# **DATASHEET - INX40B3-12F-1**



## Switch-disconnector, 3 pole, 1250A, without protection, IEC, Fixed

Powering Business Worldwide

INX40B3-12F-1 Part no. Catalog No. 184042

**EL-Nummer** (Norway)

4398404

### **Delivery program**

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			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	$\boldsymbol{I}_n = \boldsymbol{I}_u$	Α	1250
Rated short-circuit making capacity up to 440V/690V 42/42	I <sub>cm</sub>	kA	145
Rated short-time withstand current t =1 s	I <sub>cw</sub>	kA	66
Rated short-time withstand current t =3 s	I <sub>cw</sub>	kA	53

Technical data General			
Standards			IEC/EN 60947
Ambient temperature			
Storage	9	°C	-40 - +70
Ambient temperature	ŭ	°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	$I_n = I_u$	Α	1250
Rated uninterrupted current at 50 °C	Iu	Α	1250
Rated uninterrupted current at 60 °C	Iu	Α	1250
Rated uninterrupted current at 70 °C	Iu	Α	1250
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	12000
Rated operational voltage	U <sub>e</sub>	V AC	690
Overvoltage category/pollution degree			III/3
Rated insulation voltage	Ui	٧	1000
Switching capacity			
Rated short-circuit making capacity	I <sub>cm</sub>		
up to 440 V 50/60 Hz	I <sub>cm</sub>	kA	145
up to 690 V 50/60 Hz	I <sub>cm</sub>	kA	145
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	
су	witching ycles (ON/ FF)		12500
cy	witching ycles (ON/ FF)		25000.
су	witching ycles (ON/ FF)		10000
су	witching ycles (ON/ FF)		20000.
Maximum operating frequency		Ops./h	
Maximum operating frequency Op	perations/h		60
Heat dissipation at rated current I <sub>n</sub>			
Fixed mounting		W	90
Weight			
Fixed mounting			
3-pole		kg	43
Terminal capacities			
Copper bar			
Fixed mounting			
Black		mm	1 x 60 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, an 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**

