Foxboro™ DCS

G60 Tricon System Enclosure

PSS 41H-2G60

Product Specification

January 2020

VENTED ENCLOSURE WITH ROOF-MOUNTED FANS AND OPTIONAL SAFETY GLASS FRONT DOOR

VENTED ENCLOSURE WITH ROOF-MOUNTED FANS

https://www.se.com

Legal Information

Overview

The G60 enclosure is specifically designed for housing EcoStruxure™ Triconex™ Tricon system chassis and modules. It is designed for use with the G61 or G66 Tricon Termination Enclosures, and is available as a vented enclosure only.

The G60 enclosure can be configured with up to three Tricon chassis. Main power entry can include optional EMC/RFI line filters. It is a free-standing, floor mounted unit with an IP 43 rating for location in mild (ordinary) environmental areas. A version is available with optional EMC compliance.

> **NOTE:** In regions that require EMC compliance, you must order the EMC compliance option if Tricon modules SMM or SRXM will be installed in a chassis in this enclosure. Without these modules, the enclosure already fulfills the requirements for EMC compliance.

The G60 enclosure, IP 43 rated, can be installed bayed or adjoined to others to maximize the use of floor space and ease of cabling. The enclosures can be bayed together using third-party kits.

This enclosure and its configurations have been tested and qualified by Foxboro for use with the Tricon chassis.

> **NOTE:** It is possible to configure the G60 enclosure with front access only and the safety glass front door. However, since no ventilation is located on a rear wall, the end-user is responsible for locating adequate inlet ventilation to maintain proper operation of the enclosure's equipment, through ventilation on a side wall or from an adjoined cabinet.

Vented enclosures have a limited thermal load. See *Environmental Specifications, page 10*.

Features

- Accommodates up to three Tricon system chassis
- Main power entry includes disconnect terminal blocks for 120/240 V AC or 125 V DC systems, or 10 A, Type D, double pole circuit breakers for 120/240 V AC systems
- Optional EMC/RFI line filters for redundant main power (Triconex recommended)
- Vented enclosure for use in ordinary (IP 43) rated environments
- Option for EMC compliance
- Compact design to minimize use of floor space with both front and rear access that allows maximum density of enclosures in a control room environment
- Options for front and rear access or front access only, both with optional safety glass front door
- Optional door intrusion monitoring
- Alarm contact terminal block assembly for main chassis alarming, door intrusion monitoring switches, enclosure temperature switch, and field power supply status
- Bottom cable entry for power wiring and cables for Triconex termination devices, such as External Termination Panels (ETPs), Field Terminations, and External Termination Assemblies (ETAs)
- Conveniently placed eyebolts for transporting and lifting the enclosures
- A 100 mm (4 in) plinth — total enclosure height of 2,160 mm (85.0 in)
- Comfort handles with push button/keylocks
- Three ground points, two protective ground studs, one isolated protective ground rail, and one isolated instrument ground rail

Ingress Protection

The metal enclosures provide the outer layer of protection for the control electronics. Other layers are provided by the module covers and built into the modules. This approach to protection means that a minimum of contaminants in the plant environment reaches the control components, thus greatly extending the life of the equipment.

Dual Thermostat

An optional dual (high/low) thermostat is available to monitor enclosure temperature extremes.

Door Intrusion Monitoring

An optional door intrusion monitoring switch is available for each door on the enclosure. Each switch is prewired to a set of alarm status terminal blocks.

Triconex Termination Device/Input Power Cabling

The enclosures support bottom cable entry only. Any other entry points are the responsibility of the customer, who must verify that the enclosure's environmental ratings are retained.

Power and Grounding

Power wiring to the enclosure is routed through the bottom of the enclosure through removable gland plates, located at the bottom (inside) of the enclosure. Dual power input feeds terminate at dedicated primary and secondary power distribution terminal blocks or circuit breaker assemblies, or directly to optional EMC/RFI filters.

Grounding

Two M8 studs (one for each enclosure side) provide a central ground point and dedicated grounding points when baying enclosures together.

