Foxboro Evo™ Process Automation System

Product Specifications

Foxboro®

by Schneider Electric

PSS 31H-2K06

K06 Wall Mount Enclosure

The K06 Foxboro Evo™ system metal industrial wall-mounted enclosure provides mild or severe environmental protection and houses 200 Series I/O modules, power modules, terminals and connectors for field wiring.

OVERVIEW

The K06 enclosure is specially designed for 200 Series I/O subsystem equipment. Each enclosure can be configured with vertically mounted Modular Baseplates, for mounting up to 16 Fieldbus Modules (FBMs)/Field Communication Modules (FCMs). An optional 2-position baseplate accommodates Fieldbus Communication Modules or Field Control Processors (FCMs/FCP280s). DIN rails provide ample space for mounting the associated Termination Assemblies (TAs).

This rugged, metal, wall-mounted enclosure can be mounted in severe, harsh, or mild environmental areas. Wall-mounting of the enclosure allows secure, space-saving mounting of the FBMs/FCMs/FCP280s close to the process.

FEATURES

Features of the K06 enclosure include:

- Environmental protection for location in mild to severe environments
- NEMA® 4 rated, Class G3 (harsh) environment ready or NEMA 4X rated, Class GX (severe) environment ready
- Accommodation for up to 16 modules - Fieldbus Modules (FBMs)/Field Communication Modules (FCMs)
- Option for 2-position baseplate to support Fieldbus Communication Modules (FCMs)/Field Control Processors (FCP280s)
- Wall mounted
- DIN rails, wire ways, and an optional earthing bar for field shield terminations
- Optional single or redundant power supplies
- Sealed metal structure
- Top or bottom cable entry for field and power wiring.

ENVIRONMENTAL PROTECTION

The enclosure is available with several levels of environmental protection, allowing it to be used in a variety of locations: indoors, outdoors, sheltered, and harsh.

- NEMA 4 Version – Painted steel enclosure with NEMA ratings of 1, 3R, 4, 12, 13, and IP55 (G3, harsh)
- NEMA 4X Version – Stainless steel enclosure with NEMA ratings of 1, 4, 4X, 12, and IP66 (GX, severe).

In both versions of enclosure (NEMA 4 or 4X) sealed doors prevent the intrusion of moisture and contaminants from the outside. Heat from the equipment mounted within the enclosure is convected naturally within the enclosure and is dissipated by the exterior surfaces of the enclosure.

MODULAR BASEPLATE MOUNTING

The enclosure can contain various types of vertically mounted Modular Baseplates, which accommodate different quantities and types of modules: FBMs/FCMs/FCPs. The Modular Baseplate is DIN rail mounted (see Figure 1 on page 4 and Figure 2 on page 5). The Modular Baseplate includes signal connectors for the FBMs/FCMs/FCPs, redundant independent dc power connections, I/O cable connections, Module Fieldbus connections and time synchronization connections.

The control area of the enclosure is isolated from the field connection area by a poly carbon cover.

The K06 enclosure has two vertical DIN rails for mounting 4- or 8-position vertically mounted Modular Baseplates and an optional 2-position vertically mounted Modular Baseplate for FCMs/FCPs. When an optional 2-position vertically mounted Modular Baseplate for FCMs/FCPs is not ordered, a combination of FBM/FCM/FCP 4 - or 8-position vertically mounted Modular Baseplates can be selected. When an optional 2-position vertically mounted Modular Baseplate for FCMs/FCPs is ordered, two 8-position vertically mounted Modular Baseplates for mounting FBMs can be selected. The Modular Baseplate positions are shown in Figure 1 on page 4, Figure 2 on page 5.

For more information on the various types of Modular Baseplates in a Foxboro Evo system, refer to *Standard 200 Series Baseplates* (PSS 31H-2SBASPLT).

FIELD TERMINATION ASSEMBLIES

The enclosures can be ordered for bottom cable entry (see Figure 1 on page 4) or top cable entry (see Figure 2 on page 5).

For the NEMA 4 top cable entry version, the wires enter through a cable entry panel located at the top of the enclosure. For the NEMA 4 bottom entry version, the wires enter through a cable entry panel located at the bottom of the enclosure.

