EcoStruxure™

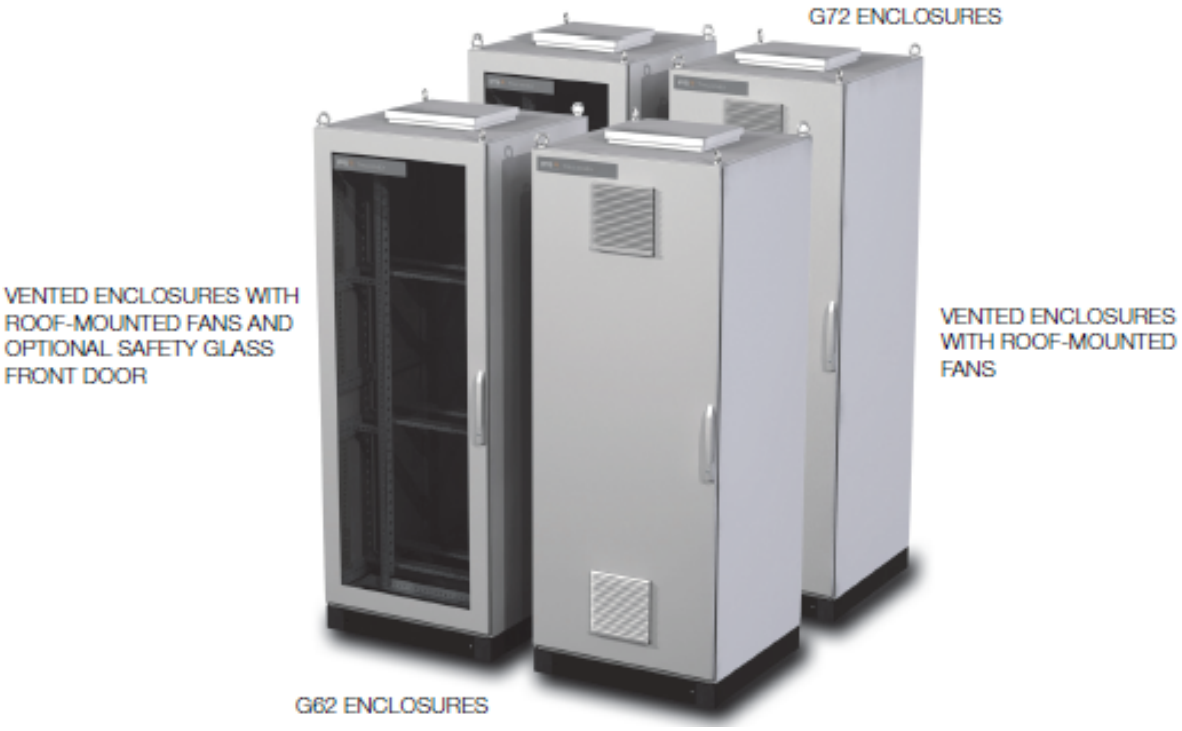
Foxboro™ DCS

G62 and G72 Tricon System and Termination Enclosures

PSS 41H-2G62

Product Specification

January 2020



Schneider Electric™

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Legal Information

Overview

The G62 and G72 enclosures are specifically designed for housing EcoStruxure™ Triconex™ Tricon system chassis and modules, DIN rail mounted Triconex termination devices and customer-supplied terminal blocks for marshalling. These enclosures are available as vented enclosures. They can be configured with:

- Up to two Tricon system chassis
- Two vertical DIN rails for mounting of Triconex termination devices, one rail may be used to mount terminal blocks for marshalling

The G62 and G72 enclosures are free-standing, floor mounted units with an IP 43 rating for location in mild (ordinary) environmental areas. Versions are 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, these enclosures already fulfill the requirements for EMC compliance.