An isolated protective ground rail and an isolated instrument ground rail are available for additional ground points and may be used for cable shields.

Power Distribution

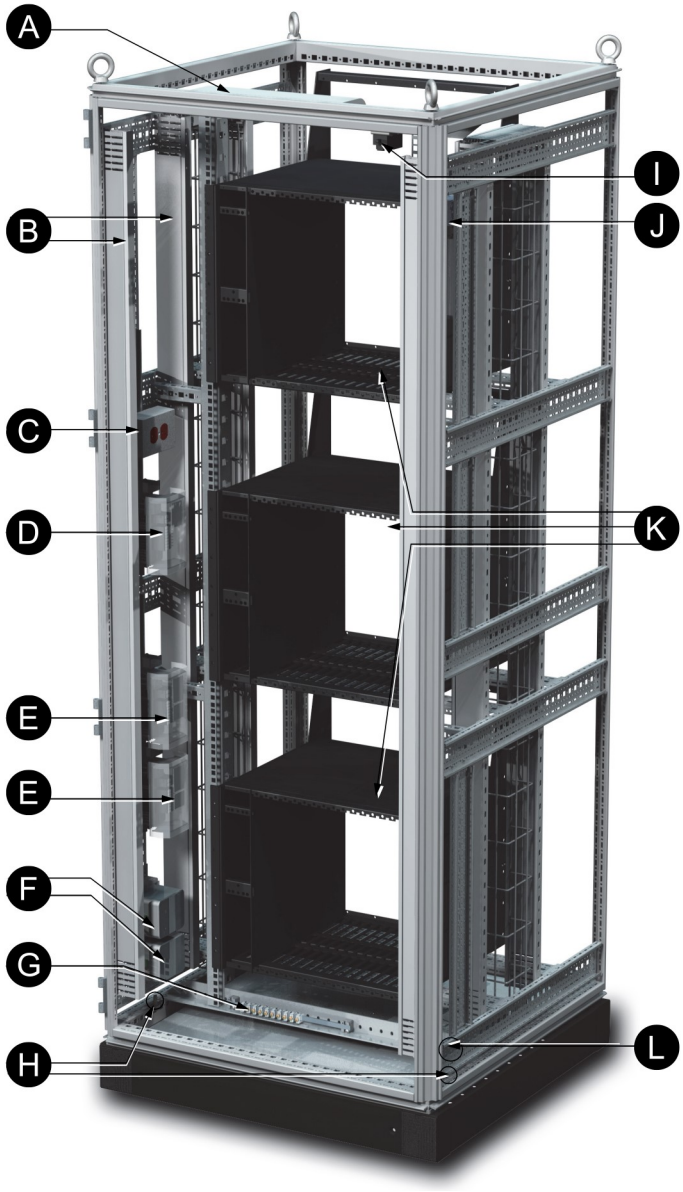
Each enclosure is available with a dedicated assembly for customer main power. Two types of power distribution are available with:

- Disconnect terminal blocks for 120/240 V AC or 125 V DC systems. This method of power entry also has fused, knife disconnect terminal blocks for isolating the main power, as well as independent knife disconnect terminal blocks for each device, for ease of service.
- 10 A, Type D, double pole circuit breakers for 120/240 V AC systems.

Utility power is supported through a dedicated terminal block or circuit breaker assembly which provides independent disconnects for light and fan circuits as well as additional blocks for the customer to install utility outlets.