Design verification as per IEC/EN 61439			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	1250
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	90
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 awinch (version as main internance-/service switch)         ( )         No           Version as seme gency stap installation         ( )         No           Version as seme gency stap installation         ( )         No           Version as seme gency stap installation         ( )         No           Number of switch (with the control of the	[AKF060013])	37.		
Version as safety switch         No           Version as senergency stop installation         No           Version as senergency stop installation         No           Version as senergency stop installation         No           Number of switches         No           Max. rated operating voltage         V         690 - 690           Rated operating voltage         A         1290 - 120           Rated permanent current at AC-23, 400 V         A         0           Rated operation power at AC-23, 400 V         A         6           Rated operation power at AC-23, 400 V         No         0           Switching power at AC-23, 400 V         No         0           Conditioned rated short-circuit current tq         No         No           Conditioned rated short-circuit current tq         No         14           Number of auxiliary contacts as normally closed contact         No         9           Number of auxiliary contacts as normally open contact         No         9           Voltage release optional         No         No	Version as main switch			Yes
Version as emergency stop installation         Image: Provided Serviction Serv	Version as maintenance-/service switch			No
Version as reversing switch         Moment of switches         Vol. 690-890         Select of Selection (voltage (Language)         Vol. 690-890         Selection (Language)         All 250-200	Version as safety switch			No
Number of switches         V         890-680           Max rated operation voltage Ue AC         V         890-690           Rated operation voltage         V         890-690           Rated operation voltage         A         90-690           Rated operation current 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-23, 400 V         KW         0           Switching power at AC-23, 400 V         KW         0           Switching power at 400 V         KW         0           Conditioned rated short-circuit current Iq         KW         1           Number of poles         W         2           Number of switching yonatca sa ordinally closed contact         W         2           Number of switching yonatca sa change-over contact         W         2           Motor drive epitional         W         2         2           Motor drive epitional         W         2         2           Motor drive eintegrated         W         2         2           Voltage reliase optional         W         2         2           Switable for fo	Version as emergency stop installation			No
Max. ratid operation voltage Uo AC         V         699-690           Rated operating voltage         V         690-690           Rated permanent current un Comment un Current at AC-21,400 V         A         1250           Rated permanent current at AC-21,400 V         AM         0           Rated operation power at AC-3,400 V         KM         0           Rated short-time withstand current low         KM         6           Rated short-time withstand current low         KM         0           Switching power at AO-3, 400 V         KM         0           Number of auxiliary contacts as normally closed contact         KM         0           Number of auxiliary contacts as change-over contact         KM         0           Number of auxiliary contacts as change-over contact         KM         0           Noted of diviniting tated         KM         0           Noted of auxiliary contacts as change-over contact<	Version as reversing switch			No
Rated operating voltage         V         690-690           Rated permanent current lu         A         1250           Rated permanent current at AC-23, 400 V         A         0           Rated permanent current at AC-23, 400 V         A         0           Rated short-time withstand current at AC-23, 400 V         A         66           Rated short-time withstand current tw         A         66           Rated short-time withstand current tw         A         60           Rated short-time withstand current tw         A         66           Rated short-time withstand current tw         A         66           Rated short-time withstand current tw         A         66           Rated short-time withstand current tw         A         68           Rated short-time withstand current tw         A         A           Switching power at 400 V         W         0           Number of subject on the propertime the propertime the propertime transport of poles         A         14           Number of subject on tracts as normally open contact         Yes         2           Motor drive optional         Yes         2           Motor drive optional         Yes         3           Suitable for fort mounting 4-hole         Yes         N	Number of switches			
Rated permanent current lu         A         1250           Rated permanent current at AC-23,400 V         A         0           Rated permanent current at AC-24,000 V         A         0           Rated permanent current at AC-24,000 V         MW         0           Rated operation power at AC-23,400 V         MW         0           Switch ining power at 400 V         WW         0           Conditioned rated short-circuit current Iq         WM         144           Number of polies         W         3           Number of auxiliary contacts as normally closed contact         W         0           Number of auxiliary contacts as normally copen contact         W         2           Motor drive optional         W         2           Motor drive optional         W         8           Motor drive integrated         W         9           Voltage release optional         W         9           Device construction         W         9           Suitable for front mounting 4-hole         W         9           Suitable for front mounting 4-hole         W         9           Suitable for front mounting centre         W         N           Suitable for intermediate mounting         W         9	Max. rated operation voltage Ue AC		V	690
Rated permanent current at AC-23, 400 V         A         0           Rated permanent current at AC-21, 400 V         W         0           Rated operation power at AC-3, 400 V         W         0           Rated short-time withstand current lcw         KA         66           Rated short-time withstand current lcw         W         0           Switching power at AC-23, 400 V         W         0           Switching power at A00 V         W         0           Conditioned rated short-circuit current lq         KA         144           Number of basiliary contacts as normally closed contact         B         3           Number of auxiliary contacts as normally open contact         C         0           Number of auxiliary contacts as change-over contact         C         Ves           Motor drive optional         C         Ves           Motor drive integrated         Yes         Wes           Voltage release aptional         F         Wes           Device construction         F         Wes           Suitable for ground mounting         F         Wes           Suitable for front mounting entre         No         No           Suitable for front mounting centre         No         No           Suitable for intermediat	Rated operating voltage		V	690 - 690
