DATASHEET - XNH1-FCE-S250-BT

NH fuse-switch 3p box terminal 35 - 150 mm²; busbar 60 mm; electronic fuse monitoring; NH1

Powering Business Worldwide

Part no.	**XNH1-FCE-S250-BT**
	183056
EL Number (Norway)	**1624031**

General specifications

Product name	Eaton xEffect XNH device for busbar system
Part no.	XNH1-FCE-S250-BT
EAN	4015081779833
Product Length/Depth	306 millimetre
Product height	173 millimetre
Product width	184 millimetre
Product weight	2.483 kilogram
Compliances	RoHS conform
Certifications	IEC/EN 60947-3
Product Tradename	xEffect
Product Type	XNH device for busbar system
Product Sub Type	None

Delivery program

Type	Fuse control - electronic
Color	Gray
Number of poles	Three-pole
Actuator type	Cover grip

Technical Data - Electrical

Voltage test	Yes, sliding inspection windows
Voltage inputs	400 V AC - 500 V AC (+/-10%)
Voltage rating at AC	690 V (AC-21B) 500 V (AC-22B) 400 V (AC-23B)
Voltage rating at AC - max	250 V AC
Voltage rating at DC	440 V (DC-21B) 250 V (DC-22B)
Voltage rating at DC - max	24 V DC
Rated operating voltage (Ue) at AC - max	500 V
Rated insulation voltage (Ui)	800 V AC
Rated impulse withstand voltage (Uimp)	8 kV
Rated uninterrupted current (Iu)	250 A
Rated conditional short-circuit current (Iq)	120 kA
Rated operation current (Ie)	250 A
Rated operational current	250 A (DC-22B) 250 A (AC-22B) 250 A (DC-21B) 250 A (AC-21B) 250 A (AC-23B)
Switching current of electronic fuse monitoring - max	1 A
Rated short-time withstand current (Icw)	6 kA
Rated conditional short-circuit rating	120 kA (500 V) 100 kA (690 V)
Conditioned rated short-circuit current Iq	120 kA
Frequency rating	40 Hz - 60 Hz
Frequency rating of contacts	40 Hz - 60 Hz
Frequency rating (electronic fuse monitoring)	50 - 60 Hz
Creepage resistance	CTI 600
Power rating at AC-23, 400 V	0 kW
Rated operation power at AC-23, 400 V	0 kW

Permitted power loss per fuse link - max	23 W
Electronic fuse monitoring	Test button for relay + LEDs 1 NC 1 NO 3 LEDs (F1, F2, F3) red 1 LED green 1.5 VA NH with live handle straps Self-supplied > 1 kOhm/V
Electrical connection type of main circuit	Frame clamp
Operating altitude without derating - max	2000 mm
Overvoltage category	III (230/400 V) II (500 V) III
Pollution degree	3
Direction of incoming supply	As required (FLEX System)
Lifespan, electrical	200 operations

Technical Data - Mechanical

Activation type	Dependent manual activation
Actuator position	Front side
Size	NH1 fuse
Mounting method	Busbars of 60 mm
Mounting position	Vertical or horizontal
Material	Polyamide
Degree of protection	IP10 (handle cover open, XNH installed) IP2XC (contact protection, XNH installed) IP3X IP20 (operating status, XNH installed)
Degree of protection (front side)	Other
Connection type	Box terminal
Terminal capacity (copper band)	6 mm x 16 mm x 0.8 mm (6x) at box terminal
Terminal capacity (copper busbar)	Max. 37 mm cable lug width at flange connection Bolt diameter at flange connection: M10 30 mm x 10 mm
Terminal capacity (copper strip)	16 mm x 0.8 mm (10x) at box terminal
Terminal capacity (stranded cable)	35 mm^2 - 150 mm^2 at box terminal 25 mm^2 - 150 mm^2 at box terminal 70 mm^2 - 95 mm^2 (2x) at double clamp-type terminal 10 mm^2 -150 mm^2 at clamp-type terminal
Cable entry type	Other
Locking facility	Yes, optional
Suitable for fuses	NH1
Lifespan, mechanical	1400 operations

Design verification as per IEC/EN 61439 - technical data

Rated operational current for specified heat dissipation (In)	250 A
Equipment heat dissipation, current-dependent	22 W
Heat dissipation per pole, current-dependent	7.3 W
Heat dissipation at 80% without fuses	14.1 W
Ambient operating temperature details	Operating temperature range: -5 °C - 55 °C Ambient temperature range: -25 °C - 55 °C
Heat deflection temperature	125 °C

Design verification as per IEC/EN 61439

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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 Power-frequency electric strength			Ui = 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 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.

Additional information

Features			Halogen free Standard sealable Electronic fuse monitoring and EMC (Electromagnetic compatibility) as of IEC 61000-4-4 Electronic fuse monitoring and EMC (Electromagnetic compatibility) as of IEC 61000-4-5
Fitted with:			Error protection Connectors
Flammability characteristics (UL)			Self-extinguishing (UL 94)
Special features			With electronic monitoring of fuse-links Cable connection optionally at the top or bottom Current paths of electrolytic copper, silver-plated Permanent operation (rated operating mode)
Suitable for			Busbar mounting

Technical data ETIM 9.0

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 (ecl@ss13-27-37-14-01 [AKF058018])

Version as main switch			No
Version as safety switch			No
Max. rated operation voltage Ue AC		V	500
Rated permanent current Iu		A	250
Rated operation power at AC-23, 400 V		kW	0
Conditioned rated short-circuit current Iq		kA	120
Rated short-time withstand current Icw		kA	6
Suitable for fuses			NH1
Number of poles			3
With error protection			Yes
Type of electrical connection of main circuit			Frame clamp
Cable entry			Other
Equipped with connectors			Yes
Suitable for floor mounting			No
Suitable for front mounting			No
Suitable for busbar mounting			Yes
Type of control element			Cover grip
Position control element			Front side
Motor drive optional			No
Motor drive integrated			No
Version as emergency stop installation			No
Degree of protection (IP), front side			Other

© 04/2023 by Eaton Industries GmbH