The rear of the G62 or G72 enclosures can be set up in one of two basic configurations:

- Termination only: Both DIN rails are allocated for the mounting of Triconex termination devices only, where the customer terminates field signals directly to the Triconex termination devices
- Termination and Marshalling: One DIN rail is allocated for the mounting of Triconex termination devices only. The second rail may accommodate terminal blocks to provide additional functionality (such as fusing, disconnects, and lock-out validation) or where customers wish to terminate field cable bundles to dedicated terminal blocks and marshall signals to the appropriate Triconex termination devices

These enclosures and their configurations have been tested and qualified by Foxboro for use with the Tricon chassis and the DIN rail mounted Triconex termination devices specified in the *Technical Product Guide for Tricon Systems*.

NOTE: The end-user is responsible for locating adequate inlet ventilation to maintain proper operation of the enclosure's equipment, through ventilation on the rear door or a side wall, or from an adjoined cabinet.

Features

The G62 and G72 Tricon system and termination enclosures offer the following features:

- Available sizes:
  - G62 enclosure - 800 x 800 x 2,000 mm (31.5 x 31.5 x 78.7 in)
  - G72 enclosure - 800 x 800 x 2,200 mm (31.5 x 31.5 x 86.6 in)
- (Enclosure front) Vented enclosure accommodates up to two Triconex Tricon system chassis
- (Enclosure rear) Two 1,800 mm or 2,000 mm (70.9 in or 78.7 in) vertical DIN rails for mounting of Triconex termination devices to provide a total of 3.6 m or 4.0 m (11.8 ft or 13.1 ft) of linear rail space. Optionally, one rail may be used to mount terminal blocks for marshalling
- 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).
- Optional redundant 24 V DC field power - 480 W (Two field I/O power supplies) or 960 W (Four field I/O power supplies) with dedicated terminal block assemblies providing independent disconnections for every Triconex termination device
- Vented enclosure for use in ordinary (IP 43) rated environments
- Option for EMC compliance
- Enclosure front and rear access with optional safety glass front door
- Optional door intrusion monitoring switches
- Alarm contact terminal block assembly for main chassis alarming, door intrusion monitoring switches, enclosure temperature switch, and field power supply status
- Compact design to minimize use of floor space with both front and rear access that allow maximum density of enclosures in a control environment
- Available PVC or non-PVC wireways for field I/O cabling
- Generous 76 mm x 102 mm (3 in x 4 in) wire ducts with adequate capacity for most wire management
- Bottom cable entry for field wiring
- 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.

Triconex Termination Device Mounting

These enclosures have two vertical DIN rails in the rear for mounting Triconex termination devices only, or with customer-supplied terminal blocks for marshalling.

Optional redundant 24 V DC field power is available with either 480 W (Two field I/O power supplies) or 960 W (Four field I/O power supplies). The supplies are DIN rail-mounted (see *Figure 1, page 7* and *Figure 3, page 9*). Vented enclosures have a limited thermal load (see *Environmental Specifications, page 13*).

Triconex Termination Device/Input Power Cabling and Wireways

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.

The Triconex termination device cables and power cable enter through removable gland plates, located at the bottom (inside) of the enclosure. The plates can be removed, drilled, or punched for cable routing.

Field I/O signals must be connected to the termination devices mounted in the same enclosure. Optional bus bars for field wiring shields are available.

Wiring is restricted to preconfigured wireways, available in PVC or non-PVC versions.

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

These enclosures are available with a dedicated assembly for customer main power. Two types of power distribution are available with:

