Terminal Blocks Overview

Product Family Overview

The XB Series offers a complete terminal block system with a universal range of accessories. Marking, bridging and testing accessories are standardized across the different clamping 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 highgrade, 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 125°C and are certified for inflammability Class V0 in accordance with UL 94.
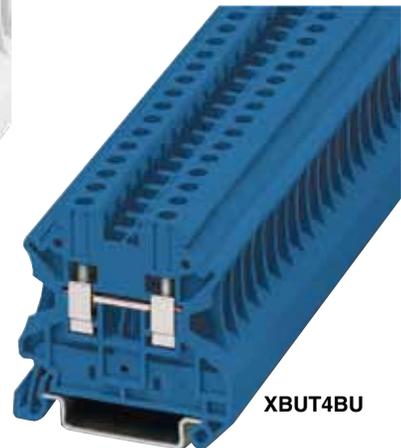
Features

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

Flexible Plug-In Bridge System— All 3 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 2 bridge shafts arranged in 1 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.
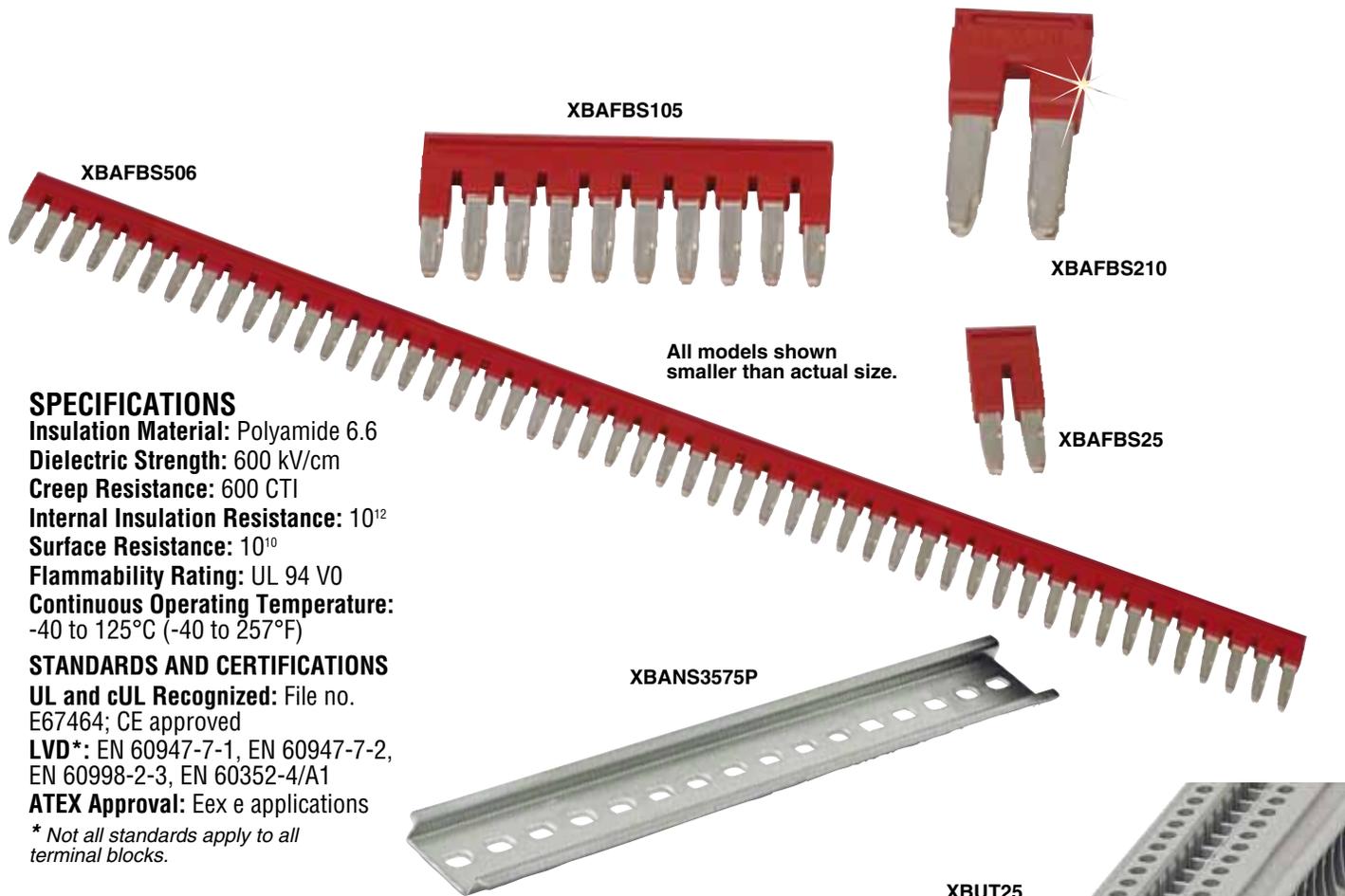
Large Surface Area for Marking—

All XB Series terminal blocks have generously sized surface areas for labeling. This allows for clearly labeled wiring which results in reduced start-up 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.

XBUT4RD

XBUT4

All models shown smaller than actual size.

XBUT4WH

XBUT4BU

XBUT4BK

XBAFBS506

XBAFBS105

XBAFBS210

All models shown
smaller than actual size.

