IEC—*XB* Series

Contents

IEC—*XB* Series Overview

Product Description

The ***XB*** Series from Eaton offers a complete terminal block system with a universal range of accessories. Marking, bridging and testing accessories are standardized across the different termination technologies—reducing inventory and logistics costs. The modular terminal block design allows for use of the different terminal block types together or individually, providing the highest degree of flexibility.

Application Description

The metal portion of the ***XB*** Series terminal blocks are made from high-grade, strain-crack and corrosion-proof copper alloys. They won't experience any electrolytic corrosion or rusting, even when moisture is present. The metal surfaces are protected with a lead-free, galvanic nickel or tin plating. The good electrical conductivity permits only a low temperature rise. The Polyamide 6.6 housings allow for operating temperatures up to 257°F (125°C) and are certified for inflammability Class V0 in accordance with UL 94.

Features

Global acceptance—The ***XB*** Series terminal blocks are designed to worldwide standards and meet the latest international requirements.

Flexible Plug-in bridge system—All three technologies (screw, spring and IDC) use the same bridge system, allowing for individual potential distribution and quickly bridged connections among the same terminal block type or across different types. The ***XB*** Series terminal blocks have two bridge shafts arranged in one line, making flexible chain bridging and skip bridging between non-adjacent terminal blocks possible. Plug-in bridges are available from 2 to 50 positions. Reducing bridges are also available to connect a larger terminal block to a smaller one.

Large surface area for marking—All ***XB*** Series terminal blocks have generously sized surface areas for labeling. This allows for clearly labeled wiring that results in reduced startup time and simplifies activities such as testing and maintenance. There are provisions for marking individual terminal blocks and end stops, strips of terminal blocks, and large groups of terminal blocks.

Standardized testing system—All test plugs make contact in one of the easily accessible bridge shafts. A 2.3 mm diameter test plug is available for individual measuring wires. Modular test plugs are also available for more advanced testing.

Standards and Certifications

- UL® and cUL® recognized—File No. E67464
- CE approved
- LVD ①
  - EN 60947-7-1
  - EN 60947-7-2
  - EN 60998-2-3
  - EN 60352-4/A1
- ATEX approval (Eex e applications)

Note

① Not all standards apply to all terminal blocks. Contact Eaton for details.

Technical Data and Specifications

IEC—*XB* Series

Description	Specification
Insulation material	Polyamide 6.6
Dielectric strength	600 kV/cm
Creep resistance	600 CTI
Internal insulation resistance	10^{12} ohms cm
Surface resistance	10^{10} ohms
Flammability rating	UL 94 V0
Continuous operating temperature	–40 to 257°F (–40 to 125°C)

Modular Terminal Blocks for Potentially Explosive Environments

The standard modular terminal blocks from Eaton are approved for potentially explosive environments. In addition to the usual approvals, they also have been approved by a testing center authorized by the EU. No extra approval is required in Intrinsic Safety type applications.

Modular terminal blocks on www.eaton.com fulfill the requirements for "Increased Safety" protection type when installation instructions are followed, and have a type examination certificate in accordance with the Ex directive Ex-RL 94/9/EU.

These test certificates are recognized in all the EU member states and beyond.

The modular terminal blocks are approved for fitting in Zone 1, the Ex environment, as well as Zone 2. Zone 1 fitting is conditional upon terminal blocks being used in connection boxes approved for EEx e type protection and having the equivalent of at least IP54 protection.

The EEx approved modular terminal blocks can be divided into the following groups:

- Screw connection terminal blocks
- Spring-cage connection terminal blocks
- Insulation Displacement Connection terminal blocks
- Mini terminal blocks
- Terminal blocks for specialized applications

More detailed information on modular terminal blocks in the EEx e area is available on the Internet at www.eaton.com for downloading.

Here you will find the following:

- Technical data in accordance with EN 50 019
- Approved accessories
- Important installation instructions and mounting diagrams
- EU type examination certificates
- General information on Ex protection

Identifications

Explosion protected electrical equipment must be marked so that the safety characteristics are identifiable. The identification of electrical equipment is described in the harmonized standard EN 50014, as shown in the following example:

EN 50014 Standard Example

Description	Identification
Manufacturer or trademark	Eaton
Type designation	XBUT25
Abbreviation of explosion protection	EEx e II
Protection type increased safety "e"	e
Equipment group	II
Mark of the testing body	KEMA
Approval number	05ATEX2158 U

Identification in Accordance with ATEX-RL

Electrical equipment that is certified in accordance with the ATEX 100a guideline also receives identification describing the site for use.

