183713
IZMX40N3-V16F-1

DELIVERY PROGRAM

Product range
Air circuit-breakers/switch-disconnectors

Product range
Open circuit-breakers

Current Range
Up to 4000 A

Protective function
Selective operation

Installation type
Fixed

Main terminals must be separately ordered.

Construction size
IZMX40

Release system
Electronic release

Standard/Approval
IEC

Number of poles
3 pole

Degree of Protection
IP31 with door seals, IP55 with protective cover

suitable for zone selectivity
optionally fittable by user with comprehensive accessories

Rated current = rated uninterrupted current [$I_n = I_u$]
1600 A

up to 440 V 50/60 Hz [I_{cu}]
85 kA

up to 440 V 50/60 Hz [I_{cs}]
85 kA

Overload release, min. [I_r]
640 A

Overload release, max. [I_r]
1600 A

Non-delayed [$I_i = I_n$ x ...]
2 - 15, OFF

Delayed [$I_{sd} = I_r$ x ...]
1,5 - 10

TECHNICAL DATA

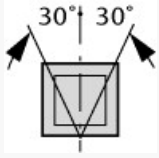
General

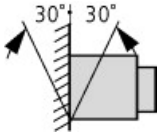
Standards
IEC/EN 60947

Ambient temperature
Storage [ϑ]
-20 - +70 °C

Ambient temperature
Ambient temperature
-20 - +70 °C

Mounting position





Utilization category
B

Degree of Protection
IP31 with door seals, IP55 with protective cover

Direction of incoming supply
as required

Main conducting paths

Rated current = rated uninterrupted current [$I_n = I_u$]
1600 A

Rated uninterrupted current at 50 °C [I_u]
1600 A

Rated uninterrupted current at 60 °C [I_u]
1600 A

Rated uninterrupted current at 70 °C [I_u]
1600 A

Rated impulse withstand voltage [U_{imp}]
12000 V AC

Rated operational voltage [U_e]
690 V AC

Use in IT electrical power networks up to [U]
440 V

Overvoltage category/pollution degree
III/3

Rated insulation voltage [U_i]
1000 V

Switching capacity

Rated short-circuit making capacity [I_{cm}]
up to 440 V 50/60 Hz [I_{cm}]
187 kA

Rated short-circuit making capacity [I_{cm}]
up to 690 V 50/60 Hz [I_{cm}]
166 kA

Rated short-time withstand current 50/60 Hz
t = 1 s [I_{cw}]
85 kA

Rated short-time withstand current 50/60 Hz
t = 3 s [I_{cw}]
66 kA

Rated short-circuit breaking capacity I_{cn} [I_{cn}]
IEC/EN 60947 operating sequence I_{cu} O-t-CO
up to 240 V 50/60 Hz [I_{cu}]
85 kA

Rated short-circuit breaking capacity I_{cn} [I_{cn}]
IEC/EN 60947 operating sequence I_{cu} O-t-CO
up to 440 V 50/60 Hz [I_{cu}]
85 kA

Rated short-circuit breaking capacity I_{cn} [I_{cn}]
IEC/EN 60947 operating sequence I_{cu} O-t-CO
up to 690 V 50/60 Hz [I_{cu}]

75 kA

Rated short-circuit breaking capacity I_{cn} [I_{cn}]
IEC/EN 60947 operating sequence I_{cs} O-t-CO-t-CO
up to 240 V 50/60 Hz [I_{cs}]
85 kA

Rated short-circuit breaking capacity I_{cn} [I_{cn}]
IEC/EN 60947 operating sequence I_{cs} O-t-CO-t-CO
up to 440 V 50/60 Hz [I_{cs}]
85 kA

Rated short-circuit breaking capacity I_{cn} [I_{cn}]
IEC/EN 60947 operating sequence I_{cs} O-t-CO-t-CO
up to 690 V 50/60 Hz [I_{cs}]
75 kA

Operating times
Closing delay via spring release
35 ms

Operating times
Total opening delay via shunt release
35 ms

Operating times
Total opening delay via undervoltage release
40 ms

Operating times
Total opening delay on non-delayed short-circuit release (up to complete arc quenching)
52 ms

Lifespan
Lifespan, mechanical [Switching cycles (ON/OFF)]
12500

Lifespan
Lifespan, mechanical with maintenance [Switching cycles (ON/OFF)]
25000.

Lifespan
Lifespan, electrical [Switching cycles (ON/OFF)]
10000

Lifespan
Lifespan, electrical with maintenance [Switching

cycles (ON/OFF)]
20000.

Maximum operating frequency [Operations/h]
60

Heat dissipation at rated current I_n
Fixed mounting
100 W

Weight

Fixed mounting
3-pole
43 kg

Terminal capacities

Copper bar
Fixed mounting
Black
1 x 80 x 10 mm

These are values used in separate switchgear. The actual values will depend on the temperature around the circuit-breaker, which is influenced by the ambient temperature, the degree of protection (IP), the mounting height, the partitions, and any external ventilation. Depending on the specific switchgear design, this may result in derating, which can then be compensated for by increasing the cross-sectional area. Temperature rise tests in the specific switchgear can provide specific and detailed information.

Permissible continuous current for circuit-breakers operating in switchboards at various internal ambient temperatures. The switchboard's internal ambient temperature should be estimated using the calculation methods of IEC regulation.

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [I_n]
1600 A

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

Operating ambient temperature min.
-20 °C

Operating ambient temperature max.
+70 °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 7.0

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])

Rated permanent current Iu
1600 A

Rated voltage
690 - 690 V

Rated short-circuit breaking capacity Icu at 400 V, 50 Hz
85 kA

Overload release current setting
640 - 1600 A

Adjustment range short-term delayed short-circuit release
960 - 16000 A

Adjustment range undelayed short-circuit release
3200 - 24000 A

Integrated earth fault protection
No

Type of electrical connection of main circuit
Rail connection

Device construction
Built-in device fixed built-in technique

Suitable for DIN rail (top hat rail) mounting
No

DIN rail (top hat rail) mounting optional
No

Number of auxiliary contacts as normally closed contact
0

Number of auxiliary contacts as normally open contact
0

Number of auxiliary contacts as change-over contact
2

With switched-off indicator
Yes

With under voltage release
No

Number of poles
3

Position of connection for main current circuit
Back side

Type of control element
Push button

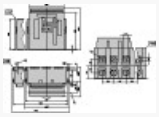
Complete device with protection unit
Yes

Motor drive integrated
No

Motor drive optional
Yes

Degree of protection (IP)
IP31

DIMENSIONS



- Door
- Contact surface flange terminal