For the NEMA 4X version, users must provide their own cable access ports (for top or bottom cable entry), in keeping with maintenance of the enclosure's protection classification.

The enclosure's DIN rails have the capacity (length) to mount a reasonable mixture of TAs to meet the requirements of the 16 standard 200 Series FBMs (maximum) that the enclosure can accommodate. Up to 235 cm (92.3 in) is available to mount TAs.

An optional bus bar provides for earthing (grounding) of field cable shields. A poly carbon cover separates the installation (wiring) area from the maintenance (control) area.

NOTE:

The K06 enclosure does not support the use of baseplate-mounted termination assemblies (BTAs), with the exception of the BTA RH101KA.

POWER DISTRIBUTION ARCHITECTURE

The K06 enclosure supports an optional redundant power system, in which a dual power distribution network (two power supplies fed by independent entry sources) provide redundancy protection against power failures.

Power wiring to the enclosure is routed through the bottom or top of the enclosure. The input power connects to the primary and secondary entry terminal blocks for main and backup power.

The K06 enclosure can use one or two (redundant) 200 Series power supplies that provide 24 V dc to 200 Series baseplates. The power supplies are agency certified for use in Class 1, Division II and Zone 2 applications. For more information, refer to *Standard 200 Series Power Supply -FPS400-24* (PSS 31H-2W3).

ENCLOSURE OPTIONS

The K06 enclosure can be configured with the following options:

- A combination of 4 or 8-position Modular Baseplates for FCMs/FBMs/FCPs, mounted vertically
- A 2-position baseplate for FCMs/FCPs with two 8-position Modular Baseplates for FBMs, mounted vertically
- Bottom cable entry
- Top cable entry
- No enclosure - customer supplies enclosure (DIN rails, wire ways, and mounting hardware are not supplied)
- A painted or stainless steel enclosure
- Single, redundant, or no power supplies and power distribution
- Bus bars for field cable shields with or without rail isolation
- A general purpose or hazardous (Class 1, Division II and Zone 2) area certification.
- A general purpose or Class 1, Division II area designation
- NEMA 4 or NEMA 4X rating
- Print pocket inside front door
- Ergo form S handle with push button lock.

