

G-Series Enclosures Overview



G-SERIES ENCLOSURES FOR FOXBORO EVO SYSTEMS



G-SERIES ENCLOSURES FOR TRICONEX SYSTEMS
(SYSTEM ENCLOSURES SHOWN)

Control system electronics and signal cabling require protection against physical intrusion and environmental effects. Standard enclosures providing this protection, the G-Series enclosures, are available for the majority of situations encountered in modern plants. These enclosures are factory designed and constructed to provide the reliability and quality that you have come to expect from Foxboro® and Triconex® products.

FEATURES

G-Series enclosures provide factory assembled packaging solutions for the Foxboro Evo™ system, the I/A Series® system, and Triconex® equipment. A broad set of standard enclosures allows selection of sealed or vented enclosures to meet plant installation location requirements. Depending upon the enclosure type, these enclosures may include the following:

- ▶ Top or bottom cable entry, depending on enclosure
- ▶ Front-only or front-and-rear enclosure access
- ▶ Support for system equipment, including:
 - Compact 200 Series Fieldbus modules
 - 200 Series Fieldbus Modules (FBMs)
 - Field Control Processors (FCPs), Fieldbus Communications Modules (FCMs) and Fieldbus Expansion Modules (FEMs))
 - Triconex equipment, such as the Triconex Tricon™ chassis or Trident™ I/O baseplates

- ▶ Support for termination equipment, such as Foxboro termination assemblies or Triconex termination devices and/or additional customer-supplied terminal blocks for marshalling
- ▶ Support for both system and termination equipment
- ▶ Doors supporting universal mounting for left- or right-hand door swing
- ▶ Door intrusion monitoring switch which provides alerts when the enclosure doors are opened or closed
- ▶ Universal front and back enclosure lights which comply with the performance criteria of EN 61326 annex A
- ▶ Dual temperature thermostat which allows independent monitoring of high and low temperature alarms, or for controlling the heating and cooling of third-party supplied equipment.
- ▶ Comfort door handle with push-button/keylock
- ▶ Earth (ground) studs and/or rails
- ▶ Lifting eyebolts on enclosure top.

G-SERIES ENCLOSURE SELECTION

The following tables can assist you in selecting a G-Series enclosure appropriate to your requirements.

Table 1. G-Series Enclosure Selection - Equipment and Dimensions

[illegible]

Table 2. G-Series Enclosure Selection - Enclosure Door Configuration

Enclosure Door Configuration	G-Series Enclosures Available																			
	G06	G10	G11	G12	G13	G14	G15	G16	G17	G20	G21	G22	G40	G45	G50	G60	G61	G62	G66	G72
Front and Rear Access		X	X	X	X	X				X	X	X	X		X	X	X	X		X
Front Access Only	X						X	X	X					X		X			X	

Table 3. G-Series Enclosure Selection - Equipment Environmental Ratings

Environmental Rating	G-Series Enclosures Available																			
	G06	G10	G11	G12	G13	G14	G15	G16	G17	G20	G21	G22	G40	G45	G50	G60	G61	G62	G66	G72
Not IP Rated (NEMA 1)															X					
IP 43					X	X														
IP 43 to EN 60 529/10.9191 (NEMA 12)		X	X	X			X	X	X	X	X	X	X	X		X	X	X	X	X
IP 55 to EN 60 529 (NEMA 12)	X	X	X	X			X	X	X	X	X	X	X	X			X		X	X
IP 66 to EN 60 529 (NEMA 4)	X	X	X	X			X	X	X	X	X	X	X	X			X		X	X

Table 4. G-Series Enclosure Selection - Features

Features (Included with Enclosure)	G-Series Enclosures Available																						
	G06	G10	G11	G12	G13	G14	G15	G16	G17	G20	G21	G22	G40	G45	G50	G60	G61	G62	G66	G72	G80	G85	
UL and UL-C Approved (Empty Enclosure) ^(a)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Cable Base on Enclosure Plinth		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Lifting Eyebolts		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Earth (Ground) Studs		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Earth (Ground) Rail(s)	X	X		X		X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	
Enclosure Finish																							
Frame - Dipcoat-primed, RAL 7044 Smooth		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X (b)	X (b)	X (b)	X (b)	X (b)	X	X	
Roof/Sidewalls/Doors - Dipcoat-primed, Powder-coated, RAL 7035 (Light Gray) Textured	X (c)	X (c)	X (c)	X (c)		X	X (c)	X (c)	X (c)	X (c)	X (c)	X (c)	X (c)	X (c)	X	X (b)	X (b) (c)	X (b)	X (b) (c)	X (b)	X (c)	X (c)	
Base/Plinth - RAL 7022 (Umbra Gray) Smooth, Plastic Cover Caps RAL 9005 (jet black)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
316 Stainless Steel	X (d)																						

(a) Enclosures meet all applicable European Union directives and are CE compliant. Final installed enclosures populated with your equipment should be inspected by your local UL/CSA committee, or other local safety governing organization if required. A complete listing of certifications is available from enclosure vendor.

