

IQ Modular Enclosures

Flexible and Reliable Video and Audio Backbone

Flexible and reliable video and audio backbone for all types of video and audio signals.

The IQ Modular range provides a comprehensive, reliable and cost-effective interfacing and processing solution for any broadcast infrastructure project. Handling all types of video and audio signals, IQ Modular provides industry leading packing density with new 4 RU IQ high power frame and multi-channel modules enabling 40 channels of powerful video and audio processing and conversion, or 80 channels of SDI distribution with 320 outputs. IQ Modular is equally at home with IP, coax, fiber or any common interface standard, and its modular approach means that it is easily scalable and upgradeable as your needs change. New enhancements to the series include IP to SDI interfaces and modules supporting Grass Valley's unique Media Biometrics technology for network wide confidence monitoring, from basic error detection to more subtle issues such as logo or lipsync matching.

With over 500,000 modules already in service worldwide, IQ Modular is a proven reliable, comprehensive system trusted by broadcasters both large and small.



Build what you need

With hundreds of modules providing a range of functionality, complex systems are possible with advanced control and monitoring systems keep everything running smoothly with minimal intervention. With hundreds of modules providing a range of functionality, complex systems are simple to build with advanced control and monitoring systems such as GV Orbit keep everything running smoothly with minimal intervention.

How do I order the right modules for my enclosure?

Although IQ modules are interchangeable between enclosures, each enclosure requires a suitable variant of panels.

'B' order codes may be used when installing modules in the IQH3B and IQH4B enclosures and latest generation 1 RU IQH1A enclosure. Only 'A' order codes must be used when installing modules in the IQH3A and older generation IQH1A enclosures. Non 'A' order codes relate to all other Grass Valley IQ modular enclosures. Please take time to ensure that the compatible order code is selected to match the chosen enclosure.

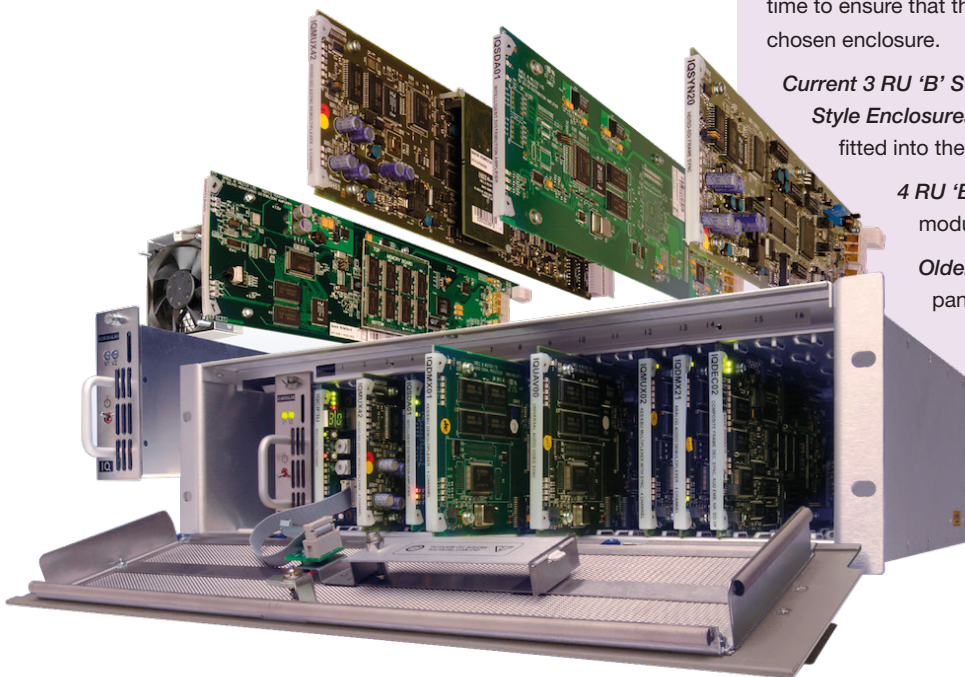
Current 3 RU 'B' Style Enclosure, including the newer 1 RU 'A' Style Enclosures — Rear panels with the suffix 'B' or 'A*' may be fitted into them

4 RU 'B' Style Enclosure — Rear panels for approved modules with the suffix 'B' may be fitted into them

Older 3 RU and 1 RU 'A' Style Enclosures — Rear panels with the suffix 'A' may be fitted into them

All Other Enclosures — Rear panels without the suffix 'A' or 'B' may be fitted into all other IQ Modular enclosures

* 'A' build rear panels will fit into 'B' 3 RU enclosures, however features such as frame reference (if relevant to the module) would not be supported by those modules.