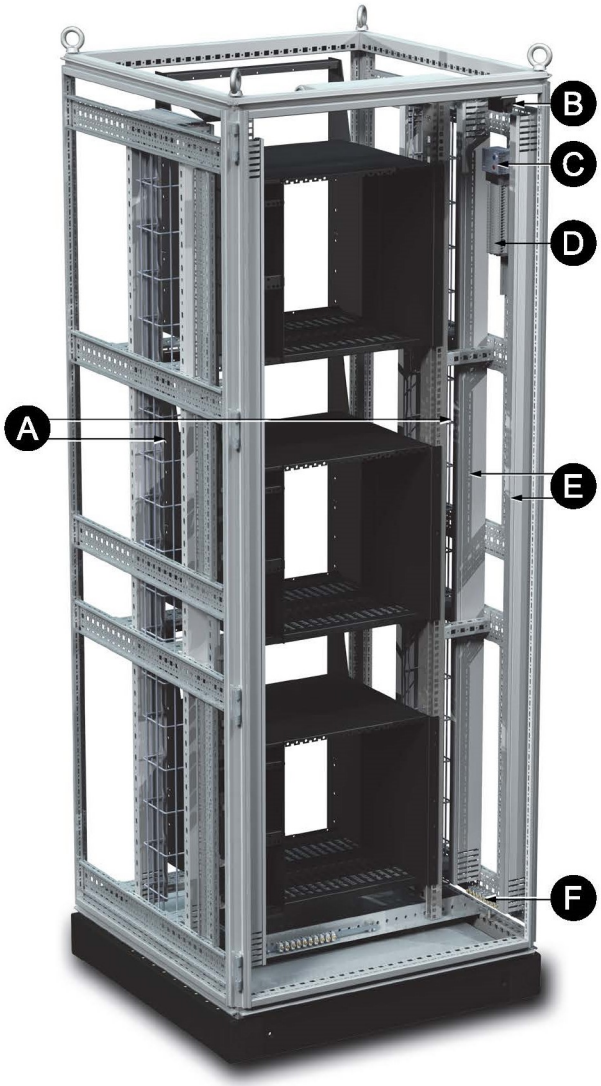
The enclosure may be ordered without these power distribution terminal blocks when the customer has requirements for power distribution specific to regional electrical codes.

Figure 1 - G60 Tricon System Enclosure, Front Access Only Option, Front Right View



Legend			
A	LED Light	**G**	Protective Ground Rail
B	25 mm x 75 mm (1 in x 3 in) Wire Ducts	**H**	Protective Ground Studs
C	2C Duplex Utility Outlet (Not Supplied)	**I**	Door Intrusion Monitoring Switch
D	ac Utility Power Terminal Blocks or Circuit Breakers	**J**	Dual (High/Low) Thermostat
E	Primary and Secondary Power Distribution Disconnects or Circuit Breakers	**K**	Triconex Tricon Chassis (Not Supplied)
F	EMC/RFI Filters (Optional)	**L**	Isolated/Instrument Ground Rail (Not Visible)

Figure 2 - G60 Tricon System Enclosure, Front Access Only Option, Front Left View



Legend	
A	51 mm x 102 mm (2 in x 4” in) Cable Tray Wire Management for Tricon Interface Cables
B	Door Intrusion Monitoring Switch
C	Dual (High/Low) Thermostat
D	Alarm Monitoring Terminal Block
E	25 mm x 75 mm (1 in x 3 in) Wire Ducts
F	Isolated/Instrument Ground Rail

Enclosure Features and Options

Feature	Availability
Base Enclosure	• Vented IP 43/55 rated enclosure with single front and rear door-mounted fans (120 V AC or 240 V AC) or roof -mounted fans (120 V AC or 240 V AC - dual fans), or • EMC compliant vented IP 43 rated enclosure with roof-mounted fans (120 V AC or 240 V AC - dual fans)
Enclosure Access	• Front and rear access • Front access only
Front Door	• Solid front door with inlet vents, or • Safety glass front door
Cable Entry	Bottom only
Sidewalls	Options configurable based on baying requirements
Door Handle	Comfort handle with push button/keylock
Door Mounting	Universal mounting for left- and right-hand door swing (left-hand is default)
Equipment Supported	Up to three Tricon system chassis **NOTE:** For three chassis arrangement, use Tricon interface cables which have a 0° exit option.
Enclosure Lighting[a]	Universal enclosure light with motion activation
Thermostat[a]	Dual temperature thermostat
Security	Optional door intrusion monitoring switch - one per door
Fans[a]	Roof-mounted fans - designed for secondary cooling only
Grounding[a]	• Two protective ground studs • One isolated protective ground rail • One isolated instrument ground rail
Main Power[a]	• 100-250 V AC, 50-60 Hz, 125 V DC input redundant power with disconnect terminal blocks - OR • 100-250 V AC, 50-60 Hz input redundant power with 10 A, Type D, double pole circuit breakers • Optional EMC compliant line filters available for above options. • Customer configured power entry (no terminal blocks supplied)
Alarm Contact	Alarm contact terminal block assembly for main chassis alarming, door intrusion monitoring switches, and enclosure temperature switch
Utility Power	120 V AC or 240 V AC utility power terminal block