(b) With EMC Compliance option, interior finish is aluminum zinc coating.

(c) IP 55 (NEMA 4) version only. Powder-coating finish on all external surfaces is applied to entire enclosure - frame, roof, sidewalls, and door.

(d) IP 66 (NEMA 4X) version only. Entire enclosure is stainless steel.

Table 5. G-Series Enclosure Selection - Options

Enclosure Options	G-Series Enclosures Available																			
	G06	G10	G11	G12	G13	G14	G15	G16	G17	G20	G21	G22	G40	G45	G50	G60	G61	G62	G66	G72
Vented Enclosure		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sealed Enclosure ^(a)	X	X	X	X			X	X	X	X	X	X	X	X			X		X	X
Top Cable Entry ^(b)	X	X	X	X			X	X	X	X	X	X	X	X	X		(c)		(c)	X
Bottom Cable Entry ^(b)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Door-Mounted Fans		X	X	X			X	X	X	X	X	X	X	X			X		X	X
Roof-Mounted Fans ^(d)		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Metal (Sheet Steel) Doors	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(e)	X	X	X	X
Glass Front Door																X		X		
Universal Mounting for Left and Right-hand Door Swing		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Comfort Door Handle with Push-button/Keylock		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Door Intrusion Monitoring Switch																X	X	X	X	
Sidewalls		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
EMC Compliance																X	X	X	X	
Universal Enclosure Light		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Dual Temperature Thermostat		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Fan Failure Monitoring ^(g)																				X

(a) No fans with sealed enclosures.

(b) With both top and bottom cable entry allowed, can be customer configured for simultaneous top and bottom cable entry.

(c) Due to the placement of field power supplies, top entry is not recommended for this enclosure.

(d) Top cable entry not recommended for roof-mounted fans.

(e) Front and rear doors are perforated to allow free air flow.

(f) With vented option only.

(g) For roof-mounted fans only.

G-SERIES ENCLOSURES FOR FOXBORO EVO SYSTEM AND I/A SERIES SYSTEM EQUIPMENT

G06 Enclosure

The G06 enclosure is a wall-mounted unit with the features discussed in Table 6.

Table 6. G06 Enclosure Features

Feature	Availability
Enclosure Type	Field enclosure
Equipment Supported	Up to four vertically mounted baseplates for mounting up to sixteen 200 Series Fieldbus Modules (FBMs), Field Communication Modules (FCMs), or Field Control Processors (FCP270s) Optional baseplate for mounting up to two 200 Series Field Communication Modules (FCMs) or Field Control Processors (FCP270s) Up to eighteen modules total supported, as listed above - sixteen FBMs/FCMs/FCP270s + two FCMs/FCP270s
Enclosure Access	Front access only
Available Environmental Protection	IP 55 (NEMA 4) Version – a painted steel enclosure with NEMA ratings of 1, 3R, 4, 12, 13, and IP 55 (G3, harsh) - OR - IP 66 (NEMA 4X) Version – a stainless steel enclosure with NEMA ratings of 1, 4, 4X, 12, and IP 66 (GX, severe).
Product Specification Sheet	<i>G06 Enclosure</i> (Reference 1) (See Table 27, “Reference Documents,” on page 17 at the end of this document.)

G-Series 800x800 Front and Rear Access Enclosures for Compact 200 Series I/O Subsystem

The G-series 800x800 front and rear access enclosures for Compact 200 Series I/O Subsystem are free-standing, floor mounted units. They include the G13 system enclosure (Table 7), and the G14 system and termination enclosure (Table 8).