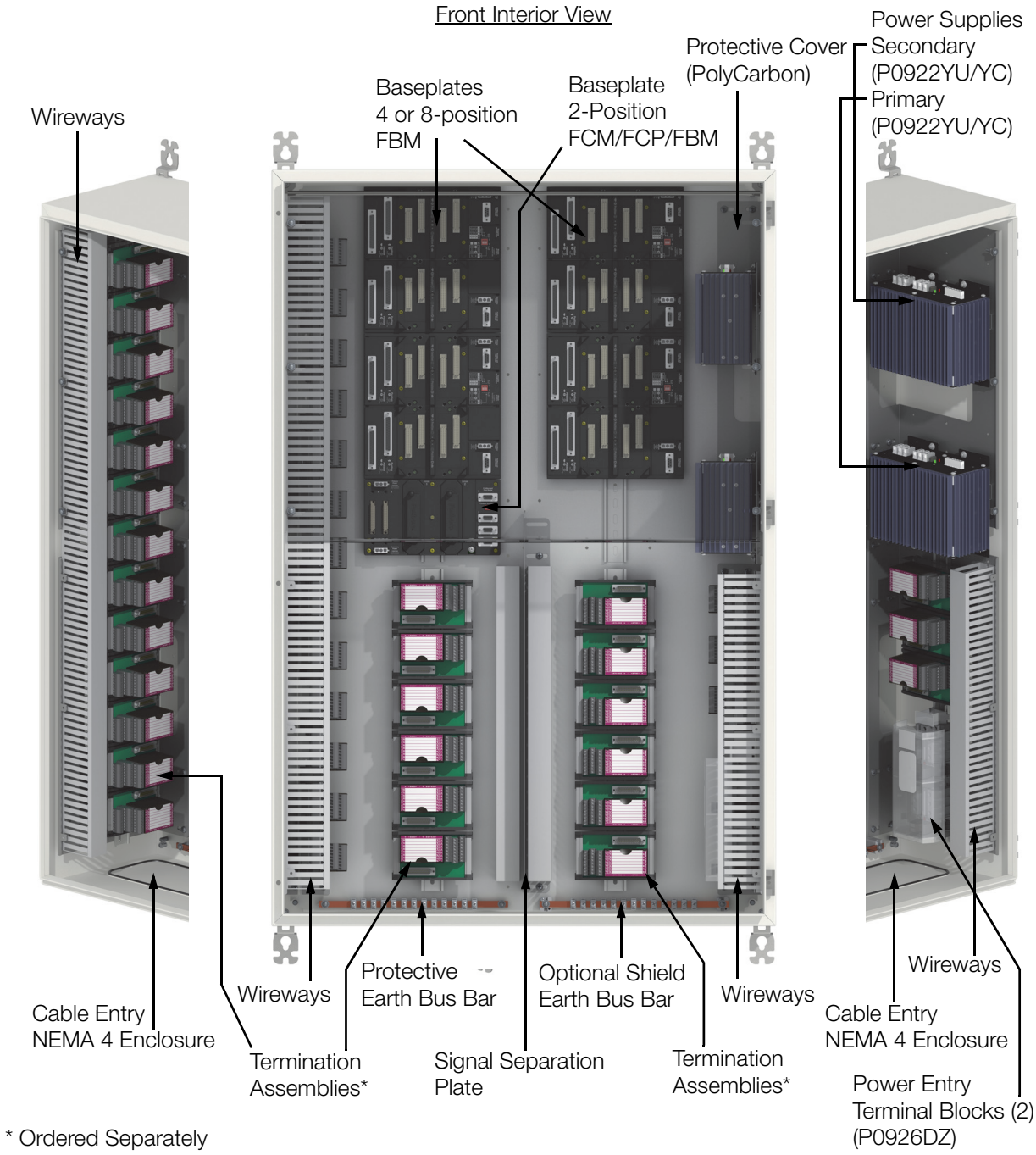
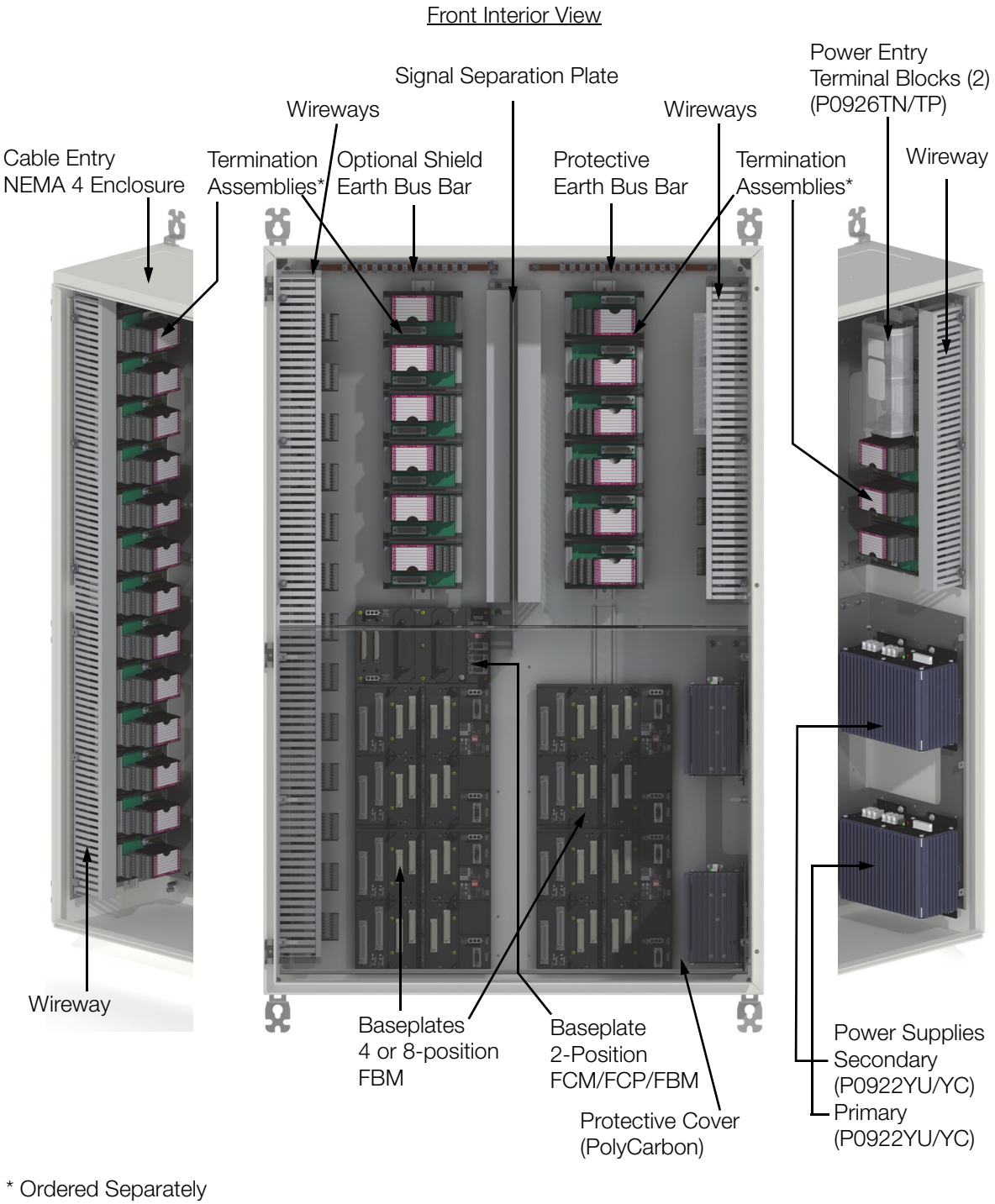