Functional Specifications

Enclosure	The enclosures are free-standing, floor mounted, steel industrial enclosures with optional safety glass front doors

Environmental Specifications

	Operating	Storage
Temperature	Thermal performance of the G60 enclosure meets the convection cooling requirements described in *Planning and Installation Guide for Tricon Systems*[a]. • Vented (Thermal Loading): To accommodate three chassis -20 to +40°C (-4 to +104°F) **NOTE:** Total equipment power dissipation must not exceed 700 W. Power dissipation in any individual chassis must not exceed 250 W.	-40 to 70°C (-40 to 158°F)
Relative Humidity	5 to 95% (noncondensing)	
Ingress Protection Ratings	IP 43 to EN 60 529/10.9191/NEMA 12	
Acoustic Noise Level[b]	• Roof-Mounted Fans: 61 dB (A) at 1 m / 58 dB (A) at 3 m	
Dual Thermostat	• High Alarm Setting: Opens on alarm, Range - 0 to 60°C (32 to 140°F) • Low Alarm Setting: Opens on alarm, Range - 0 to 60°C (32 to 140°F)	
Agency Certification	Empty enclosure is UL and UL-C approved. Enclosure meets all applicable European Union directives and is 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 the enclosure vendor.	
Area Designation	General purpose areas	

[a] To obtain the latest version of the *Planning and Installation Guide for Tricon Systems* document, contact Foxboro Global Client Support.

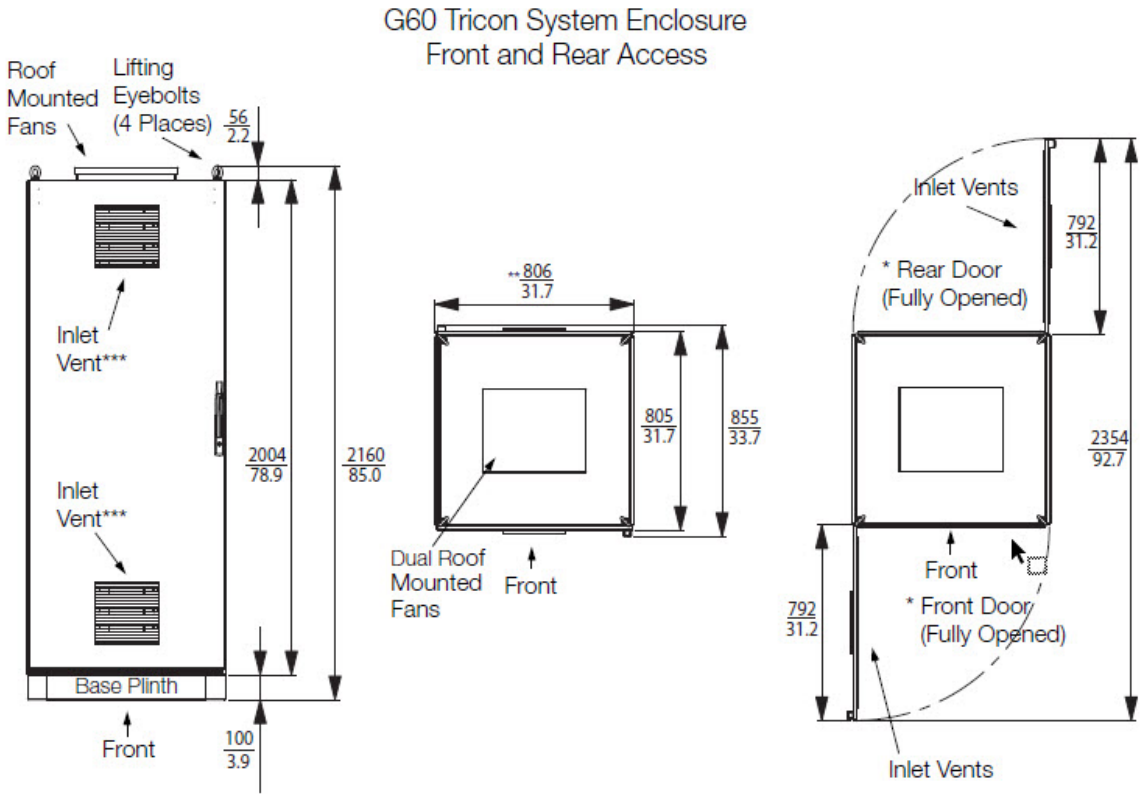
[b] Under normal operating conditions, with both fans running, at enclosure's mid-height at 46 dB (A) ambient noise level.