ATEX Guideline Example

Description	Identification
Manufacturing data	02.01.2004
Address of the manufacturer	Duncan, SC
Number of the appointed dept.	344
Common marking	Ex symbol
Equipment group	II
Category	2
Use in gas and/or dust atmospheres	G D

Fuse Terminal Blocks

Contents

Fuse Terminal Blocks

Product Description

The UT Series fuse terminal blocks come in two varieties—lever type and cap. Each performs two functions. They act as a fuse carrier for most common North American and European fuses and they allow for potential distribution with the double bridge shaft. The terminal blocks therefore allow bypass routing of two separate potentials next to each other. This has the advantage of a time-saving potential infeed and a correct, functional configuration of the terminal strip. For signaling a triggered fuse, fuse terminal blocks with light indicators are available (for both AC and DC voltage).

Product Selection

XBUT4FBE

Screw Connection Fuse Terminal Blocks, for 5 x 20 mm Fuse

Terminal Width	Maximum Wire Size	IEC 60 947-7-3 in V/A/AWG	UL-cUL Ratings in V/A/AWG	Color	Standard Pack	Catalog Number
Fuse Terminal Blocks						
6.2 mm	10 AWG/4 mm^2	①/6.3/26–10	600/6.3/26–10	Black	50	**XBUT4FBE**
Fuse Terminal Blocks with LED 12–30V, 1–2.5 mA						
6.2 mm	10 AWG/4 mm^2	①/6.3/26–10	600/6.3/26–10	Black	50	**XBUT4FBEL24**
Fuse Terminal Blocks with LED 30–60V, 0.8–2.0 mA						
6.2 mm	10 AWG/4 mm^2	①/6.3/26–10	600/6.3/26–10	Black	50	**XBUT4FBEL60**
Fuse Terminal Blocks with LED 110–250V, 0.5–2.5 mA						
6.2 mm	10 AWG/4 mm^2	①/6.3/26–10	600/6.3/26–10	Black	50	**XBUT4FBEL250**

Note

① As disconnect terminal block 400V, as fuse terminal block 250V.

XBUT6FBN

Screw Connection Fuse Terminal Blocks for 6.3 x 32 mm (1/4 in x 1–1/4 in) Fuse

Terminal Width	Maximum Wire Size	IEC 60 947-7-3 in V/A/AWG	UL-cUL Ratings in V/A/AWG	Color	Standard Pack	Catalog Number
Fuse Terminal Blocks						
8.2 mm	8 AWG/6 mm^2	①/10/24–8	400/10/24–8	Black	50	**XBUT6FBN**
Fuse Terminal Blocks with LED 12–30V, 1–2.5 mA						
8.2 mm	8 AWG/6 mm^2	①/10/24–8	400/10/24–8	Black	50	**XBUT6FBNL24**
Fuse Terminal Blocks with LED 30–60V, 0.8–2.0 mA						
8.2 mm	8 AWG/6 mm^2	①/10/24–8	400/10/24–8	Black	50	**XBUT6FBNL60**
Fuse Terminal Blocks with LED 110–250V, 0.5–2.5 mA						
8.2 mm	8 AWG/6 mm^2	①/10/24–8	400/10/24–8	Black	50	**XBUT6FBNL250**

8

XBUK10FBCE

Screw Connection Fuse Terminal Blocks, XBUK10FBC

Terminal Width	Maximum Wire Size	IEC 60 947-7-3 with Fuse in V/A/AWG	IEC 60 947-7-3 as Disconnected t.b. in V/A/AWG	UL-cUL Ratings in V/A/AWG	Color	Standard Pack	Catalog Number
Fuse Terminal Blocks for 5 x 20 mm fuse							
12 mm	6 AWG/16 mm^2	①/①/20–4	800/10/20–6	300/20/22–6	Black	50	**XBUK10FBCE**
Fuse Terminal Blocks for 6.3 x 32 mm (1/4 in x 1–1/4 in) fuse							
12 mm	6 AWG/16 mm^2	①/①/20–4	800/10/20–6	300/20/22–6	Black	50	**XBUK10FBCN**
Fuse Terminal Blocks with Light Indicator 15–30V, 1–2.5 mA, 5 x 20 mm							
12 mm	6 AWG/16 mm^2	①/①/20–4	800/10/20–6	300/20/22–6	Black	50	**XBUK10FBCEL24**
Fuse Terminal Blocks with Light Indicator 15–30V, 1–2.5 mA, 6.3 x 32 mm							
12 mm	6 AWG/16 mm^2	①/①/20–4	800/10/20–6	300/20/22–6	Black	50	**XBUK10FBCNL24**
Fuse Terminal Blocks with Light Indicator 110–250V, 0.5–1.1A, 5 x 20 mm							
12 mm	6 AWG/16 mm^2	①/①/20–4	800/10/20–6	300/20/22–6	Black	50	**XBUK10FBCEL250**
Fuse Terminal Blocks with Light Indicator 110–250V, 0.5–1.1A, 6.3 x 32 mm							
12 mm	6 AWG/16 mm^2	①/①/20–4	800/10/20–6	300/20/22–6	Black	50	**XBUK10FBCNL250**