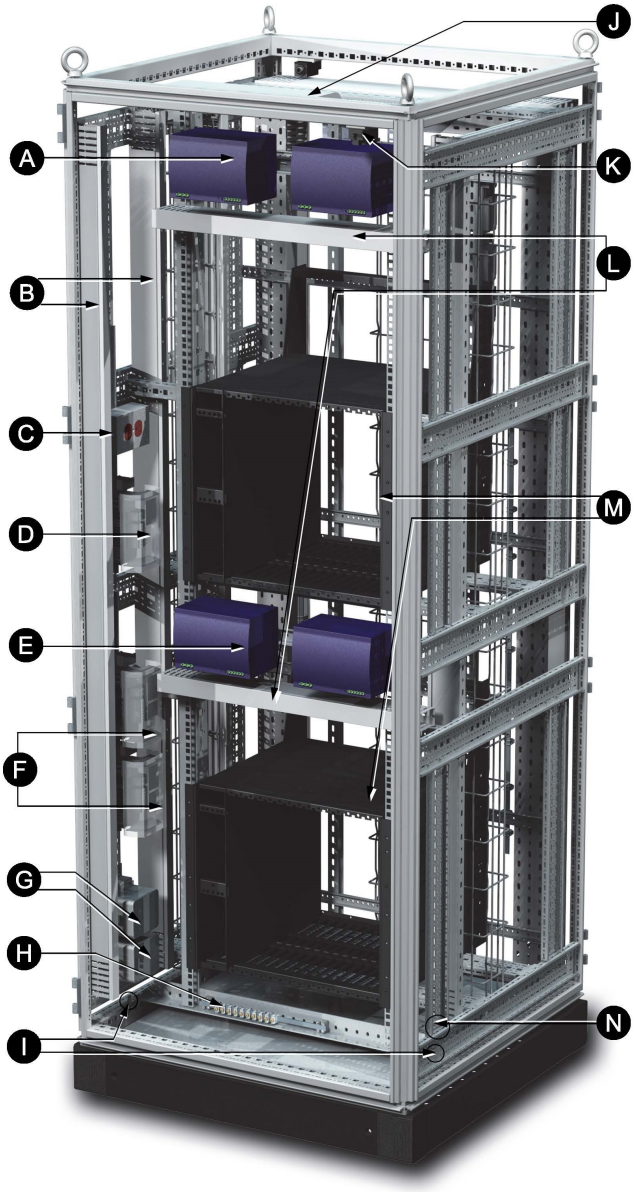
- Disconnect terminal blocks for 120/240 V AC or 125 V DC systems. This method of power entry also has fused, knife disconnect terminal blocks for isolating the main power, as well as independent knife disconnect terminal blocks for each device, for ease of service.
- 10 A, Type D, double pole circuit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

The 24 V DC field power supply option also includes a distribution terminal block assembly for distribution of 24 V DC power to up to ten Triconex termination devices. Each point includes a serviceable knife disconnect.

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.

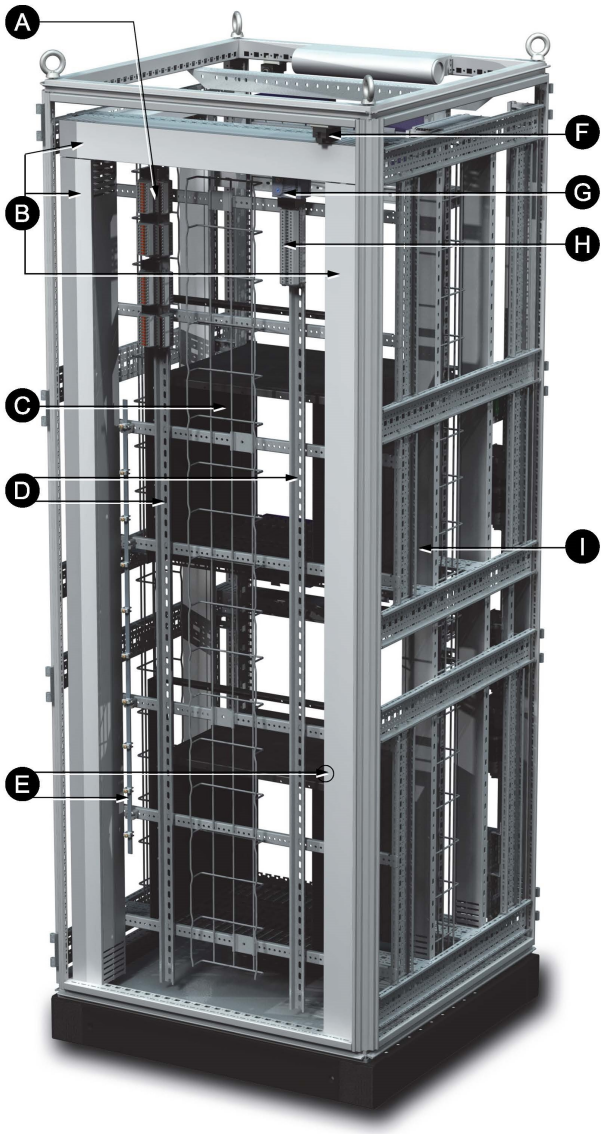
The enclosures may be ordered without these power distribution terminal blocks when the customer has requirements for power distribution specific to regional electrical codes.

