROGRAM

Basic function
Combined RCD/MCB devices

Number of poles
3 pole+N

Tripping characteristic
D

Application
Switchgear for residential and commercial
applications

Rated current [I_n]
20 A

Rated switching capacity acc. to IEC/EN 60947-2
[I_{cu}]
4.5 kA

Rated switching capacity according to IEC/EN
61009

4.5 kA

Rated fault current [$I_{\Delta N}$]
0.03 A

Type
Type A

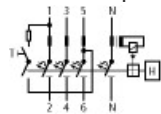
Tripping
non-delayed s...

Product range
NmRB4

Sensitivity
Pulse-current sensitive

Impulse withstand current
Partly surge-proof 250 A

Contact sequence



TECHNICAL DATA

Electrical

Standards
IEC/EN 61009

Tripping
non-delayed s...

Rated operating voltage [U_e]
230/400 V AC

Limit values of the operating voltage
 $0.85 \times 1.1 \times U_n$ V AC

Rated frequency [f]
50 Hz

Rated fault currents [$I_{\Delta n}$]
30 mA

Rated non-tripping current [$I_{\Delta no}$]
 $0.5 \times I_{\Delta n}$

Sensitivity
DC and pulsed current

Rated switching capacity [I_{cn}]
4.5 kA

Rated current [I_e]
20 A

Rated impulse withstand voltage [U_{imp}]
4 (1.2/50 μ s) kV

Characteristic
D

Maximum max. as short-circuit protective device
100 A gL

Selectivity Class
3

Lifespan
Electrical
> 4000 Operations

Lifespan
Mechanical
> 20000 Operations

Mechanical

Standard front dimension
45 mm

Enclosure height
80 mm

Terminal protection
finger and hand touch safe, DGUV VS3, EN 50274

Mounting width
70 (4 SU) mm

Mounting
Tristable slide catch enables removal from existing combination.

Degree of protection
Switch
IP20

Degree of protection
Integrated
IP40

Terminals top and bottom
Twin-purpose terminals

Terminal capacities
Solid
1 - 25 mm²

Thickness of busbar material
0.8 ... 2 mm

Admissible ambient temperature range
-25 ... +40 °C

Climatic proofing
according to IEC 68-2 (25 - 55 °C, 90 - 95 %
Humidity)

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat
dissipation [I_n]
20 A

Equipment heat dissipation, current-dependent
[P_{vid}]
12 W

Operating ambient temperature min.
-25 °C

Operating ambient temperature max.
+40 °C

IEC/EN 61439 design verification

10.2 Strength of materials and parts
10.2.2 Corrosion resistance
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.1 Verification of thermal stability of
enclosures
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.2 Verification of resistance of insulating
materials to normal heat
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.3 Verification of resistance of insulating
materials to abnormal heat and fire due to internal
electric effects
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.4 Resistance to ultra-violet (UV) radiation
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.5 Lifting
Does not apply, since the entire switchgear needs
to be evaluated.

10.2 Strength of materials and parts
10.2.6 Mechanical impact
Does not apply, since the entire switchgear needs

to be evaluated.

10.2 Strength of materials and parts

10.2.7 Inscriptions

Meets the product standard's requirements.

10.3 Degree of protection of ASSEMBLIES

Does not apply, since the entire switchgear needs to be evaluated.

10.4 Clearances and creepage distances

Meets the product standard's requirements.

10.5 Protection against electric shock

Does not apply, since the entire switchgear needs to be evaluated.

10.6 Incorporation of switching devices and components

Does not apply, since the entire switchgear needs to be evaluated.

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

10.8 Connections for external conductors

Is the panel builder's responsibility.

10.9 Insulation properties

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

10.9 Insulation properties

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

10.9 Insulation properties

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

10.10 Temperature rise

The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.12 Electromagnetic compatibility
Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.13 Mechanical function
The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

TECHNICAL DATA ETIM 8.0

Circuit breakers and fuses (EG000020) / Earth leakage circuit breaker (EC000905)

Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system/ MCB/RCCB combination (ec1@ss10.0.1-27-14-22-07 [AFZ810015])

Number of poles (total)
4

Number of protected poles
4

Rated voltage
400 V

Rated insulation voltage U_i
500 V

Rated impulse withstand voltage U_{imp}
4 kV

Rated current
20 A

Rated fault current
0.03 A

Leakage current type

A

Current limiting class
3

Rated short-circuit breaking capacity according to
EN 61009
4.5 kA

Rated short-circuit breaking capacity according to
IEC 60947-2
4.5 kA

Rated short-circuit breaking capacity I_{cn} according
to EN 61009-1
4.5 kA

Disconnection characteristic
Undelayed

Surge current capacity
0.25 kA

Voltage type
AC

Frequency
50 Hz

Release characteristic
D

Concurrently switching neutral conductor
Yes

With interlocking device
No

Over voltage category
3

Pollution degree
2

Ambient temperature during operating
-25 - 40 °C

Width in number of modular spacings
4

Built-in depth
70 mm

Flush-mounted installation
No

Anti-nuisance tripping version
No

Degree of protection (IP)
IP20

Connectable conductor cross section solid-core
1 - 25 mm²

Connectable conductor cross section multi-wired
1 - 25 mm²



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