Figure 1. K06 Enclosure, Bottom Cable Entry, Front View



* Ordered Separately

Figure 2. K06 Enclosure, Top Cable Entry, Front View

FUNCTIONAL SPECIFICATIONS

Enclosure
Wall-mounted, metal field enclosure, mounting up to 16 standard 200 Series FBMs/FCMs and associated termination assemblies. Optional 2-position baseplate accommodates FCMs or FCPs.

Input Power (Optionally Redundant)
Refer to PSS 31H-2W3.

ENVIRONMENTAL SPECIFICATIONS

Ingress Protection
NEMA 1, 3R, 4, 12,13/ IP55
(Per EN 60 529/IEC 529) or,
NEMA 1, 4, 4X, 12/ IP66
(Per EN 60 529/IEC 529)

Operating Temperature (external ambient) and Thermal Loading
See Table 1

Table 1. Temperature and Thermal Loading

Temperature	Thermal Loading (Watts) (Includes Power Supplies)
-20 to +60°C (-4 to +140°F)	Average Loading, 166 Watts
-20 to +50°C (-4 to +122°F)	Maximum Loading, 227 Watts

Storage Temperature
-40 to 70°C (-40 to 158°F)

Altitude
OPERATING
-300 to +3,000 m (-1,000 to +10,000 ft)
STORAGE
-300 to +12,000 m (-1,000 to +40,000 ft)

Contamination Class
NEMA 4 ENCLOSURE
Class G3 (Harsh) as defined in ISA® Standard, S71.04.
NEMA 4X ENCLOSURE
Class GX (Severe) as defined in ISA Standard, S71.04.

Relative Humidity
5 to 95% (condensing)

Agency Certification
UL/UL-C listed and CENELEC certified. Enclosure meets all applicable European Union directives and bears the CE mark.

Area Designation
Per customer order, designed for General Purpose or Hazardous area (Class 1, Division II, Zone 2).

PHYSICAL SPECIFICATIONS

Construction

NEMA 4 RATED ENCLOSURE
Epoxy-polyester resin paint, textured RAL 7022 gray.

NEMA 4X RATED ENCLOSURE
Stainless steel

Panel Thickness

DOORS
4 Gauge (2 mm)

HOUSING
16 Gauge (1.5 mm)

Mounting

Wall-mounting

Cable Entry

NEMA 4 RATED ENCLOSURE
Bottom or top cable entry (as shipped) plate.

NEMA 4X RATED ENCLOSURE
User must provide access ports (for top or bottom cable entry) in keeping with maintenance of the enclosure's protection classification.

Field Termination Connections

Refer to *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA).