Table 7. G13 System Enclosure Features

Feature	Availability
Enclosure Type	System Only
Equipment Supported	Vented (IP 43) - Up to twelve Compact 200 Series 16-slot horizontal baseplates, for mounting up to 192 Compact 200 Series Fieldbus modules (FBMs) Up to two 2-position vertically-mounted Field Control Processor 280 (FCP280) baseplates
Enclosure Access	Front and rear access
Documentation	<i>G13 System Enclosure</i> (Reference 2)

Table 8. G14 System and Termination Enclosure Features

Feature	Availability
Enclosure Type	System and Termination
Equipment Supported	Vented (IP 43) - Up to six Compact 200 Series 16-slot horizontal baseplates, for mounting up to 96 Compact 200 Series Fieldbus Modules (FBMs) One 2-position vertically-mounted Field Control Processor 280 (FCP280) baseplate Up to four 1900 mm vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front and rear access
Documentation	<i>G14 System and Termination Enclosure</i> (Reference 3)

G-Series 800x800 Front and Rear Access Enclosures

The G-series 800x800 front and rear access enclosures are free-standing, floor mounted units. They include the G10 system enclosure (Table 9), the G11 termination enclosure (Table 10) and the G12 system and termination enclosure (Table 11).

Table 9. G10 System Enclosure Features

Feature	Availability
Enclosure Type	System Only
Equipment Supported	Vented (IP 43/55) - Up to 96 200 Series FBMs, up to six FCMs/FCP270s Sealed (IP 55/66) - Up to 32 200 Series FBMs and up to two FCMs/FCP270s Option for a four-position Expansion Baseplate that supports two FEM100/FCP270 pairs
Enclosure Access	Front and rear access
Documentation	<i>G10 System Enclosure</i> (Reference 4)

Table 10. G11 Termination Enclosure Features

Feature	Availability
Enclosure Type	Termination Only
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to eight vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front and rear access
Documentation	<i>G11 Termination Enclosure</i> (Reference 5)

Table 11. G12 System and Termination Enclosure Features

Feature	Availability
Enclosure Type	System and Termination
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to 32 200 Series FBMs and up to two FCMs/FCP270s - Option for a four-position Expansion Baseplate that supports two FEM100/FCP270 pairs Up to four vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front and rear access
Documentation	<i>G12 System and Termination Enclosure</i> (Reference 6)

G-Series 800x600 Front and Rear Access Enclosures

The G-series 800x600 front and rear access enclosures are free-standing, floor mounted units. They include the G20 system enclosure (Table 12), the G21 termination enclosure (Table 13) and the G22 system and termination enclosure (Table 14).

Table 12. G20 System Enclosure Features

Feature	Availability
Enclosure Type	System Only
Equipment Supported	Vented (IP 43/55) - Up to 96 200 Series FBMs and up to six FCMs/FCP270s Sealed (IP 55/66) - Up to 32 200 Series FBMs and up to two FCMs/FCP270s Option for a four-position Expansion Baseplate that supports two FEM100/FCP270 pairs
Enclosure Access	Front and rear access
Documentation	<i>G20 System Enclosure</i> (Reference 7)

Table 13. G21 Termination Enclosure Features

Feature	Availability
Enclosure Type	Termination Only
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to four vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front and rear access
Documentation	<i>G21 Termination Enclosure</i> (Reference 8)

Table 14. G22 System and Termination Enclosure Features

Feature	Availability
Enclosure Type	System and Termination
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to 32 200 Series FBMs and up to two FCMs/FCP270s - Option for a four-position Expansion Baseplate that supports two FEM100/FCP270 pairs Up to two vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front and rear access
Documentation	<i>G22 System and Termination Enclosure</i> (Reference 9)

G-Series 800x800 Front-Only Access Enclosures

The G-series 800x800 front-only access enclosures are free-standing, floor mounted units. They include the G15 system enclosure (Table 15), the G16 termination enclosure (Table 16) and the G17 system and termination enclosure (Table 17).

Table 15. G15 System Enclosure Features

Feature	Availability
Enclosure Type	System Only
Equipment Supported	Vented (IP 43/55) - Up to 96 200 Series FBMs and up to six FCMs/FCP270s Sealed (IP 55/66) - Up to 32 200 Series FBMs and up to two FCMs/FCP270s Option for a four-position Expansion Baseplate that supports two FEM100/FCP270 pairs
Enclosure Access	Front access only
Documentation	<i>G15 System Enclosure</i> (Reference 10)

Table 16. G16 Termination Enclosure Features

Feature	Availability
Enclosure Type	Termination Only
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to six vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front access only
Documentation	<i>G16 Termination Enclosure</i> (Reference 11)