Figure 1 - G62 Tricon System and Termination Enclosure, Front View



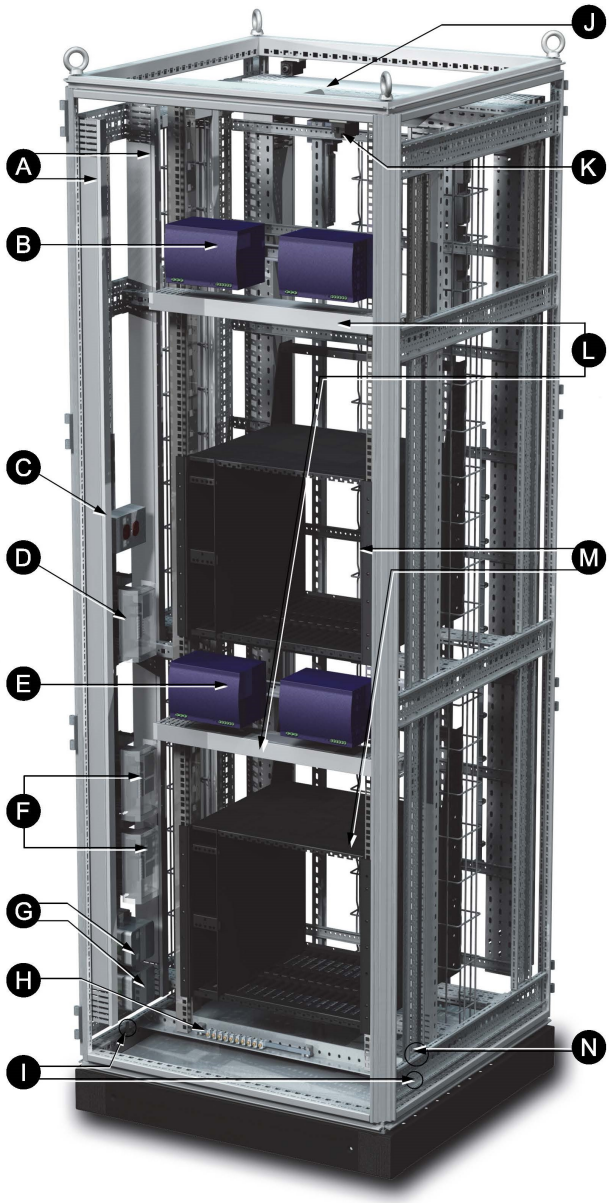
Legend			
A	480 W, 24 V DC Redundant Field Power Supplies	**H**	Protective Ground Rail
B	25 mm x 75 mm (1 in x 3 in) Wire Management Duct for Power	**I**	Protective Ground Studs
C	2C Duplex Utility Outlet (Not Supplied)	**J**	LED Light
D	ac Utility Power Terminal Blocks or Circuit Breakers	**K**	Door Intrusion Monitoring Switch
E	(Optional) 480 W, 24 V DC Redundant Field Power Supplies	**L**	37 mm x 75 mm (1.5 in x 3 in) Wire Management Ducts for 24 V DC Field Power
F	Primary and Secondary Power Distribution Disconnects or Circuit Breakers	**M**	Triconex Tricon Chassis (Not Supplied)
G	EMC/RFI Filters (Optional)	**N**	Isolated/Instrument Ground Rail (Not Visible)