Field-Wire Termination

DIN RAILS
Four DIN rails for mounting TAs. One 110 cm (43.3 in) long, two 52.5 cm (20.5 in) long, one 20 cm (8 in) long

WIRE WAY
Two wire ways 38 mm x 75 mm (1.5 x 3.0 in) for routing of cables.

EARTH BUS BAR
Two optional bus bars for earthing (grounding) of field device wiring.

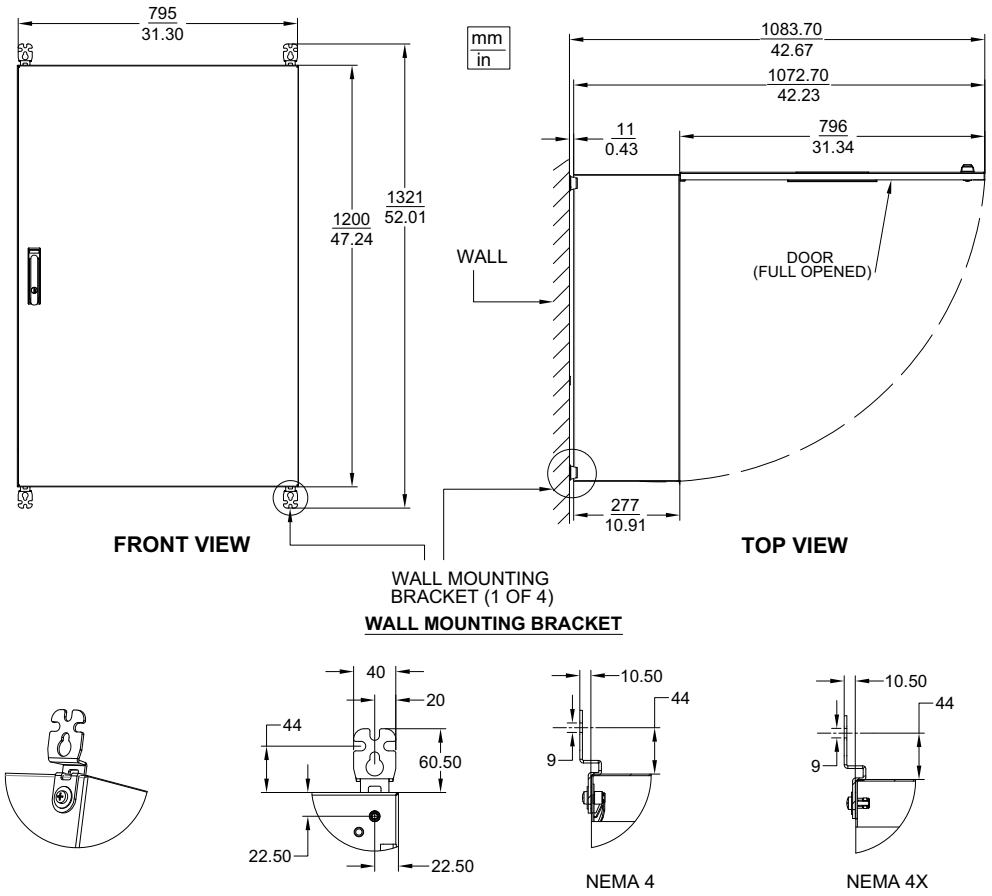
Weight

The weight of the enclosure is dependent upon the particular configuration. Consult with a Foxboro® representative if precise weight figures are required.

WEIGHT (EMPTY)
70 kg (154 lb)

WEIGHT (FULLY LOADED)
Up to 91 kg (up to 200 lb) without termination assemblies and field wiring.

DIMENSIONS–NOMINAL



NOTE: Per user preference, brackets can be mounted on the sides rather than top and bottom.

FOR MORE INFORMATION

For more information refer to the following Product Specification Sheets (PSS):

PSS Number	Description
PSS 31H-2KOV	K-Series Enclosures Overview
PSS 31H-2SOV	Standard 200 Series Subsystem Overview
PSS 31H-2SBASPLT	Standard 200 Series Baseplates
PSS 31H-2W3	Standard 200 Series Power Supply - FPS400-24
PSS 31H-2CERTS	Standard and Compact 200 Series I/O - Agency Certifications

Foxboro®

by Schneider Electric

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