IQH4B

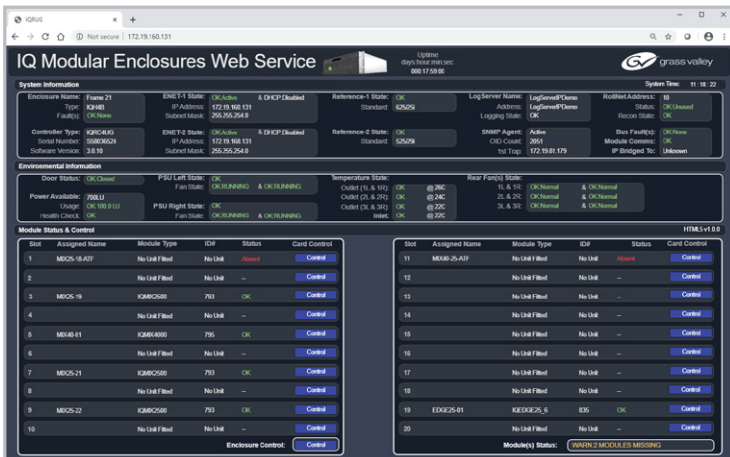
IQ 4 RU Modular Enclosure



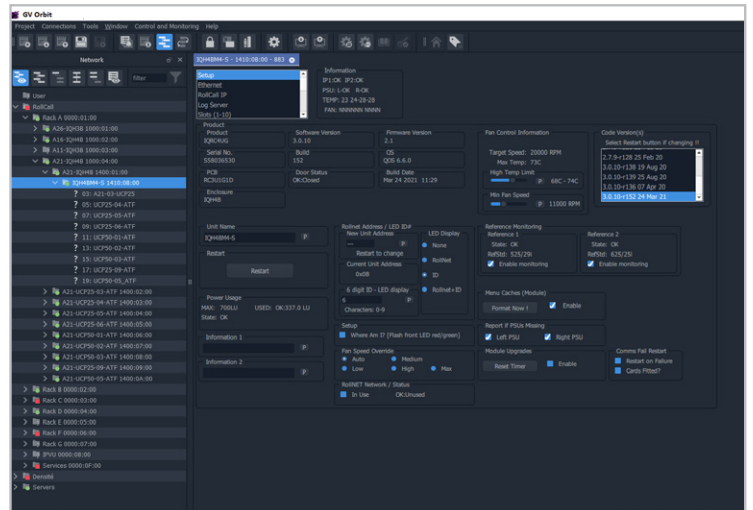
IQH4B enclosures offer industry-leading, high-density delivery of modular solutions, primarily for use with IP modules. With up to 700W of module power available this 4 RU enclosure accepts up to 20 modules, has dual redundant PSUs and in-service replaceable cooling fans. Analog reference signals can be distributed through the enclosures via two connections that can be independently selected by the installed modules. Control and monitoring is included as standard using the latest generation Gateway (IQRCG) control card that has its own module-style rear connector, providing improved (faster) control template access, HTML5 web browser connectivity, dual Ethernet support with DHCP and improved menu caching, with full GV Orbit and SNMP control and monitoring functionality.

KEY FEATURES

- 20 single- or 10 double-width modules (or any combination)
- Plug-in gateway communications card to enable control via RollNet and over TCP/IP Dual 1 GbE connections
- Fast control access with full menu and control caching for all modules
- Integrated HTML5-based web browser access for enclosure and module configuration and control
- SNMP control and monitoring of ALL intelligent IQ modules as standard
- Dual Ethernet with DHCP support, failover rules and Roll-Call+ auto-discovery
- Dual redundant network architecture over Ethernet and RollNet enables mission critical control applications to function even if a complete network failure occurs
- 2x analog reference signal distribution for dual standard (bi-level or tri-level), dual video standard (SD or HD), and reference redundancy applications with reference status reporting (Note: Only applicable to modules with -B order codes)
- Hot swappable redundant power supplies and in-service replaceable fan units
- Optimum use of rack space — frames do not require any additional ventilation spacing
- Variable fan speed, dependent upon load and ambient temperature
- Full chassis monitoring, including inlet and outlet temperature, PSU, fan and module status
- Door status monitoring (open/close)
- Full CE and UL compliance



IQH4B HTML5-based frame status overview.



