



## Switch-disconnector 3p, 1600A, AF

Part no. **INX16B3-16W**  
Article no. **123083**

### Delivery programme

Product range			Air circuit-breakers/switch-disconnectors
Product range			Open switch-disconnectors
Current Range			Up to 4000 A
Protective function			Switch disconnector
Installation type			Withdrawable
Construction size			INX16
Release system			without releases
Standard/Approval			IEC
Number of poles			3 pole
Degree of Protection			IP20, IP55 with protective cover, IP41 door sealing frame optionally fittable by user with comprehensive accessories
Rated current = rated uninterrupted current	$I_n = I_u$	A	1600
Making capacity $I_{cm}$ to 440 V 50/60 Hz	$I_{cm}$	kA	88
$t = 1$ s	$I_{cw}$	kA	42
Note concerning the product			Cassette needs to be ordered separately.

### Technical data

#### General

Standards			IEC/EN 60947
Ambient temperature			
Storage	θ	°C	-40 - +70
Ambient temperature		°C	-25 - +70
Mounting position			
Utilization category			B
Degree of Protection			IP20, IP55 with protective cover, IP41 door sealing frame
Direction of incoming supply			as required

#### Main conducting paths

Rated current = rated uninterrupted current	$I_n = I_u$	A	1600
Rated uninterrupted current at 50 °C	$I_u$	A	1500
Rated uninterrupted current at 60 °C	$I_u$	A	1400
Rated uninterrupted current at 70 °C	$I_u$	A	1350
Rated impulse withstand voltage	$U_{imp}$	V AC	12000
Rated operational voltage	$U_e$	V AC	690
Oversvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V	1000

#### Switching capacity

Rated short-circuit making capacity	$I_{cm}$		
up to 440 V 50/60 Hz	$I_{cm}$	kA	88
up to 690 V 50/60 Hz	$I_{cm}$	kA	88
Rated short-time withstand current 50/60 Hz			
Rated short-time withstand current ( $t=1$ s)	$I_{cw}$	kA	42
Operating times			

Closing delay via spring release		ms	25
Total opening delay via shunt release		ms	25
Total opening delay via undervoltage release		ms	50
Lifespan		S	
Lifespan, mechanical	Switching cycles (ON/OFF)		12500
Lifespan, mechanical with maintenance	Switching cycles (ON/OFF)		20000
Lifespan, electrical	Switching cycles (ON/OFF)		10000
Lifespan, electrical with maintenance	Switching cycles (ON/OFF)		10000
Maximum operating frequency		Ops./h	
Maximum operating frequency	Operations/h		60
Heat dissipation at rated current $I_n$			
Withdrawable units (switch with cassette)		W	320

## Weight

Withdrawable			
3-pole		kg	28
4-pole		kg	33
Cassette			
3 pole		kg	28
4 pole		kg	33

## Terminal capacities

Copper bar			
Fixed mounting			
Black		mm	2 x 5 x 100
Withdrawable units			
Black		mm	2 x 5 x 100
			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	$I_n$	A	1600
Equipment heat dissipation, current-dependent	$P_{vid}$	W	320
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
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.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
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.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
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 6.0

Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss8.1-27-37-14-03 [AKF060010])			
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
Max. rated operation voltage Ue AC		V	690
Rated operating voltage		V	690 - 690
Rated permanent current Iu		A	1600
Rated permanent current at AC-21, 400 V		A	0
Rated operation power at AC-3, 400 V		kW	0
Rated short-time withstand current Icw		kA	42
Rated operation power at AC-23, 400 V		kW	0
Switching power at 400 V		kW	0
Conditioned rated short-circuit current Iq		kA	88
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 slide-in technique (withdrawable)
Suitable for ground mounting			Yes
Suitable for front mounting 4-hole			No
Suitable for front mounting center			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			IP20