



12.11		
	Part no.	INX40N3-16W-1
	Article no.	184067

### 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			Withdrawable
			Cassette must be separately ordered.
Construction size			INX40
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	$I_n = I_u$	А	1600
Bemessungskurzschlusseinschaltvermögen bis 440V/690V 42/42	I <sub>cm</sub>	kA	187
Bemessungskurzzeitstromfestigkeit t = 1 s	I <sub>cw</sub>	kA	85
Bemessungskurzzeitstromfestigkeit t = 3 s	I <sub>cw</sub>	kA	66

#### Technical data General

General				
Standards			IEC/EN 60947	
Ambient temperature				
Storage	θ	°C	-40 - +70	
Ambient temperature		°C	-25 - +70	
Mounting position			30° 30° 30° 30°	
Utilization category			В	
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	$I_n = I_u$	А	1600	
Rated uninterrupted current at 50 °C	lu	А	1600	
Rated uninterrupted current at 60 °C	lu	А	1600	
Rated uninterrupted current at 70 °C	l <sub>u</sub>	А	1600	
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	12000	
Rated operational voltage	Ue	V AC	690	
Overvoltage category/pollution degree			111/3	
Rated insulation voltage	Ui	V	1000	
Switching capacity				
Rated short-circuit making capacity	I <sub>cm</sub>			
up to 440 V 50/60 Hz	I <sub>cm</sub>	kA	187	
up to 690 V 50/60 Hz	I <sub>cm</sub>	kA	166	
Rated short-time withstand current 50/60 Hz				
Rated short-time withstand current (t=1s)	I <sub>cw</sub>	kA	85	
t = 3 s	I <sub>cw</sub>	kA	66	

Operating times			
Closing delay via spring release		ms	30
Total opening delay via shunt release		ms	35
Total opening delay via undervoltage release		ms	40
Lifespan		S	
Lifespan, mechanical	Switching cycles (ON/ OFF)		12500
Lifespan, mechanical with maintenance	Switching cycles (ON/ OFF)		25000.
Lifespan, electrical	Switching cycles (ON/ OFF)		10000
Lifespan, electrical with maintenance	Switching cycles (ON/ OFF)		20000.
Maximum operating frequency		Ops./h	
Maximum operating frequency	Operations/h		60
Heat dissipation at rated current I <sub>n</sub>			
Withdrawable units (switch with cassette)		W	140
Weight			
Withdrawable			
3-pole		kg	66
Cassette			
3 pole		kg	29
Terminal capacities			
Copper bar			
Withdrawable units			
Black		mm	1 x 80 x 10
			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.

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	1600
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	140
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])

