

# NH fuse-switch 3p box terminal 35 - 150 $\mathrm{mm^2}$ ; mounting plate; light fuse monitoring; NH1



Part no. XNH1-FCL-A250-BT Article no. 183046

## **Delivery programme**

Basic function			Fuse control - light
Number of poles			3 pole
Mounting type			DIN rails Mounting plate
Size			1
Type of connection			Box terminal
Rated operational current	I <sub>e</sub>	Α	250
Front degree of protection (XNH installed)			IP20 (Operating status) IP2XC (Contact protection) IP10 (Handle cover open)
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated operational voltage	U <sub>e</sub>	V DC	440
Rated conditional short-circuit current		kA	120 (500 V) 100 (690 V)
Flammability characteristics			Self-extinguishing as per UL 94
Description			Current paths of electrolytic copper, silver-plated With optical signalling of triggered fuse-links

## **Technical data**

#### **Electrical**

Standards         IEC/EN 60947-3           Rated operational voltage         Ue         VAC         690           Rated operational voltage         Ue         VDC         440           Rated operational current         Ie         A         250           Rated frequency         f         Hz         40 - 60           Rated insulation voltage         Ui         VAC         800           Total heat dissipation at lin (without fuses)         Pv         W         16           Heat dissipation at 80% (without fuses)         Pv         W         10.2           Rated impulse withstand voltage         Umap         kV         8           Utilization category AC-23B         W         2.0         400           Rated operating voltage         Ue         VAC         400           Rated operating voltage         Ue         VAC         500           Rated operating voltage         Ue         VAC         500           Rated operating voltage         Ue         VAC         690           Rated operating voltage         Ue         VAC         690           Rated operating voltage         Um         VAC         690           Rated operating voltage         We         We
Rated operational voltage Rated operational current Rated frequency Rated frequency Rated insulation voltage Rated insulation voltage Rated insulation at I <sub>III</sub> (without fuses) Rated insulation at 8% (without fuses) Rated insulation voltage Vilipation category AC-23B Rated operating voltage Rated operating current Utilization category AC22B Rated operating voltage Rated operating voltage Rated operating voltage Rated operating voltage Rated operating current Utilization category AC-21B Rated operating voltage Rated operating voltage Rated operating current Utilization category AC-21B Rated operating voltage Rated operating current Utilization category AC-21B Rated operating voltage Rated opera
Rated operational current  Rated frequency  Rated frequency  Rated insulation voltage  Rated insulation at 80% (without fuses)  Rated impulse withstand voltage  Vimp  Rated operating voltage  Rated operating current  Vilization category AC-23B  Rated operating voltage  Vilization category AC-22B  Rated operating voltage  Ve  Rated operating voltage  Ve  VAC  Rated operating voltage  Ve  Rated operating voltage  Ve  Rated operating voltage  Rated operating voltage  Ve  VAC  So  So  Co  So  Rated operating voltage  Ve  VAC  So  So  Rated operating voltage  Ve  VAC  So  So  So  So  Rated operating voltage  Ve  VAC  So  So  So  So  So  Rated operating current  Ve  VAC  So  So  So  So  So  So  So  So  So  S
Rated frequency Rated insulation voltage  Rated insulation voltage  Pv W 16  Heat dissipation at lth (without fuses)  Rated impulse withstand voltage  Utilization category AC-23B  Rated operating current  Rated operating voltage  Rated operating current  Utilization category AC-21B  Rated operating voltage  Rated operating voltage  Ue VAC  Soo  Rated operating voltage  Utilization category AC-21B  Rated operating current  Rated operating current  Ue VAC  Soo  Utilization category AC-21B  Rated operating current  Rated operating current  Ue VAC  Soo  VAC  Soo  Utilization category AC-21B  Rated operating current  Rated operating current  Ue VAC  Soo  VAC  Soo  Utilization category AC-21B  Rated operating current  Ue VAC  Soo  VAC  Soo  Utilization category AC-21B  Rated operating current  Ue VAC  Soo  Utilization category AC-21B  Rated operating current  Ue VAC  Soo  VAC  Soo  WAC  WAC  Soo  WAC  WAC  Soo  WAC  WAC  Soo  WAC  WAC  WAC  Soo  WAC  WAC  WAC  WAC  WAC  WAC  WAC  W
Rated insulation voltage  Total heat dissipation at l <sub>th</sub> (without fuses)  Pv W 16  Heat dissipation at 80% (without fuses)  Rated impulse withstand voltage  Rated operating voltage  Rated operating current  Rated operating voltage  Rated operating current  Le A 250  Utilization category AC-21B  Rated operating voltage
Total heat dissipation at I <sub>th</sub> (without fuses)  Pv W 10.2  Rated impulse withstand voltage  Uimp kV 8  Rated operating voltage  Rated operating current  Rated operating voltage  Rated operating current  Ue VAC 500  Rated operating current  Ue A 250  Utilization category AC-21B  Rated operating voltage  Rated operating voltage  Rated operating voltage  VAC 690  Rated operating current  Ue A 250  Utilization category AC-21B  Rated operating voltage  Rated operating voltage  Rated operating current  Ue VAC 690  Utilization category DC-22B
Heat dissipation at 80% (without fuses) Rated impulse withstand voltage  Uimp Rated operating voltage Rated operating current Rated operating voltage Rated operating voltage Rated operating voltage Rated operating current  Ue VAC
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Utilization category AC-23B  Rated operating voltage  Rated operating current  Ue  V AC  400  Rated operating current  Utilization category AC22B  Rated operating voltage  Rated operating current  Ue  V AC  500  Rated operating current  Ue  A  250  Utilization category AC-21B  Rated operating voltage  Rated operating voltage  V AC  690  Rated operating current  Ue  V AC  500  Utilization category AC-21B  Rated operating voltage  Rated operating voltage  V AC  690  Utilization category DC-22B
Rated operating voltage  Rated operating current  Le A 250  Utilization category AC22B  Rated operating voltage  Rated operating current  Le A 250  Utilization category AC22B  Rated operating current  Le A 250  Utilization category AC-21B  Rated operating voltage  Rated operating voltage  Ue V AC 690  Rated operating current  Le A 250  Utilization category DC-22B
Rated operating current    Pe
Utilization category AC22B       Ue       V AC       500         Rated operating current       Ie       A       250         Utilization category AC-21B       V AC       690         Rated operating current       Ie       A       250         Utilization category DC-22B       V AC       690         Utilization category DC-22B       V AC       250
Rated operating voltage  Rated operating current  Ue  V AC  500  Rated operating current  Utilization category AC-21B  Rated operating voltage  Rated operating current  Ue  V AC  690  Utilization category DC-22B  Utilization category DC-22B
Rated operating current  Ie A 250  Utilization category AC-21B  Rated operating voltage  Ue V AC 690  Rated operating current  Ie A 250  Utilization category DC-22B
Utilization category AC-21B Rated operating voltage Rated operating current  Utilization category DC-22B  Utilization category DC-22B
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Rated operating current  I <sub>e</sub> A 250  Utilization category DC-22B
Utilization category DC-22B
Rated operating voltage  Ue  V DC  DC values on request
Rated operating current I <sub>e</sub> A DC values on request
Utilization category DC21B
Rated operating voltage U <sub>e</sub> V DC DC values on request
Rated operating current I <sub>e</sub> A DC values on request
Rated conditional short-circuit current kA 120 (500 V) 100 (690 V)
Rated short-time withstand current I <sub>cw</sub> kA 10
Max. fuse

