



**183451**  
**INX16B3-16F-1**

Overview

Specifications

Resources



Delivery program

Technical data

Design verification as per IEC/EN 61439

Technical data ETIM 7.0

Dimensions

## DELIVERY PROGRAM

Product range  
Air circuit-breakers/switch-disconnectors

Product range  
Open switch-disconnectors

Current Range  
Up to 4000 A

Protective function  
without protection

Installation type  
Fixed

Construction size  
INX16

Release system  
without releases

Standard/Approval  
IEC

Number of poles  
3 pole

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

optionally fittable by user with comprehensive accessories

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

Rated short-circuit making capacity up to  
440V/690V 42/42 [ $I_{cm}$ ]  
88 kA

Rated short-time withstand current  $t = 1$  s [ $I_{cw}$ ]  
42 kA

## TECHNICAL DATA

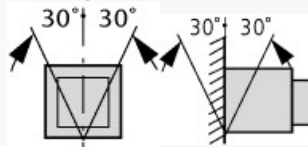
### General

Standards  
IEC/EN 60947

Ambient temperature  
Storage [9]  
-40 - +70 °C

Ambient temperature  
-25 - +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 [ $I_u$ ]  
1500 A

Rated uninterrupted current at 60 °C [ $I_u$ ]  
1400 A

Rated uninterrupted current at 70 °C [ $I_u$ ]  
1350 A

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

Rated operational voltage [ $U_e$ ]  
690 V AC

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 [ $I_{cm}$ ]  
88 kA

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

88 kA

Operating times  
Closing delay via spring release  
25 ms

Operating times  
Total opening delay via shunt release  
25 ms

Operating times  
Total opening delay via undervoltage release  
50 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  
Maximum operating frequency [Operations/h]  
60

Heat dissipation at rated current  $I_n$   
Fixed mounting  
235 W

## Terminal capacities

Copper bar  
Fixed mounting  
Black  
2 x 5 x 100 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 [ $P_{vid}$ ]  
235 W

Operating ambient temperature min.  
-25 °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) / Switch disconnecter (EC000216)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ecl@ss10.0.1-27-37-14-03 [AKF060013])

Version as main switch

Yes

Version as maintenance-/service switch

No

Version as safety switch

No

Version as emergency stop installation

No

Version as reversing switch

No

Number of switches

Max. rated operation voltage  $U_e$  AC

690 V

Rated operating voltage

690 - 690 V

Rated permanent current  $I_u$

1600 A

Rated permanent current at AC-23, 400 V

A

Rated permanent current at AC-21, 400 V

0 A

Rated operation power at AC-3, 400 V

0 kW

Rated short-time withstand current  $I_{cw}$

42 kA

Rated operation power at AC-23, 400 V

0 kW

Switching power at 400 V

0 kW



Conditioned rated short-circuit current  $I_q$   
88 kA

Number of poles  
3

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

Motor drive optional  
Yes

Motor drive integrated  
No

Voltage release optional  
Yes

Device construction  
Built-in device fixed built-in technique

Suitable for ground mounting  
Yes

Suitable for front mounting 4-hole  
No

Suitable for front mounting centre  
No

Suitable for distribution board installation  
Yes

Suitable for intermediate mounting

No

Colour control element  
Green

Type of control element  
Push button

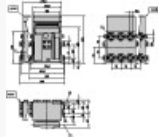
Interlockable  
Yes

Type of electrical connection of main circuit  
Rail connection

Degree of protection (IP), front side  
IP31

Degree of protection (NEMA)

## DIMENSIONS



- Door
- Contact surface flange terminal