Rated permanent current at AC-21,400 V         A         0           Rated operation power at AC-3,400 V         WW         0           Rated short-time withstand current low         AA         66           Rated operation power at AC-23,400 V         WW         0           Switching power at 400 V         WW         0           Conditioned rated short-circuit current Iq         AA         144           Number of poles         AB         144           Number of auxiliary contacts as normally closed contact         AB         2           Number of auxiliary contacts as normally open contact         AB         2           Motor drive optional         AB         Yes           Motor drive optional         AB         Yes           Motor drive integrated         Yes         Yes           Voltage release optional         Yes         Yes           Suitable for ground mounting         Yes         Yes           Suitable for front mounting 4-hole         Yes         Yes           Suitable for front mounting entre         Yes         No           Suitable for intermediate mounting         Yes         Yes           Suitable for intermediate mounting         Yes         No           Suitable for intermediate mounting	Rated permanent current lu		Α	1250
Rated operation power at AC-3, 400 V         kW         66           Rated short-time withstand current lcw         kA         66           Rated operation power at AC-23, 400 V         kW         0           Switching power at 400 V         kW         0           Conditioned rated short-circuit current lq         kA         144           Number of poles         S         3           Number of auxiliary contacts as normally closed contact         C         0           Number of auxiliary contacts as change-over contact         C         2           Motor drive optional         C         2         2           Motor drive integrated         C         Yes           Voltage release optional         C         Yes           Device construction         C         Yes           Suitable for ground mounting         C         Yes           Suitable for front mounting 4-bele         C         No           Suitable for front mounting entre         C         Yes           Suitable for front mounting entre         C         Yes           Suitable for front mounting entre         C         Yes           Suitable for intermediate mounting         C         Yes           Suitable for intermediate mounting <t< td=""><td>Rated permanent current at AC-23, 400 V</td><td></td><td>Α</td><td></td></t<>	Rated permanent current at AC-23, 400 V		Α	
Rated short-time withstand current Icw Rated operation power at AC-23, 400 V RW Rothing power at 400 V RW Rother of poles Rumber of poles Rumber of poles Rumber of auxiliary contacts as normally closed contact Rumber of auxiliary contacts as normally popen contact Rumber of auxiliary contacts as normally open contact Rumber of auxiliary contacts as change-over contact Rumber of auxiliary contacts as normally open contact Rumber of auxiliary contacts as normally open contact Rumber of auxiliary contacts as normally closed	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 lq  Number of poles  Number of pauxiliary contacts as normally closed contact  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 schange-over contact  Motor drive optional  Motor drive integrated  Motor drive integrated  Notor drive integrated built-in technique  Notor drive integrated built-in t	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 open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as normally open contact Number of auxiliary co	Rated short-time withstand current lcw		kA	66
Conditioned rated short-circuit current Iq         KA         144           Number of poles         3         3           Number of auxiliary contacts as normally closed contact         6         0           Number of auxiliary contacts as normally open contact         6         2           Mumber of auxiliary contacts as change-over contact         6         2           Motor drive optional         7         7         8           Motor drive integrated         7         8         9         9           Voltage release optional         7         9         9         9         8           Device construction         8         6         9         8         9         9         8           Suitable for ground mounting         8         6         8         9         9         8         9	Rated operation power at AC-23, 400 V		kW	0
Number of poles  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 change-over contact  Notor drive optional  Motor drive integrated  No  Voltage release optional  Suitable for ground mounting  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  Colour control element  Type of control element  Type of centrol element  Type of electrical connection of main circuit  Degree of protection (IP), front side  No  1	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  No  No  No  Ves  No  Voltage release optional  No  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting centre  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	Conditioned rated short-circuit current Iq		kA	144
Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Notor drive optional  Motor drive integrated  No  Voltage release optional  Pevs  Device construction  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting centre  Suitable for front mounting centre  Suitable for intermediate mounting  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  Degree of protection (IP), front side	Number of poles			3
Number of auxiliary contacts as change-over contact  Motor drive optional  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 front mounting centre  Suitable for front mounting centre  Suitable for fortn mounting centre  Suitable for fortn mounting centre  Suitable for font mounting centre  Suitable for fortn mounting centre  Suitable for font mounting centre  Suitable for font mounting centre  Suitable for intermediate mounting  Colour control element  Type of 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 closed contact			0
Motor drive optional Motor drive integrated Motor drive integrated No Voltage release optional Ves 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 Interlockable 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  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  Yes  Suitable for distribution board installation  Yes  No  Rail connection  Pash  Pash  Pash  Rail connection  Pash  Pa	Motor drive optional			Yes
Device construction  Built-in device fixed built-in technique  Yes  Suitable for ground mounting 4-hole  No  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  Built-in device fixed built-in technique  Yes  No  Ro  Ro  Ro  Ro  Built-in device fixed built-in technique  No  Ro  Ro  Ro  Ro  Ro  Ro  Ro  Ro  Ro	Motor drive integrated			No
Suitable for ground mounting Suitable for front mounting 4-hole No Suitable for front mounting centre No Suitable for distribution board installation Suitable for intermediate mounting No Colour control element Green Type of control element Push button Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side  Yes  Yes  Interlockable Push button Rail connection IP31	Voltage release optional			Yes
Suitable for front mounting 4-hole  Suitable for front mounting centre  No  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  No  No  Green  Push button  Rail connection  IP31	Device construction			Built-in device fixed built-in technique
Suitable for front mounting centre  Suitable for distribution board installation  Yes  Suitable for intermediate mounting  No  Colour control element  Type of control element  Interlockable  Type of electrical connection of main circuit  Degree of protection (IP), front side  No  No  Green  Push button  Yes  Rail connection  IP31	Suitable for ground mounting			Yes
Suitable for distribution board installation  Yes  Suitable for intermediate mounting  No  Colour control element  Type of control element  Interlockable  Type of electrical connection of main circuit  Degree of protection (IP), front side  Yes  Yes  IP31	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  IP31	Suitable for front mounting centre			No
Colour control element Type of control element Push button Interlockable Type of electrical connection of main circuit Degree of protection (IP), front side Green Push button Yes Italian Ita	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	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**