Araion as maintanace/savice switch         Image: Same set and	[		
Arsion as aftery which         Image: severing which         No           Version as onergency stop installation         No         No           Max. rated operation voltage Ue AC         No         No           Mar. data operation power at AC-31,400 V         No         No           Natching power at AC-32,400 V         No         No           Conditioned rated short-circuit current lq         No         No           Number of poles         No         No         No           Number of auxiliary contacts as normally cost contact         No         No         No           Number of auxiliary contacts as normally cost contact         No         No         No           Number of auxiliary contacts as normally cost contact         No         No         No           Numbe	Version as main switch		Yes
Arision as emergency stop installation         Image: stop installation         Image: stop installation           Version as revarsing switch         V         80           Max: rated operation voltage Ue AC         V         800           Rated operation voltage Ue AC         V         0           Rated operation your at AC-21, 400 V         K         0           Rated operation your at AC-23, 400 V         K         0           Rated operation your at AC-23, 400 V         K         N           Rated operation your at AC-23, 400 V         K         N           Norther of working voont at AC-23, 400 V         K         N           Number of auxiliary contacts as normally open contact         K         N           Number of auxiliary contacts as normally open contact         K         N           Number of auxiliary contacts as normally open contact         K         N           Number of auxiliary contacts as normally open contact         K<	Version as maintenance-/service switch		No
Areaion as reversing with         No           Max. rated operation voltage Ue AC         V         500           Stand operation voltage Ue AC         V         500           Stand operation voltage Ue AC         V         500           Stand operation voltage Ue AC         A         1000           Stand operation power at AC-3, 400 V         A         0           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operation power at AC-3, 400 V         K         8           Stand operatine streation power at AC-3, 400 V         K <td>Version as safety switch</td> <td></td> <td>No</td>	Version as safety switch		No
Mar. rated operation voltage Ue AC         V         690           Nated operation voltage         V         690         690           Rated operation voltage         0         600         600           Rated operation voltage         V         600         600           Rated operation voltage         V         0	Version as emergency stop installation		No
Name         V         60           Rated opermanent current lu         A         600           Bated opermanent current at AC-21, 400 V         A         0           Bated operation power at AC-2, 400 V         KW         0           Bated operation power at AC-2, 400 V         KM         0           Bated operation power at AC-2, 400 V         KM         0           Bated operation power at AC-2, 400 V         KM         0           Solution power at AC-2, 400 V         Solution power at AC-2, 400 V         0           Solution power at AC-2, 400 V         Solution power at AC-2, 400 V         No           Solution front mounting contercontatet         YM	Version as reversing switch		No
Atted permanent current lu         Image: Atted permanent current at AC-21, 400 V         Atted permanent current at AC-21, 400 V         Atted spermanent current at AC-21, 400 V         Atted spermanent current tw         Image: Atted spermanent current tw	Max. rated operation voltage Ue AC	V	690
Atted permanent current it AC-21, 400 V       P       A         Rated operation power at AC-3, 400 V       KW       0         Rated operation power at AC-23, 400 V       KM       Since Control Cont	Rated operating voltage	V	690 - 690
Aread operation power at AC-3, 400 V         KM         Readed operation power at AC-23, 400 V         KM         Solution at add operation power at AC-23, 400 V         KM         Generation power at AC-23, 400 V         KM         Generation power at AC-23, 400 V         KM         Generation power at AC-23, 400 V         Generation power at AC-23, 400 V         KM         Generation power at AC-23, 400 V         Generation power pow	Rated permanent current lu	А	1600
Article short-time withstand current low         Image: short withstand current low         Image: short withstand current low         Image: short with with with with with with with wit	Rated permanent current at AC-21, 400 V	А	0
KN         Image: Construction power at AC-23, 400 V         Image: Construction power at 400 V         Image: Construction power	Rated operation power at AC-3, 400 V	kW	0
Witching power at 400 VKW0Conditioned rated short-circuit current IqKA187Number of poles000Number of auxiliary contacts as normally closed contactM0Number of auxiliary contacts as normally copen contactM0Number of auxiliary contacts as change-over contactM0Number of auxiliary contacts as change-over contactMMNumber of auxiliary contacts as change-over contactMMNotor drive optionalMMNotor drive integratedMMNotage release optionalMMSuitable for front mountingMMSuitable for front mounting 4-holeMMSuitable for distribution board installationMMSuitable for intermediate mountingMMSuitable for intermediate mounting </td <td>Rated short-time withstand current lcw</td> <td>kA</td> <td>85</td>	Rated short-time withstand current lcw	kA	85
Conditioned rated short-circuit current Iq       Image: A Mathematic Sector Secto	Rated operation power at AC-23, 400 V	kW	0