Table 17. G17 System and Termination Enclosure Features

Feature	Availability
Enclosure Type	System and Termination
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to 32 200 Series FBMs and up to two FCMs/FCP270s - Option for a four-position Expansion Baseplate that supports two FEM100/FCP270 pairs Up to four vertical DIN rails for mounting of termination assemblies and terminal blocks for marshalling
Enclosure Access	Front access only
Documentation	<i>G17 System and Termination Enclosure</i> (Reference 12)

G-Series 800x800 19-Inch Rack Enclosures

The G-series 800x800 19-inch rack enclosures are free-standing, floor mounted units with four vertical system rails. They include the G40 19-inch rack enclosure (Table 18), and the G45 19-inch rack enclosure (Table 19).

Table 18. G40 19-Inch Rack Enclosure Features

Feature	Availability
Enclosure Type	System
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Upper and lower enclosure halves accommodate each one of the following: (1) Up to three shelves to support equipment such as the Windows® or Solaris™-based workstations - OR - (2) Up to two 1x8 Mounting Structures - OR - (3) Equipment secured directly to the EIA 19-inch rails, such as The MESH control network switches
Enclosure Access	Front and rear access
Documentation	<i>G40 19-Inch Rack Enclosure</i> (Reference 13)

Table 19. G45 19-Inch Rack Enclosure Features

Feature	Availability
Enclosure Type	System
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Upper and lower enclosure halves accommodate each one of the following: (1) Up to three shelves to support equipment such as the Windows® or Solaris™-based workstations - OR - (2) Up to two 1x8 Mounting Structures (Maximum of three in enclosure) - OR - (3) Equipment secured directly to the EIA 19-inch rails, such as The MESH control network switches
Enclosure Access	Front access only
Documentation	<i>G45 19-Inch Rack Enclosure</i> (Reference 14)

G-Series 600x1000 19-Inch Server Enclosure

The G-series 600x1000 19-inch server enclosure is a free-standing, vented, floor mounted general purpose unit designed for housing compatible servers, workstation, switches and related equipment on shelves or on its 19-inch racks (Table 20).

Table 20. G50 Server Enclosure Features

Feature	Availability
Enclosure Type	System
Equipment Supported	Vented, indoor (Not IP rated/NEMA 1) - Enclosure can accommodate: ▶ Up to two sliding shelves; shelves can support the Windows® or Solaris™-based tower workstations and servers, such as the Model H90 and P90 servers, Model H91 and P91 servers, or the Model H92 and P92 workstations, depending on the size and ventilation requirements of the equipment. ▶ Rack-mounted equipment secured directly to the 19-inch rails (42 U of available vertical mounting space), such as The Mesh control network switches, depending on sizing, power, cabling and ventilation requirements of the equipment
Enclosure Access	Front and rear access
Documentation	<i>G50 Server Enclosure</i> (Reference 15)

G-SERIES ENCLOSURES FOR TRICONEX® SYSTEM EQUIPMENT

G-Series 800x800 Tricon™ System Enclosures

The G-series 800x800 Tricon system enclosures are free-standing, floor mounted units designed to house Triconex Tricon system chassis, modules and appropriate support equipment. They include the G60 Tricon system enclosure (Table 21), and the G62 and G72 system and termination enclosures (Table 22).

Table 21. G60 Tricon System Enclosure Features

Feature	Availability
Enclosure Type	System Only
Equipment Supported	Vented (IP 43/55) - Up to three Triconex Tricon chassis
Enclosure Access	Front and rear access - OR - Front access only (Optional front glass door)
Documentation	<i>G60 Tricon System Enclosure</i> (Reference 16)

Table 22. G62 and G72 System and Termination Enclosures Features

Feature	Availability
Enclosure Type	System and Termination
Enclosure Size	G62 Enclosure - 800mm x 800mm x 2000mm G72 Enclosure - 800mm x 800mm x 2200mm
Equipment Supported	Vented (IP 43/55) - Up to two Triconex Tricon chassis Two vertical DIN rails for mounting of Triconex termination devices and terminal blocks for marshalling
Enclosure Access	Front and rear access (Optional front glass door)
Documentation	<i>G62 and G72 Tricon System and Termination Enclosures</i> (Reference 17)

G-Series 800x800 Tricon™ Termination Enclosures

The G-series 800x800 Tricon termination enclosures are free-standing, floor mounted units designed for housing Triconex termination devices and additional customer-supplied terminal blocks for marshalling. They may accommodate the termination of Tricon modules which are housed in a G60 Tricon system enclosure or G62/G72 Tricon system and termination enclosure.

