DATASHEET - INX16B4-10F-1



Switch-disconnector, 4 pole, 1000A, without protection, IEC, Fixed

Powering Business Worldwide*

Part no. INX16B4-10F-1 Catalog No. 183646

EL-Nummer (Norway) 4398183

Delivery program

Bonvory 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			4 pole
Degree of Protection			IP31 with door seals, IP55 with protective cover
			optionally fittable by user with comprehensive accessories
Rated current = rated uninterrupted current	$\boldsymbol{I}_n = \boldsymbol{I}_u$	Α	1000
Rated short-circuit making capacity up to 440V/690V 42/42	I _{cm}	kA	88
Rated short-time withstand current t =1 s	I _{cw}	kA	42

Technical data

General			
Standards			IEC/EN 60947
Ambient temperature			
Storage	8	°C	-40 - +70
Ambient temperature		°C	-25 - +70
Mounting position			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	$I_n = I_u$	Α	1000
Rated uninterrupted current at 50 °C	I _u	Α	1000
Rated uninterrupted current at 60 °C	I _u	Α	1000
Rated uninterrupted current at 70 °C	I _u	Α	1000
Rated impulse withstand voltage	U _{imp}	V AC	12000
Rated operational voltage	U _e	V AC	690
Overvoltage category/pollution degree			III/3
Rated insulation voltage	Ui	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
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)		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 _n			
Fixed mounting		W	92
Weight			
Fixed mounting			
4-pole		kg	22
Terminal capacities			
Copper bar			
Fixed mounting			
Black		mm	2 x 5 x 60
			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	In	Α	1000
Equipment heat dissipation, current-dependent	P _{vid}	W	92
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.

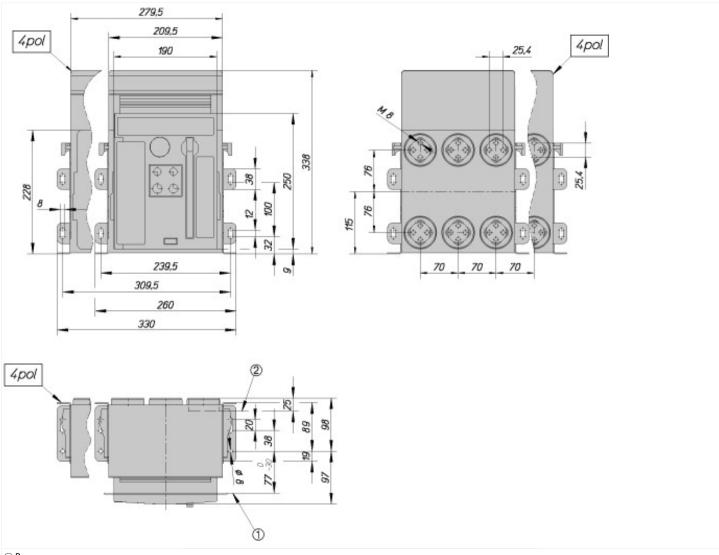
Technical data ETIM 7.0

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@ss10.0.1-27-37-14-03 [AKF060013])