Physical Specifications

Weight	The weight of the enclosure is dependent upon the particular configuration and Triconex equipment selected. Consult with an Foxboro representative if precise weight figures are required. • Vented Enclosure (Max. Configuration): 800 mm (31.5 in) wide x 800 mm (31.5 in) - 261 kg (575 lb) • Side Panel: 2,000 mm (78.7 in) high x 800 mm (31.5 in) deep - 8 kg (18 lb)
Mounting	Floor **⚠ CAUTION** **RISK OF EQUIPMENT DAMAGE OR INJURY** To prevent injury, this enclosure must be bolted down. See *Enclosures and Mounting Structures — Site Planning and Installation User's Guide* (B0700AS). **Failure to follow these instructions can result in injury or equipment damage.**
Construction	Material: • Doors (Metal): Sheet steel, 2.0 mm (14 ga) • Doors (Glass Center): Extruded Aluminum and zinc frame with single-pane safety glass, 3 mm (0.1 in) thick • Frame, Roof, Side Panels, Gland Plates: Sheet steel, 1.5 mm (16 ga) • Base/Plinth: Sheet steel and plastic Finish: • Frame: ◦ Non-EMC Compliant Version: Dipcoat-primed, RAL 7044 smooth ◦ EMC Compliant Version: Aluminum zinc coating • Roof, Side Panels, Doors: ◦ Non-EMC Compliant Version: Dipcoat-primed, powder-coated, RAL 7035 (light gray) textured ◦ EMC Compliant Version: Exterior - Dipcoat-primed, powder-coated, RAL 7035 (light gray) textured Interior - Aluminum Zinc coating • Base/Plinth: Dipcoat-primed, RAL 7022 (umbra gray) smooth, plastic cover caps RAL 9005 (jet black) • Gland Plates and Internal Hardware: Zinc-plated, passivated
Cable Entry	Bottom through gland plate(s)

Grounding	• Roof, Side Walls, Gland Plates: Automatic potential equalization built in • Front and Rear Doors: Dedicated 4 mm^2 (11 ga) ground strap to enclosure frame • Enclosure: Two protective ground M8 studs (one for each enclosure side) An isolated protective ground rail and an isolated instrument ground rail are provided for additional ground points
Power Input Terminals	Disconnect Terminal Blocks: • Type: Ring Lug • Ring Lug Size: M4 Maximum (DIN 46 234/46 237), 9.6 mm maximum O.D. • Wire Size: Up to 6 mm^2 (10 AWG) Circuit Breakers: • Type: Compression • Wire Size (Solid): Up to 6 mm^2 (3 AWG) • Wire Size (Stranded): Up to 4 mm^2 (8 AWG)
Termination Assembly Cabling	Universal mounting straps are supplied for attaching, routing, and strain relieving of TA cables. Each strap supports up to a 75 mm (3 in) diameter cable bundle.