Cartridge Fuse Inserts 5 x 20 mm Based on DIN EN 60 947-7-3: 2003-7

Terminal Blocks	U (V)	Overload Protection		Short-Circuit Protection Only		
		Individual	Interconnected	Individual	Interconnected	$I_{max.}$ (A)
XBUT4FBE	250	1.6W	1.6W	4W	2.5W	6.3

Notes

Max. power dissipation at 73.4°F (23°C) based on DIN EN 60 947-7-3: 2003-7.

When selecting cartridge fuse inserts, please ensure that the maximum power dissipation specified above is not exceeded. Details can be obtained from the fuse suppliers.

If the fuse is defective, the downstream circuit is not off load.

① As disconnect terminal block 500V, as fuse terminal block 400V.

Accessories

Screw Connection Fuse Terminal Blocks

Description	Color	Number of Positions	Standard Pack	XBUT4FBE Catalog Number	XBUT6FBN Catalog Number	XBUK10FBCE Catalog Number
End cover	—	—	—	①	①	—
Plug-in bridge—for cross connections in the bridge shaft	Red	2	10	**XBAFBS26**	**XBAFBS28**	—
		3	10	**XBAFBS36**	**XBAFBS38**	—
		5	10	**XBAFBS56**	**XBAFBS58**	—
		10	10	**XBAFBS106**	**XBAFBS108**	—
		50	10	**XBAFBS506**	—	—
Blank marker strip center labeling (strip of 10)	White	—	—	**XBMZB5** ②	**XBMZB6** ②	—
Blank marker strip external labeling (strip of 10)	White	—	—	**XBMZB6** ②	**XBMZB8** ②	—
Fixed bridge	—	2	10	—	—	**XBAFBI212**
Screw heads with insulating collar	—	10	10	—	—	**XBAFBI1012**
Blank marker strip (strip of 10)	White	—	10	—	—	**XBMZB6** ②

Technical Data and Specifications

Screw Connection Fuse Terminal Blocks

Description	XBUT4FBE	XBUT4FBN	XBUK10FBCE
Technical Data in Accordance with IEC			
Fuse type/dimensions in (mm)	—	—	G/5 x 20/5 x 25/6.3 x 32
Maximum cross section with insertion bridge solid/stranded in mm^2	6.3/6	10/10	10/10
Rated surge voltage in kV/contamination class	4/3	4/3	4/3
Surge voltage category/insulating material group	III/II	III/II	III/I
Connection Capacity			
Stranded with ferrule/with ferrule and plastic sleeve in mm^2	0.25–4/0.25–4	0.25–6/0.25–6	0.5–10/0.5–10
Multi-Conductor Connection (same cross-section)			
Solid/stranded in mm^2	0.14–1.5/0.14–1.5	—	0.5–4/0.5–4
Stranded with ferrules without plastic sleeve in mm^2	0.25–1.5	—	0.5–4
Stranded with twin ferrule with plastic sleeve in mm^2	0.5–2.5	0.5–4	0.5–10
Stripping length in inches (mm)	0.35 (9)	0.39 (10)	0.43 (11)
Thread	M3	M4	M4
Torque in in-lb (Nm)	5.3–7.1 (0.6–0.8)	13.3–15.9 (1.5–1.8)	13.3–15.9 (1.5–1.8)

Dimensions

Approximate Dimensions in Inches (mm)

Screw Connection Fuse Terminal Blocks

Catalog Number	Width	Length	Height for— 35 x 7.5 in	35 x 15 in	32 in
XBUT4FBE	0.24 (6.2)	2.24 (56.8)	2.87 (73.0)	3.17 (80.5)	—
XBUT4FBN	0.32 (8.2)	2.24 (56.8)	2.87 (73.0)	3.17 (80.5)	—
XBUK10FBCE	0.47 (12.0)	2.44 (62.0)	2.32 (59.0)	2.62 (66.5)	2.52 (64.0)

Notes

① XBUT4FBE and XBUT6FBN have an enclosed design. The use of an end cover is not required.

② For information on Printed Marking Tag Options, see **Page V7-T8-98**.

For additional accessories, see **Page V7-T8-90**.