XBAFBS25

SPECIFICATIONS
Insulation Material: Polyamide 6.6
Dielectric Strength: 600 kV/cm
Creep Resistance: 600 CTI
Internal Insulation Resistance: 10^{12}
Surface Resistance: 10^{10}
Flammability Rating: UL 94 V0
Continuous Operating Temperature:
-40 to 125°C (-40 to 257°F)

STANDARDS AND CERTIFICATIONS
UL and cUL Recognized: File no.
E67464; CE approved
LVD*: EN 60947-7-1, EN 60947-7-2,
EN 60998-2-3, EN 60352-4/A1
ATEX Approval: Eex e applications
** Not all standards apply to all
terminal blocks.*

XBANS3575P

XBUT25

Modular Terminal Blocks for Potentially Explosive Environments

The standard modular terminal blocks 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 the internet address listed below 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

Identification

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:

TABLE 55-1. EN 50014 STANDARD EXAMPLE

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.

TABLE 55-2. ATEX GUIDELINE EXAMPLE

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

Feed-Through Terminal Block

XBUT Series

CE c**UL**us (UL) RoHS

- ✔ **Maintenance-Free Connections**
- ✔ **Global Acceptance**
- ✔ **Multi-Conductor Connections**
- ✔ **Flexible Plug-In Bridge System**
- ✔ **Large Surface Area for Marking**
- ✔ **Standardized Testing System**
- ✔ **Metal Parts Made of Tin-Plated Copper Alloy**

The XBUT Series utilizes a screw connection system that is accepted worldwide and is suitable in most applications. The maintenance-free connection provides the reliability you expect.

Designed for applications with high demands, the XBUT Series screw terminal block has a maintenance-free wire connection. Tightening of the terminal screws is not necessary to ensure proper operation. The screw locking technique prevents the screws from backing out. Copper wires can be clamped without pre-treatment or ferrules can be used for splicing protection. Multiple conductors can be connected in the same clamping mechanism, saving space.

The XBUT terminal blocks feature a compact design and maintenance-free screw connection. There is a double bridge shaft providing maximum flexibility. The double bridge shaft can accommodate individual chain bridging and step down bridging from other terminal blocks. There are numerous options for accessories, including those for testing and marking. Terminal blocks are available for wire cross-sections ranging from 12 AWG (2.5 mm^2) to 0 AWG (150 mm^2).

SPECIFICATIONS FOR XBUT25

Terminal Width: 5.2 mm
Maximum Wire Size: 12 AWG/2.5 mm^2
IEC 60 947-7-1 in V/A/AWG:
800/32/26-12
EN 50 019[1] in V/A/AWG:
750/22 or 28/26-12
UL-cUL Ratings in V/A/AWG:
600/20/26-12

TECHNICAL DATA DIMENSIONS

Width/Length/Cover Width in mm (inch): 5.2 (0.20)/46.9 (1.85)/2.2 (0.09)
Height for 35 x 7.5/35 x 15 in mm (inch): 47.5 (1.87)/55.0 (2.17)

TECHNICAL DATA IN ACCORDANCE WITH IEC

Maximum Load Current in A/Cross Section in mm^2: 32 / 4
Rated Surge Voltage in kV/ Contamination Class: 8 / 3
Surge Voltage Category/Insulating Material Group: III / II

CONNECTION CAPACITY

Stranded with Ferrule/with Ferrule and Plastic Sleeve in mm^2:
0.25 to 2.5/0.25 to 2.5

MULTI-CONDUCTOR CONNECTION (SAME CROSS-SECTION)

Solid/Stranded in mm^2:
0.14 to 1.5/0.14 to 1.5
Stranded with Ferrules without Plastic Sleeve in mm^2: 0.25 to 1.5
Stranded with Twin Ferrule with Plastic Sleeve in mm^2: 0.5 to 1.5
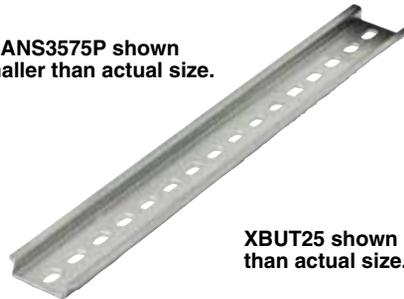**Stripping Length in mm (inch):** 9 (0.35)
Thread: M3
Torque in in-lb (Nm): 5.3 to 7.1 (0.6 to 0.8)

XBANS3575P shown smaller than actual size.

XBUT25 shown smaller than actual size.

To Order

MODEL NO.	DESCRIPTION
XBUT25	Gray single level connection
XBUT25BU	Blue single level connection
ACCESSORIES	
XBACUT10	Gray end cover
XBATUT10	Gray partition plate
XBAFBS25	Red 2 position plug-in bridge
XBAFBS35	Red 3 position plug-in bridge
XBAFBS55	Red 5 position plug-in bridge
XBAFBS105	Red 10 position plug-in bridge
XBAFBS505	Red 50 position plug-in bridge
XBATSPAI4	Test adaptor
XBMZB5	5.2 mm white blank marker strip
XBANS3575P	DIN rail 35 x 7.5 mm x 2 m slotted
XBANS3575U	DIN rail 35 x 7.5 mm x 2 m solid
XBANS3515P	DIN rail 35 x 15 mm x 2 m slotted
XBANS3515U	DIN rail 35 x 15 mm x 2 m slotted
XBAES35C	1-screw mounted end stop
XBAES35T	3-screw mounted end stop
XBAES35N	Snap-on end stop

Comes complete with instruction sheet.
Note 1: *EU type-examination certificate number KEMA 05ATEX2158U.*
Ordering Example: XBUT25, *gray terminal block,* ***XBACUT10,*** *gray end cover.*