

Specifications



Eaton 183056

Eaton xEffect - XNH circuit protection. NH fuse-switch 3p box terminal 35 - 150 mm², busbar 60 mm, electronic fuse monitoring, NH1

General specifications

PRODUCT NAME	Eaton xEffect XNH device for busbar system
CATALOG NUMBER	183056
MODEL CODE	XNH1-FCE-S250-BT
EAN	4015081779833
PRODUCT LENGTH/DEPTH	306 mm
PRODUCT HEIGHT	173 mm
PRODUCT WIDTH	184 mm
PRODUCT WEIGHT	2.483 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947-3



Powering Business Worldwide

Additional information	
FEATURES	Electronic fuse monitoring and EMC (Electromagnetic compatibility) as of IEC 61000-4-5 Electronic fuse monitoring and EMC (Electromagnetic compatibility) as of IEC 61000-4-4 Standard sealable Halogen free
FITTED WITH:	Connectors Error protection
FLAMMABILITY CHARACTERISTICS (UL)	Self-extinguishing (UL 94)
SPECIAL FEATURES	• Permanent operation (rated operating mode) • Current paths of electrolytic copper, silver-plated • Cable connection optionally at the top or bottom • With electronic monitoring of fuse-links
SUITABLE FOR	Busbar mounting Front mounting

Delivery programme	
ACTUATOR TYPE	Cover grip
COLOR	Gray
NUMBER OF POLES	Three-pole
TYPE	Fuse control - electronic

Design verification to IEC/EN 61439

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.

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

Does not apply, since the

Design verification to IEC/EN 61439 - technical data

AMBIENT OPERATING TEMPERATURE DETAILS

- Ambient temperature range: -25 °C - 70 °C
- Operating temperature range: -5 °C - 55 °C

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT

22 W

HEAT DEFLECTION TEMPERATURE

125 °C

HEAT DISSIPATION AT 80% WITHOUT FUSES

14.1 W

HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT

7.3 W

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)

250 A

TOTAL HEAT DISSIPATION WITHOUT FUSES AT ITH

22 W

AGAINST ELECTRIC SHOCK	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.

Technical data - electrical

CREEPAGE RESISTANCE	CTI 600
DIRECTION OF INCOMING SUPPLY	As required (FLEX System)
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Frame clamp
ELECTRONIC FUSE MONITORING	> 1 kOhm/V Self-supplied NH with live handle straps 1.5 VA 1 LED green 3 LEDs (F1, F2, F3) red 1 NO 1 NC Test button for relay + LEDs
FREQUENCY RATING	40 Hz - 60 Hz
FREQUENCY RATING (ELECTRONIC FUSE MONITORING)	50 - 60 Hz
FREQUENCY RATING OF CONTACTS	40 Hz - 60 Hz
LIFESPAN, ELECTRICAL	200 operations
OPERATING ALTITUDE WITHOUT DERATING - MAX	2000 mm
OVERVOLTAGE CATEGORY	III II (500 V) III (230/400 V)
PERMITTED POWER LOSS PER FUSE LINK - MAX	23 W
POLLUTION DEGREE	3
POWER RATING AT AC-23, 400 V	0 kW
RATED CONDITIONAL SHORT-CIRCUIT RATING	100 kA (690 V) 120 kA (500 V)
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8 kV
RATED INSULATION VOLTAGE (UI)	800 VAC
RATED OPERATING VOLTAGE (UE) AT AC - MAX	500 V
RATED OPERATION CURRENT (IE)	250 A
RATED OPERATIONAL CURRENT	250 A (AC-23B) 250 A (AC-21B) 250 A (DC-21B) 250 A (AC-22B)

Technical data - mechanical

ACTIVATION TYPE	Dependent manual activation
ACTUATOR POSITION	Front side
CABLE ENTRY TYPE	Other
DEGREE OF PROTECTION (FRONT SIDE)	Other
LIFESPAN, MECHANICAL	1400 operations
LOCKING FACILITY	Yes, optional
MATERIAL	Polyamide
MOUNTING METHOD	Busbars of 60 mm
MOUNTING POSITION	Vertical or horizontal
SIZE	NH1 fuse
SUITABLE FOR FUSES	NH1
TERMINAL CAPACITY (COPPER BAND)	6 mm x 16 mm x 0.8 mm (6x) at box terminal
TERMINAL CAPACITY (COPPER BUSBAR)	30 mm x 10 mm Bolt diameter at flange connection: M10 Max. 37 mm cable lug width at flange connection
TERMINAL CAPACITY (COPPER STRIP)	16 mm x 0.8 mm (10x) at box terminal
TERMINAL CAPACITY (STRANDED CABLE)	10 mm ² - 150 mm ² at clamp-type terminal 70 mm ² - 95 mm ² (2x) at double clamp-type terminal 25 mm ² - 150 mm ² at box terminal 35 mm ² - 150 mm ² at box terminal
CONNECTION TYPE	Box terminal
DEGREE OF PROTECTION	IP20 (operating status, XNH installed) IP3X IP2XC (contact protection, XNH installed) IP10 (handle cover open, XNH installed)

	250 A (DC-22B)
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	6 kA
RATED UNINTERRUPTED CURRENT (IU)	250 A
SWITCHING CURRENT OF ELECTRONIC FUSE MONITORING - MAX	1 A
VOLTAGE INPUTS	400 V AC - 500 V AC (+/- 10%)
VOLTAGE RATING AT AC	• 400 V (AC-23B) • 500 V (AC-22B) • 690 V (AC-21B)
VOLTAGE RATING AT AC - MAX	250 VAC
VOLTAGE RATING AT DC	• 250 V (DC-22B) • 440 V (DC-21B)
VOLTAGE RATING AT DC - MAX	24 VDC
VOLTAGE TEST	Yes, sliding inspection windows
CONDITIONED RATED SHORT-CIRCUIT CURRENT IQ	120 kA
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	120 kA

Resources

BROCHURES	eaton-xeffect-xnh-fuse-switch-disconnector-brochure-br019002en-en-us.pdf
CATALOGUES	eaton-panel-building-accessories-catalog-ca008008en-en-us.pdf
CERTIFICATION REPORTS	eaton-xeffect-xnh-fuse-switch-disconnector-declaration-of-conformity-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-xnh-device-for-mounting-plate-declaration-of-conformity-eu250264en.pdf
DRAWINGS	eaton-circuit-breaker-xeffect-xeffect-xnh-circuit-protection-dimensions-015.eps
ECAD MODEL	ETN.XNH1-FCE-S250-BT.edz
INSTALLATION INSTRUCTIONS	eaton-xeffect-xnh-fuse-switch-disconnector-installation-leaflet-il0131112z.pdf
MCAD MODEL	eaton-XNH1-FCE-S250-3d-model.stp eaton-switch-fuse-mcad-drawings-xnh1-fce-s250.dwg
WIRING DIAGRAMS	eaton-switch-xeffect-xeffect-xnh-circuit-protection-wiring-diagram.eps eaton-switch-xeffect-xeffect-xnh-circuit-protection-wiring-diagram-002.eps

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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