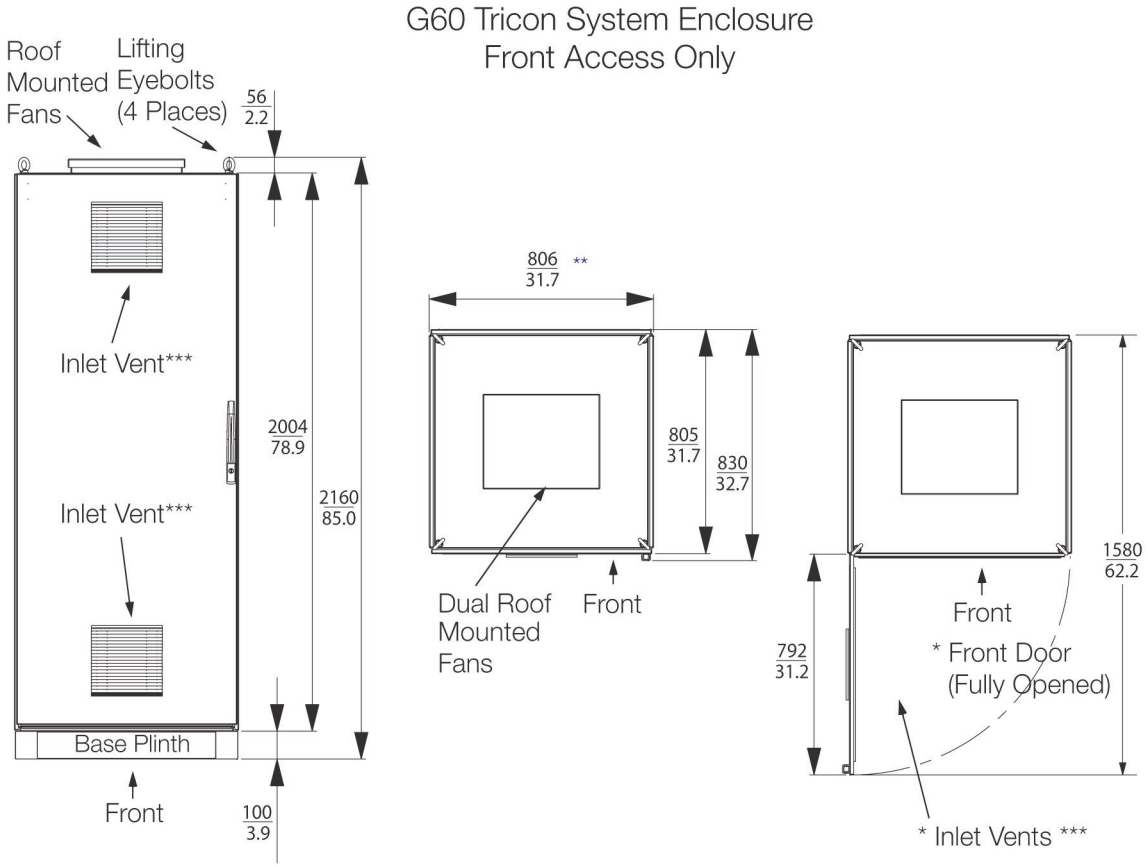
Dimensions – Nominal



* Doors are factory-configured for left-hand swing, but can be reconfigured at site for right-hand swing.

** With side panels, without side panels 800/31.5.

*** Factory inlet vents are not present when the enclosure has the safety glass front door option.



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Related Product Documents

Document Number	Description
PSS 41H-2G60	*G60 Tricon System Enclosure*
PSS 41H-2G61	*G61 Tricon Termination Enclosure*
PSS 41H-2G66	*G66 Tricon Termination Enclosure*
B0700AS	*Enclosures and Mounting Structures — Site Planning and Installation User's Guide*
ISA-S71.04-1985 (not Foxboro-supplied)	*Environmental Conditions for Process Measurement and Control Systems: Airborne Contaminants*
9791007-XXX[a]	*Technical Product Guide for Tricon Systems*
9720052-XXX[a]	*Field Termination Guide for Tricon Systems*
[a] Request latest version from Triconex.	

⚠ **WARNING**: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.p65warnings.ca.gov/.

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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

PSS 41H-2G60, Rev A