Version as main awitch Fee Version as maintenance/services witch Mo Version as a smintenance/services witch Mo No Version as a smorgency stop installation Mo No Version as a smorgency stop installation Wo No Number of switches Wo 880 Number of switches Vo 890 Number of switches Vo 890 Rated operation voltage Ue AC A 100 Rated operation voltage A 100 Rated operation voltage A 100 Rated operation current at AC-23, 400 V A 0 Rated operation power at AC-3, 400 V A 2 Rated operation power at AC-3, 400 V NW 0 Switching power at 400 V NW 0 Conditioned rated short-circuit current low NW 0 Switching power at AC-2, 400 V NW 0 Number of poles NW 0 Number of poles NW 0 Number of auxiliary contacts as change-over contact NW	[AKF060013])		
Version as safety switch Version as emergency stop installation Version as emergency stop installation Version as emergency stop installation Version as reversing switch Max. rated operation voltage Ue AC Nated operation voltage Ue AC Rated operating voltage Rated operation voltage Ue AC Rated operating voltage Rated operation voltage Ue AC Rated operation power at AC-23,400 V Rated operation power at AC-24,400 V Rated oper	Version as main switch		Yes
Version as emergency stop installation No Version as reversing switch No Number of switches No Number of switches V 80 Rated permanent current on Voltage V 80 Rated permanent current at AC-23,400 V A 1000 Rated permanent current at AC-23,400 V A 0 Rated permanent current at AC-23,400 V AW 0 Rated short-time withstand current lev AW 2 Rated speration power at AC-3,400 V AW 0 Rated speration power at AC-3,400 V AW 0 Rated speration power at AC-3,400 V AW 0 Conditioned rated short-circuit current lev AW 2 Conditioned rated short-circuit current la AW 3 Number of poles AW 8 Number of public AW 8 Number of auxiliary contacts as normally closed contact AW 9 Motor drive optional BW 9 Motor drive optional BW 9 Motor drive optional	Version as maintenance-/service switch		No
Vorsion as reversing switch No Number of switches C C Max. rated operation voltage Us AC V 69-800 Rated operating voltage V 69-800 Rated permanent current ut AC-22, 400 V A 100 Rated permanent current at AC-23, 400 V A 0 Rated spermanent current at AC-23, 400 V A 0 Rated spermanent current at AC-23, 400 V A 0 Rated spermanent current at AC-23, 400 V A 0 Rated spermanent current at AC-23, 400 V A 0 Rated spermanent current low IAV 0 0 Rated spermanent current low IAV 0 0 Rated spermanent current at AC-23, 400 V IAV 0 0 Rated spermanent current low IAV 0 0 Rated operation power at AC-23, 400 V IAV 0 0 Rated operation power at AC-23, 400 V IAV 0 0 White of power at 400 V IAV 0 0 0 White of power at 400 V <td>Version as safety switch</td> <td></td> <td>No</td>	Version as safety switch		No
Number of switches V 69 Rated operation voltage Ue AC V 69 Rated operation voltage V 69 Rated permanent current un A 100 Rated permanent current at AC-23,400 V A 0 Rated operation power at AC-3,400 V A 0 Rated operation power at AC-23,400 V A 0 Rated operation power at AC-23,400 V kW 0 Rated operation power at AC-23,400 V kW 0 Rated operation power at AC-34 VO kW 0 Conditioned rated short-circuit current lq kW 0 Conditioned rated short-circuit current lq kW 8 Number of jouis Y 0 Number of auxiliary contacts as normally open contact Y 0 Number of auxiliary contacts as change-over contact Y 8 Number of auxiliary contacts as change-over contact Y 9 Votage release optional Y Y Number of journal mounting Y Y Votage release optional Y	Version as emergency stop installation		No
Max. rated operation voltage Ue AC V 690 - 690 Rated operating voltage V 690 - 690 Rated permanent current un A 100 Rated permanent current at AC-23,400 V A 0 Rated operation power at AC-3, 400 V KW 0 Rated short-time withstand current lcw KW 2 Rated short-time withstand current lcw KW 0 Switching power at 400 V KW 0 Number of auxiliary contacts as normally closed contact KW 0 Number of auxiliary contacts as change-over contact Yes Motor drive integrated Yes Yes Worth of yeve integrated Yes Yes Suitable for fro	Version as reversing switch		No
Rated operating voltage V 899-890 Rated permanent current at AC-23, 400 V A 1000 Rated permanent current at AC-23, 400 V A 0 Rated operation power at AC-3, 400 V NW 0 Rated sobretime withstand current low NW 2 Rated sobretime withstand current low NW 0 Switching power at AC-23, 400 V NW 0 Switching power at 400 V NW 0 Switching power at 400 V NW 0 Number of auxiliary contacts as normally closed contact NW 0 Number of auxiliary contacts as normally open contact YE YE Motor drive optional YE YE Motor drive optional YE YE Switable for fort mount	Number of switches		