Size according to DIN VDE 0636-2			1
Max. permitted power loss per fuse link	$P_{v}$	W	23
		VV	
Lifespan, electrical	Operations		200
Mechanical			IP20 (Operating status)
Front degree of protection (XNH installed)			IP2XC (Contact protection) IP10 (Handle cover open)
Ambient temperature		°C	-25 - +55
Rated operating mode			Permanent operation
Activation			Dependent manual activation
Mounting position			Vertical, horizontal
Altitude		m	Max. 2000
Overvoltage category/pollution degree			III/3
RoHS (in accordance with Directive 2002/95/EC of the European Parliament and Council)			Yes
Direction of incoming supply			as required
Lockable			Yes, optional
Sealable			Yes, Standard
Material characteristics			
Material			Polyamide
Colour			Grey
Flammability characteristics			Self-extinguishing as per UL 94
Halogen-free			Yes
Voltage test			Yes, sliding inspection windows
Lifespan, mechanical	Operations		1400
Track resistance			CTI 600
Heat deflection temperature		?C	125
Terminal capacity			
Flange connection			
Bolt diameter			M10
Cable lug max. width		mm	37
Flat busbar		mm	30 x 10
Box terminal			
Stranded		mm <sup>2</sup>	35 - 150 Cu/AI
Copper strip	Number of segments x width x thickness	mm	10 x 16 x 0,8
Box terminal			
Stranded		mm <sup>2</sup>	25 - 150 Cu
Copper band	Number of segments x width x thickness	mm	6 x 16 x 0,8
Clamp-type terminal Stranded		mm <sup>2</sup>	10 - 150 Cu/AI
Double clamp-type terminal			