Figure 2 - G62 Tricon System and Termination Enclosure, Rear View



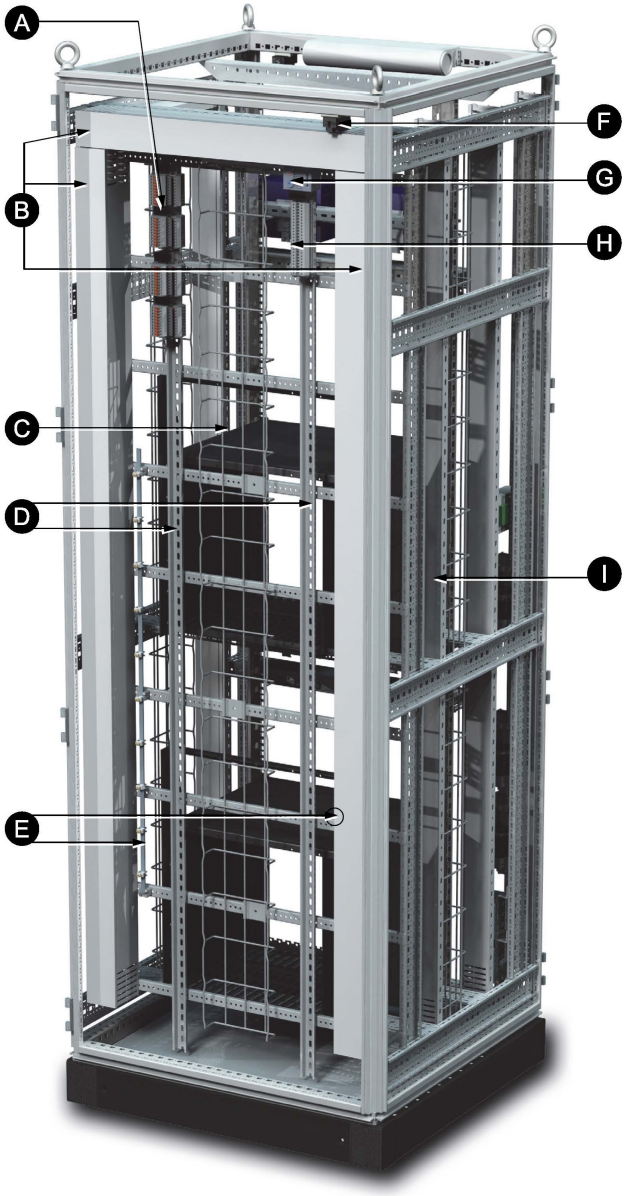
Legend			
A	24 V DC Field Power Distribution Disconnects	**F**	Door Intrusion Monitoring Switch
B	76 mm x 102 mm (3 in x 4 in) Wire Management Duct for Marshalling and Field Wiring	**G**	Dual (High/Low) Thermostat
C	25 mm x 153 mm (1 in x 6 in) Cable Tray Wire Management For Tricon Interface Cables	**H**	Alarm Monitoring Terminal Block
D	External Termination Panel (ETP) DIN Rails	**I**	51 mm x 102 mm (2 in x 4 in) Cable Tray Management for Tricon Interface Cables
E	Bus Bars for Field Wiring Shields (One not visible)		

Figure 3 - G72 Tricon System and Termination Enclosure, Front View



Legend			
A	37 mm x 25 mm (1.5 in x 3 in) Wire Management Duct for Power	**H**	Protective Ground Rail
B	480 W, 24 V DC Redundant Field Power Supplies	**I**	Protective Ground Studs
C	2C Duplex Utility Outlet (Not Supplied)	**J**	LED Light
D	ac Utility Power Terminal Blocks or Circuit Breakers	**K**	Door Intrusion Monitoring Switch
E	(Optional) 480 W, 24 V DC Redundant Field Power Supplies	**L**	37 mm x 75 mm (1.5 in x 3 in) Wire Management Ducts for 24 V DC Field Power
F	Primary and Secondary Power Distribution Disconnects or Circuit Breakers	**M**	Triconex Tricon Chassis (Not Supplied)
G	EMC/RFI Filters (Optional)	**N**	Isolated/Instrument Ground Rail (Not Visible)