Rated permanent current at AC-23, 400 V A 1000 Rated permanent current at AC-23, 400 V A 0 Rated permanent current at AC-3, 400 V A 0 Rated operation power at AC-23, 400 V KW 0 Rated operation power at AC-23, 400 V kW 0 Switching power at 400 V kW 0 Conditioned rated short-circuit current lq kW 8 Number of poles KW 0 Number of auxiliary contacts as normally closed contact 0 0 Number of auxiliary contacts as normally open contact 0 0 Number of auxiliary contacts as normally open contact 0 0 Number of auxiliary contacts as change-over contact 0 9 Motor drive optional Ves 9 Motor drive integrated 0 0 Voltage release optional Ves 0 Suitable for ground monting 0 0 Suitable for ground monting 0 0 Suitable for front mounting centre 0 0 Suitable for front mount	Max. rated operation voltage Ue AC	V	690
Rated permanent current at AC-23, 400 V A A Rated permanent current at AC-21, 400 V A Q Rated operation power at AC-3, 400 V KW Q Rated short-line withstand current low KW Q Rated short-line withstand current low KW Q Rated short-line withstand current low KW Q Switching power at 400 V KW Q Conditioned rated short-circuit current lq KW B Number of auxiliary contacts as normally closed contact W Q Number of auxiliary contacts as normally open contact W Q Number of auxiliary contacts as change-over contact W Y Motor drive optional W Y Y Motor drive optional W Y Y Valtage release optional W Y Y Suitable for ground mounting W Y Y Suitable for front mounting 4-hole W Y Y Suitable for front mounting centre W Y Y Suitable for in	Rated operating voltage	V	690 - 690
Rated permanent current at AC-21, 400 V A D Rated operation power at AC-3, 400 V kW 0 Rated operation power at AC-23, 400 V kW 2 Switch inne withstand current lcw kW 0 Switch inne withstand current lcw kW 0 Switch in power at 400 V kW 0 Conditioned rated short-circuit current lq kW 8 Number of poles CW 4 4 Number of auxiliary contacts as normally closed contact CW 0 4 4 Number of auxiliary contacts as change-over contact CW 2 4 4 Motor drive optional CW Yes 4 4 4 Motor drive integrated CW Yes 4 <t< td=""><td>Rated permanent current lu</td><td>Α</td><td>1000</td></t<>	Rated permanent current lu	Α	1000
Rated operation power at AC-3,400 V Rated short-time withstand current low Rated operation power at AC-22,400 V Routed operation power at A0-22,400 V Routed operation power at A00 V Routed of a solid short-circuit current lq Routed operation power at A00 V Routed of p	Rated permanent current at AC-23, 400 V	Α	
Rated short-time withstand current Icw Rated operation power at AC-23, 400 V Withing power at 400 V Conditioned rated short-circuit current Iq Number of poles Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Without or drive optional Notor drive integrated Notor drive integrated Notor drive integrated Notice or struction Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting 4-hole Suitable for front mounting eentre Suitable for intermediate mounting Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of control element Type of electrical connection of main circuit Degree of protection (IP), front side	Rated permanent current at AC-21, 400 V	Α	0
Rated operation power at AC-23, 400 V Switching power at 400 V Conditioned rated short-circuit current Iq Number of poles Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Notor drive optional Motor drive integrated Motor drive integrated Notor drive integrat	Rated operation power at AC-3, 400 V	kW	0
Switching power at 400 V Conditioned rated short-circuit current Iq Number of poles Number of poles Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally contact Number of auxiliary contacts as normally contact Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally close	Rated short-time withstand current lcw	kA	42
Conditioned rated short-circuit current Iq Number of poles Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally contact Number of auxiliary contacts Number of auxiliary contacts Number	Rated operation power at AC-23, 400 V	kW	0
Number of poles Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as normally open contacts Number of auxiliary contacts as normally open contacts Number of auxiliary contacts as normally open contac	Switching power at 400 V	kW	0
Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Notor drive optional Notor drive integrated Notor drive integrated built-in technique Notor drive integrated built-in technique Notor drive integrated built-in technique Notor drive intermediate mounting entre Notor drive integrated built-in technique Notor drive integrated built-	Conditioned rated short-circuit current Iq	kA	88
Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contacts as change of auxiliary contacts as change o	Number of poles		4
Number of auxiliary contacts as change-over contact Motor drive optional Motor drive integrated Motor drive integrated Notage release optional Device construction Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting centre Suitable for intermediate mounting Roe Suitable for intermediate mounting Suitable for intermediate mounting Roe Suitable for intermediate mounting Roe Suitable for intermediate mounting Roe Roe Roe Roe Push button Push button Roel Roel Roel Super of electrical connection of main circuit Roel Roel Roel	Number of auxiliary contacts as normally closed contact		0
Motor drive optional Motor drive integrated Motor drive integrated No Voltage release optional Device construction Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting centre Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Type of electrical connection of main circuit Degree of protection (IP), front side	Number of auxiliary contacts as normally open contact		0
Motor drive integratedNoVoltage release optionalYesDevice constructionBuilt-in device fixed built-in techniqueSuitable for ground mountingYesSuitable for front mounting 4-holeNoSuitable for front mounting centreNoSuitable for distribution board installationYesSuitable for intermediate mountingNoColour control elementGreenType of control elementPush buttonInterlockableYesType of electrical connection of main circuitRail connectionDegree of protection (IP), front sideIP31	Number of auxiliary contacts as change-over contact		2
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	Motor drive optional		Yes
Device construction Built-in device fixed built-in technique Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting centre Suitable for distribution board installation Suitable for intermediate mounting Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side	Motor drive integrated		No
Suitable for ground mounting Suitable for ground mounting 4-hole Suitable for front mounting centre Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side Yes Yes Yes Yes No Green Push button Push button Rail connection Pash Rail connection Pash Pash Pash Pash Pash Pash Pash Pash	Voltage release optional		Yes
Suitable for front mounting 4-hole Suitable for front mounting centre Suitable for distribution board installation Suitable for distribution board installation Suitable for intermediate mounting Suitable for distribution board installation Suitable for front mounting 4-hole Suitable for distribution board installation Suitable for distribution	Device construction		Built-in device fixed built-in technique
Suitable for front mounting centre Suitable for distribution board installation Suitable for intermediate mounting Suitable for distribution board installation Suitable for dis	Suitable for ground mounting		Yes
Suitable for distribution board installation Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side Yes Yes Yes Yes Yes Area A	Suitable for front mounting 4-hole		No
Suitable for intermediate mounting Colour control element Type of control element Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side No Green Push button Yes Rail connection Bail connection IP31	Suitable for front mounting centre		No
Colour control element Type of control element Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side Green Push button Yes Rail connection IP31	Suitable for distribution board installation		Yes
Type of control element Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side Push button Yes Rail connection IP31	Suitable for intermediate mounting		No
Interlockable Yes Type of electrical connection of main circuit Rail connection Degree of protection (IP), front side IP31	Colour control element		Green
Type of electrical connection of main circuit Degree of protection (IP), front side Rail connection IP31	Type of control element		Push button
Degree of protection (IP), front side IP31	Interlockable		Yes
	Type of electrical connection of main circuit		Rail connection
Degree of protection (NEMA)	Degree of protection (IP), front side		IP31
	Degree of protection (NEMA)		

Dimensions



Door
 Contact surface flange terminal