#### **Design verification as per IEC/EN 61439**

Stranded

200.g.: 1010a.a.o.: a.o por 120,211 01 100			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	250
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	5.3
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	16
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.
Equipment heat dissipation, current-dependent IEC/EN 61439 design verification 10.2 Strength of materials and parts 10.2.2 Corrosion resistance			16  Meets the product standard's requirements.

2x (70 - 95) Cu/Al

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	Is the panel builder's responsibility.
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	U <sub>i</sub> = 800 V AC
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 observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

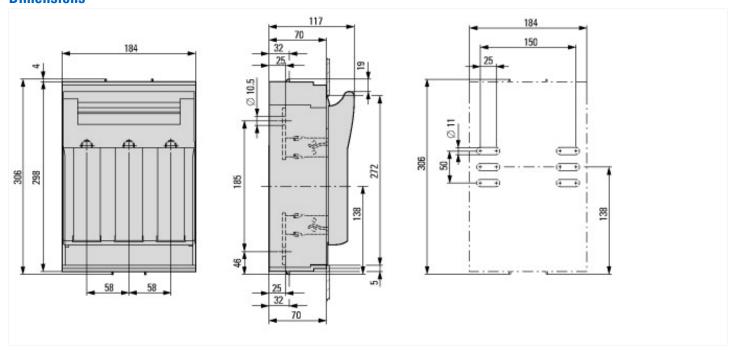
#### **Technical data ETIM 6.0**

Low-voltage industrial components (EG000017) / Fuse switch disconnector (EC001040)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Fuse switch disconnector