Figure 4 - G72 Tricon System and Termination Enclosure, Rear View



Legend			
A	24 V DC Field Power Distribution Disconnects	**F**	Door Intrusion Monitoring Switch
B	76 mm x 102 mm (3 in x 4 in) Wire Management Duct for Marshalling and Field Wiring	**G**	Dual (High/Low) Thermostat
C	25 mm x 153 mm (1 in x 6 in) Cable Tray Wire Management For Tricon Interface Cables	**H**	Alarm Monitoring Terminal Block
D	External Termination Panel (ETP) DIN Rails	**I**	51 mm x 102 mm (2 in x 4 in) Cable Tray Management for Tricon Interface Cables
E	Bus Bars for Field Wiring Shields (One not visible)		

Enclosure Features and Options

Feature	Availability
Base Enclosure	• Vented IP 43 rated enclosure with 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 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)
Field Wiring	• PVC or non-PVC wireways for field I/O signal cabling • Optional bus bars for field wiring shields
Equipment Supported	• Up to two Tricon system chassis • Two DIN rails per enclosure available for mounting Triconex termination devices only, or with customer-supplied terminal blocks for marshalling
Enclosure Lighting	Universal enclosure light with motion activation
Thermostat	Dual temperature thermostat
Security	Optional door intrusion monitoring switch - one per door
Fans	Roof-mounted fans - designed for secondary cooling only
Grounding	• Two protective ground studs • One isolated protective ground rail • One isolated instrument ground rail
Main Power	• 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)
Field Power	• Optional redundant 24 V DC field power - 480 W (Two field I/O power supplies), or • 960 W (four field I/O power supplies) with dedicated terminal block or circuit breaker assemblies • Redundant power distribution terminal block assemblies for customer configured power entry • Customer-configured field power entry is supported (No terminal blocks supplied)
Alarm Contact	Alarm contact terminal block assembly for main chassis alarming, door intrusion monitoring switches, enclosure temperature switch, and field power supply status
Utility Power	1,120 V AC or 240 V AC utility power with disconnect terminal blocks or 10 A, Type D, double pole circuit breakers

Functional Specifications

Enclosure	The enclosures are free-standing, floor mounted, steel industrial enclosures with optional safety glass front doors, containing: • Up to two Triconex Tricon system chassis • Vertically mounted DIN rail mounted Triconex termination devices and DIN rail space for optional customer-supplied terminal blocks for marshalling • 24 V DC field power supplies (single or redundant power)

Environmental Specifications

	Operating	Storage
Temperature	Thermal performance of the G62 and G72 enclosures meet the convection cooling requirements described in *Planning and Installation Guide for Tricon Systems*[a]. • Vented (Thermal Loading)[b]: To accommodate two 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 350 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: Open on alarm, Range - 0 to 60°C (32 to 140°F) • Low Alarm Setting: Open 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 IPS Global Client Support.