Number of poles3Number of auxiliary contacts as normally closed contact0Number of auxiliary contacts as normally open contact0Number of auxiliary contacts as normally open contact0Number of auxiliary contacts as normally open contact0Number of auxiliary contacts as change-over contact0Number of auxiliary contacts as change-over contact0Notor drive optionalVesNotor drive integratedNoNotor drive integratedNoNotage release optionalNoSuitable for ground moutingNoSuitable for front mouting 4-holeNoSuitable for intermediate mountingNoSuitable for intermediate mountingNo </td <td>Switching power at 400 V</td> <td>kW</td> <td>0</td>	Switching power at 400 V	kW	0
Number of auxiliary contacts as normally closed contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contact         Image: Control of auxiliary contacts as normally open contacts         Image: Control of auxiliary contacts as normally open contacts <thimage: auxiliary="" contacts<="" control="" of="" th=""> <th< td=""><td>Conditioned rated short-circuit current Iq</td><td>kA</td><td>187</td></th<></thimage:>	Conditioned rated short-circuit current Iq	kA	187
Number of auxiliary contacts as normally open contact         O           Number of auxiliary contacts as normally open contact         2           Number of auxiliary contacts as normally open contact         Ves           Notor drive optional         Ves           Notor drive integrated         So           Voltage release optional         Ves           Device construction         Suitable for ground mounting           Suitable for ground mounting 4-hole         Ves           Suitable for fort mounting center         No           Suitable for intermediate mounting         Ves           Suitable for intermediate mounting         Ves     <	Number of poles		3
Number of auxiliary contacts as change-over contact         Image: Controp of the second	Number of auxiliary contacts as normally closed contact		0
Autor drive optional         Yes           Motor drive integrated         Yes           Voltage release optional         Yes           Device construction         Built-in device slide-in technique (withdrawable)           Suitable for ground mounting         Yes           Suitable for front mounting 4-hole         Yes           Suitable for front mounting center         No           Suitable for distribution board installation         Yes           Suitable for intermediate mounting         Yes           Colour control element         Yes           Type of control element         Yes           Fype of control element         Yes           Fype of electrical connection of main circuit         Yes	Number of auxiliary contacts as normally open contact		0
Motor drive integrated         Motor drive integrated<	Number of auxiliary contacts as change-over contact		2
Voltage release optional         Yes           Device construction         Built- in device slide-in technique (withdrawable)           Suitable for ground mounting         Yes           Suitable for front mounting 4-hole         Yes           Suitable for front mounting center         Yes           Suitable for intermediate mounting         Yes	Motor drive optional		Yes
Device construction       Built-in device slide-in technique (withdrawable)         Suitable for ground mounting       Yes         Suitable for front mounting center       No         Suitable for distribution board installation       Yes         Suitable for intermediate mounting       Yes         Colour control element       Yes         Type of control element       Yes         Interlockable       Yes         Mainterlockable       Yes         Mainterloc	Motor drive integrated		No
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       Yes         Type of control element       Yes         Interlockable       Yes         Type of electrical connection of main circuit       Yes	Voltage release optional		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       Yes         Type of control element       Yes         Interlockable       Yes         Type of electrical connection of main circuit       Solitable for intermediate mounting	Device construction		Built-in device slide-in technique (withdrawable)
Suitable for front mounting center Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit	Suitable for ground mounting		Yes
Suitable for distribution board installation     Image: Suitable for distribution board installation       Suitable for intermediate mounting     Image: Suitable for intermediate mounting       Colour control element     Image: Suitable for intermediate mounting       Type of control element     Image: Suitable for intermediate mounting       Interlockable     Image: Suitable for intermediate mounting       Type of electrical connection of main circuit     Image: Suitable for intermediate mounting	Suitable for front mounting 4-hole		No
Suitable for intermediate mounting     Mo       Colour control element     Green       Type of control element     Mo       Interlockable     Push button       Type of electrical connection of main circuit     Green	Suitable for front mounting center		No
Colour control element     Green       Type of control element     Push button       Interlockable     Yes       Type of electrical connection of main circuit     State	Suitable for distribution board installation		Yes
Type of control element     Push button       interlockable     Yes       Type of electrical connection of main circuit     Image: Section of main circuit	Suitable for intermediate mounting		No
Interlockable Yes Yes Rail connection	Colour control element		Green
Type of electrical connection of main circuit Rail connection	Type of control element		Push button
	Interlockable		Yes
Degree of protection (IP), front side IP31	Type of electrical connection of main circuit		Rail connection
	Degree of protection (IP), front side		IP31

## Dimensions