Version as safety switch         Yes           Max. rated operation voltage Ue AC         V         990           Rated permanent current Iu         A         250           Rated operation power at AC-23, 400 V         kW         100           Conditioned rated short-circuit current Iq         kA         120           Rated short-time withstand current Icw         kA         10           Suitable for fuses         NH1         NH1           Number of poles         3         Yes           With error protection         Yes         Yes           Type of electrical connection of main circuit         Yes         Yes           Suitable for ground mounting         Yes         Yes           Suitable for front mounting 4-hole         Yes         Yes           Suitable for bushar mounting         Yes         Yes           Suitable for bushar mounting         Yes         Yes           Position control element         Yes         Yes           Position control element         Yes         Yes           Motor drive optional         Yes         Yes           Motor drive integrated         Yes         Yes           Word         Yes         Yes           Yes         Yes <td< th=""><th>(ecl@ss8.1-27-37-14-01 [AKF058010])</th><th></th><th></th></td<>	(ecl@ss8.1-27-37-14-01 [AKF058010])		
Max. rated operation voltage Ue AC         V         690           Rated permanent current Iu         A         250           Rated operation power at AC-23, 400 V         kW         100           Conditioned rated short-circuit current Iq         kA         120           Rated short-time withstand current Icw         kA         10           Suitable for fuses         NH1         NH1           Number of poles         3         Yes           With error protection         Yes         Frame clamp           Suitable for ground mounting         Yes         Yes           Suitable for front mounting 4-hole         Yes         Yes           Suitable for busbar mounting         Yes         Yes           Suitable for busbar mounting         Yes         Cover grip           Position control element         Yes         Cover grip           Motor drive optional         No         No           Motor drive integrated         No         No           Version as emergency stop installation         No         No	Version as main switch		Yes
Rated permanent current lu Rated operation power at AC-23, 400 V Conditioned rated short-circuit current Iq Rated short-time withstand current Icw Rated short-time withstand current Icw Routable for fuses Number of poles With error protection Type of electrical connection of main circuit Suitable for ground mounting Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting 4-hole Suitable for front mounting Suitable for front mounting Suitable for ground mounting Suitable for ground mounting Suitable for ground mounting Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting 4-hole Suitable for bushar mounting Type of control element Position control element Notor drive optional Motor drive integrated Version as emergency stop installation No	Version as safety switch		Yes
Rated operation power at AC-23, 400 V  Conditioned rated short-circuit current Iq  Rated short-time withstand current Icw  Rated short-time withstand current Icw  Suitable for fuses  Number of poles  With error protection  Type of electrical connection of main circuit  Suitable for ground mounting  Suitable for front mounting  Suitable for forth mounting  Suitable for forth mounting  No  Type of control element  Front side  Motor drive optional  Motor drive integrated  Vesion as emergency stop installation	Max. rated operation voltage Ue AC	V	690
Conditioned rated short-circuit current Iq Rated short-time withstand current Icw Rated short-time withstand current Icw Rumber of puses Number of poles With error protection Yes Type of electrical connection of main circuit Suitable for ground mounting Suitable for ground mounting Suitable for front mounting 4-hole Suitable for front mounting 4-hole Suitable for busbar mounting Type of control element Position control element Motor drive optional Motor drive integrated Version as emergency stop installation	Rated permanent current lu	Α	250
Rated short-time withstand current Icw  Suitable for fuses  Number of poles  With error protection  Type of electrical connection of main circuit  Suitable for ground mounting  Suitable for ground mounting  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for busbar mounting  Type of control element  Position control element  Motor drive optional  Motor drive integrated  Vea  No  No  No  No  No  No  No  No  No  N	Rated operation power at AC-23, 400 V	kW	100
Suitable for fuses  NH1  Number of poles  With error protection  Yes  Type of electrical connection of main circuit  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for front mounting 4-hole  Suitable for busbar mounting  Type of control element  Position control element  Motor drive optional  Motor drive integrated  Ves  No  No  No  No  No  No  No  No  No  N	Conditioned rated short-circuit current Iq	kA	120
Number of poles  With error protection  Yes  Type of electrical connection of main circuit  Suitable for ground mounting Suitable for front mounting 4-hole Suitable for busbar mounting  Type of control element  Position control element  Motor drive optional  Motor drive integrated  Version as emergency stop installation	Rated short-time withstand current lcw	kA	10
With error protection  Type of electrical connection of main circuit  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for busbar mounting  Type of control element  Position control element  Motor drive optional  Motor drive integrated  Ves  Yes  Cover grip  Front side  No  Motor drive integrated  No  Version as emergency stop installation	Suitable for fuses		NH1
Type of electrical connection of main circuit  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for busbar mounting  Type of control element  Position control element  Motor drive optional  Motor drive integrated  Version as emergency stop installation  Frame clamp  Yes  Yes  Cover grip  Front side  No  No  No  No  No  No  No  No  No  N	Number of poles		3
Suitable for ground mounting Suitable for front mounting 4-hole Suitable for busbar mounting Suitable for front mounting 4-hole Suitable for front mounting 4-hole Suitable for ground mounting 4-hole Suitable for	With error protection		Yes
Suitable for front mounting 4-hole Suitable for busbar mounting No Type of control element Cover grip Position control element Front side Motor drive optional Motor drive integrated Version as emergency stop installation  Yes Cover grip No No No	Type of electrical connection of main circuit		Frame clamp
Suitable for busbar mounting  No Type of control element  Position control element  Motor drive optional  Motor drive integrated  Version as emergency stop installation  No  No  No  No  No  No  No  No  No	Suitable for ground mounting		Yes
Type of control element  Position control element  Motor drive optional  Motor drive integrated  Version as emergency stop installation  Cover grip  Front side  No  No  No	Suitable for front mounting 4-hole		Yes
Position control element  Motor drive optional  Motor drive integrated  Version as emergency stop installation  Front side  No  No  No	Suitable for busbar mounting		No
Motor drive optional No Motor drive integrated No Version as emergency stop installation No	Type of control element		Cover grip
Motor drive integrated No Version as emergency stop installation No	Position control element		Front side
Version as emergency stop installation No	Motor drive optional		No
	Motor drive integrated		No
Degree of protection (IP), front side	Version as emergency stop installation		No
	Degree of protection (IP), front side		IP2X

#### **Dimensions**



#### **Additional product information (links)**

IL0131110ZU Fuse switch-disconnector XNH

IL0131110ZU Fuse switch-disconnector XNH ftp:

ftp://ftp.moeller.net/DOCUMENTATION/AWA\_INSTRUCTIONS/IL0131110ZU2015\_11.pdf