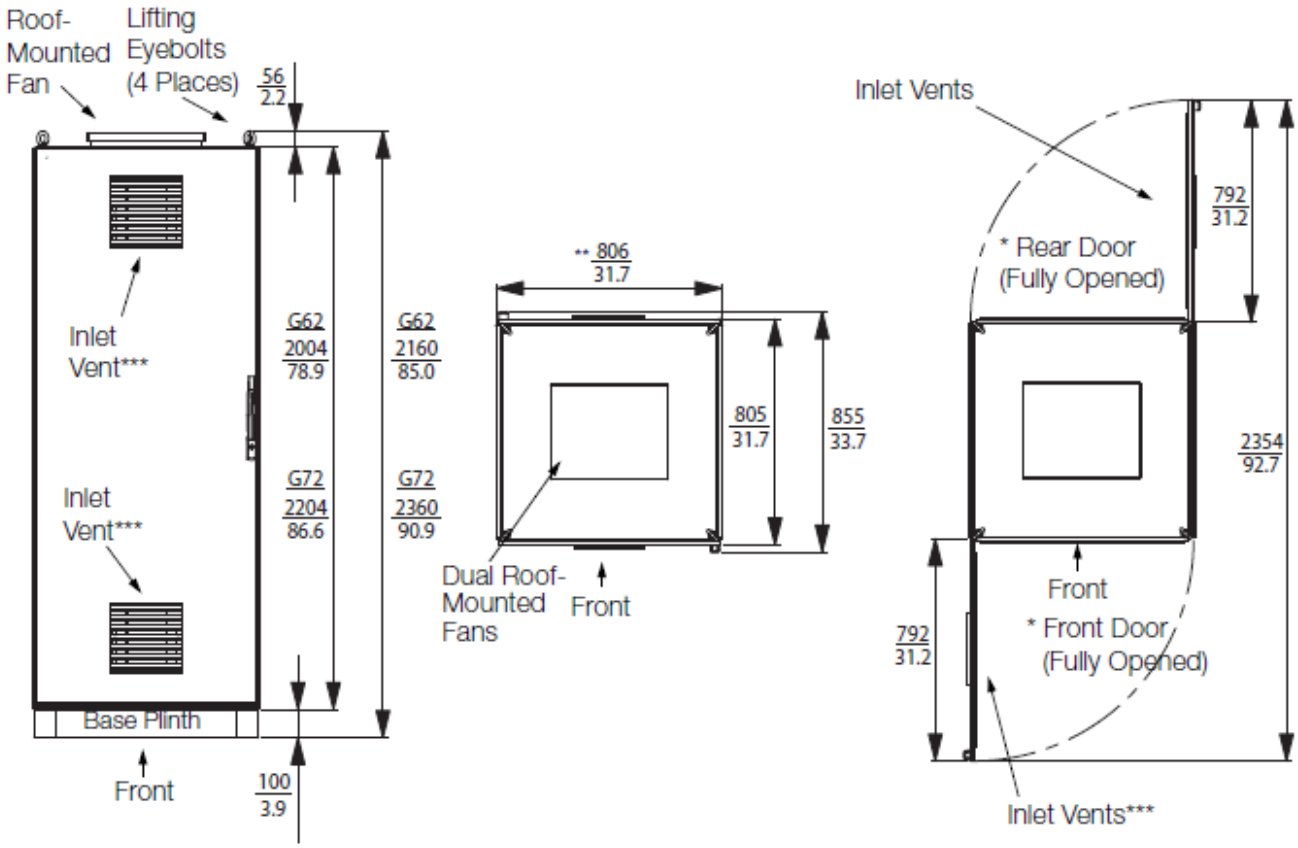
[b] Under normal operating conditions, with both fans running, at enclosure's mid-height at 46 dB (A) ambient noise level.

Physical Specifications

Weight	The weight of the enclosure is dependent upon the particular configuration and Triconex equipment selected. Consult with a Foxboro representative if precise weight figures are required. • Vented Enclosure (Max. Configuration): ◦ G62 Enclosure: 261 kg (575 lb) ◦ G72 Enclosure: 271 kg (596 lb) • Side Panel: ◦ G62 Enclosure: 8 kg (18 lb) ◦ G72 Enclosure: 10.5 kg (23 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 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 ◦ Non-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

Construction (Continued)	• 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 • Wire Size: Up to 6 mm^2 (10 AWG) • Ring Lug Size: M4 Maximum (DIN 46 234/46 237), 9.6 mm maximum O.D. Circuit Breakers: • Type: Compression • Wire Size: ◦ Solid: Up to 6 mm^2 (3 AWG) ◦ Stranded: Up to 4 mm^2 (8 AWG)
Termination Assembly Cabling	Universal mounting straps are supplied for attaching, routing, and strain relieving of Triconex termination 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.

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

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.

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