They include the G61 Tricon termination enclosure (Table 23), and the G66 Tricon termination enclosure (Table 24).

Table 23. G61 Tricon Termination Enclosure Features

Feature	Availability
Enclosure Type	Termination Only
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to eight vertical DIN rails for mounting of Triconex termination devices and additional customer-supplied terminal blocks for marshalling
Enclosure Access	Front and rear access
Documentation	<i>G61 Tricon Termination Enclosure</i> (Reference 18)

Table 24. G66 Tricon Termination Enclosure Features

Feature	Availability
Enclosure Type	Termination Only
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to six vertical DIN rails for mounting of Triconex termination devices and additional customer-supplied terminal blocks for marshalling.
Enclosure Access	Front access only
Documentation	<i>G66 Tricon Termination Enclosure</i> (Reference 19)

G-Series 800x800 Trident™ System Enclosures

The G-series 800x800 Trident system enclosures are free-standing, floor mounted units designed to house Triconex Trident controllers on I/O baseplates, as well as one Main Processor (MP) baseplate, one Communication Module (CM) baseplate and appropriate support equipment. They include the G80 Trident system enclosure (Table 25), and the G85 Trident system enclosure (Table 26).

Table 25. G80 Trident System Enclosure Features

Feature	Availability
Enclosure Type	System Only (No terminations required for Trident controllers)
Equipment Supported	Vented (IP 43/55) - Up to twenty Triconex Trident I/O baseplates Sealed (IP 55/66) - Up to ten Triconex Trident I/O baseplates Both enclosure types accommodate one Main Processor (MP) baseplate, and one Communication Module (CM) baseplate
Enclosure Access	Front and rear access
Documentation	<i>G80 Trident System Enclosure</i> (Reference 20)

Table 26. G85 Trident System Enclosures Features

Feature	Availability
Enclosure Type	System Only (No terminations required for Trident controllers)
Equipment Supported	Vented (IP 43/55) or Sealed (IP 55/66) - Up to ten Triconex Trident I/O baseplates, plus one Main Processor (MP) baseplate, and one Communication Module (CM) baseplate
Enclosure Access	Front access only
Documentation	<i>G85 Trident System Enclosure</i> (Reference 21)

RELATED PRODUCT DOCUMENTS

Table 27. Reference Documents

Reference	Document Number	Description
1	PSS 21H-2X7 B4	G06 Enclosure
2	PSS 31H-2G13 B4	G13 System Enclosure
3	PSS 31H-2G14 B4	G14 System and Termination Enclosure
4	PSS 21H-2X8 B4	G10 System Enclosure
5	PSS 31H-2G11 B4	G11 Termination Enclosure
6	PSS 21H-2X10 B4	G12 System and Termination Enclosure
7	PSS 21H-2X12 B4	G20 System Enclosure
8	PSS 21H-2X13 B4	G21 Termination Enclosure
9	PSS 21H-2X14 B4	G22 System and Termination Enclosure
10	PSS 21H-2X15 B4	G15 System Enclosure
11	PSS 21H-2X16 B4	G16 Termination Enclosure
12	PSS 21H-2X17 B4	G17 System and Termination Enclosure
13	PSS 21H-2X40 B4	G40 19-Inch Rack Enclosure
14	PSS 21H-2X45 B4	G45 19-Inch Rack Enclosure
15	PSS 21H-2X50 B4	G50 Server Enclosure
16	PSS 21H-2X60 B4	G60 Tricon System Enclosure
17	PSS 21H-2X62 B4	G62 and G72 Tricon System and Termination Enclosures
18	PSS 21H-2X61 B4	G61 Tricon Termination Enclosure
19	PSS 21H-2X66 B4	G66 Tricon Termination Enclosure
20	PSS 21H-2X80 B4	G80 Trident System Enclosure
21	PSS 21H-2X85 B4	G85 Trident System Enclosure

Table 28. Other Related Documents

PSS Number	Title
PSS 31H-2COV B3	Compact 200 Series I/O Subsystem Overview
PSS 21H-2W1 B3	DIN Rail Mounted Subsystem Overview
PSS 21H-2W1 B4	100 Series Fieldbus Module Migration Subsystem Overview
PSS 21H-2Y14 B4	FEM100 Fieldbus Expansion Module