IQH4B GV Orbit control panel view.

SPECIFICATIONS

Inputs, Outputs and Controls

Inputs/Outputs

RollNet remote control:

BNC connector

GV Orbit/SNMP over TCP/IP

10/100/1000baseT dual Ethernet

Controls via GV Orbit Remote Control System

Full control via HTML5 interface (available from chassis), any hardware RollPod control surface or GV Orbit.

General Specifications

Module complement: 10 double-width or 20 single-width (or combinations of both) fitted vertically

Module card dimensions: 100 x 340 mm (3.9 x13.4 in.) (WxL)

Module rear panel dimensions:

Height: 129 mm (5.1 in.)

Double width 40.4 mm (1.6 in.)

Single width: 20 mm (0.8 in.)

Power

Input voltage range: 100-240V 50/60 Hz

Input connector: IEC320 C14

Power consumption: 1000 VA maximum

Modules power dissipation: 700W/700 LU maximum

Output: +12V and -7.5V \pm 5%

Note that all modules have built-in power supply fuses.

CE Performance Information

Environment: Commercial and light industrial E2 immunity, controlled EMC E4 emissions

Peak mains inrush current following a 5 second mains interruption: 35A @ 230 VAC

Reference

Analog reference:

2x analog reference inputs

Black (HD tri-level and SD bi-level) and blackburst (SD bi-level)

SD bi-level – RS170A

HD tri-level – SMPTE ST 240, SMPTE ST 274 and SMPTE ST 296

Connector/format: BNC/75 Ω panel jack

Analog reference return loss:

SD bi-level > -40 dB to 5.5 MHz

HD tri-level > -30 dB to 30 MHz

Mechanical

Temperature range: 0 to 40° C (32 to 104° F) operating, -20 to +85° (-4 to 185° F) storage. A temperature- and load-sensitive cooling fan is fitted

Humidity range: 10 to 85% (non condensing)

Case type: 4 RU rack mounting aluminum case

Dimensions:

Width: 483 mm (19.0 in.) (445 mm (17.5 in.) behind rack location bracket)

Depth: 485 mm (19.1 in.)

Height: 180 mm (7.1 in.)

Weight: Approximately 13 kg (28.7 lbs.) without modules. Approximately 22 kg (48.5 lbs.) fully populated

ORDERING

IQH4B-S-P

Enclosure with Dual Redundant PSU and Ethernet/SNMP Compatible GV Orbit Gateway Card. 20 module slots

Accessories

IQH4B-PSU

Single PSU for use as a cold spare or replacement

IQH4B-FAN

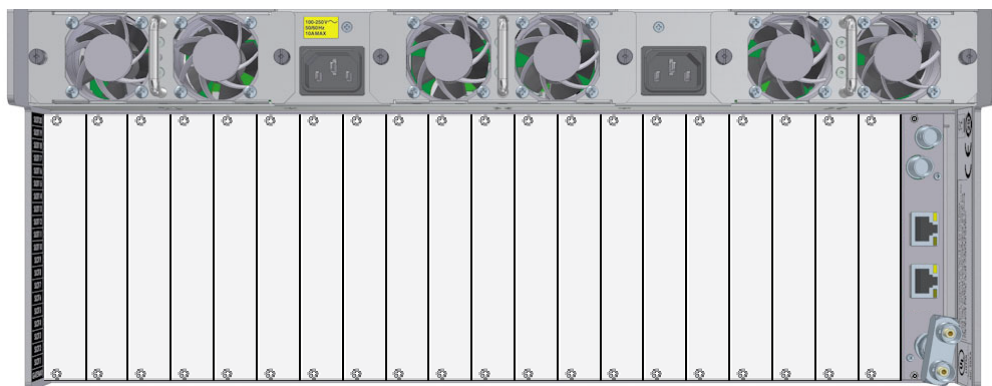
Dual Fan unit for use as a cold spare or replacement

IQRCG0000-1B

Ethernet/SNMP compatible GV Orbit Gateway card for IQH4B and IQH3B enclosures

Notes: Although IQ modules are interchangeable between enclosures, each enclosure requires a suitable variant of panels:

- 'B' order codes may be used when installing approved modules in IQH4B enclosures
- The IQH4B enclosure is primarily for use with IP modules. Please check with your authorized Grass Valley representative for an updated list of other approved IQ modular cards for the IQH4B enclosure



IQH3B

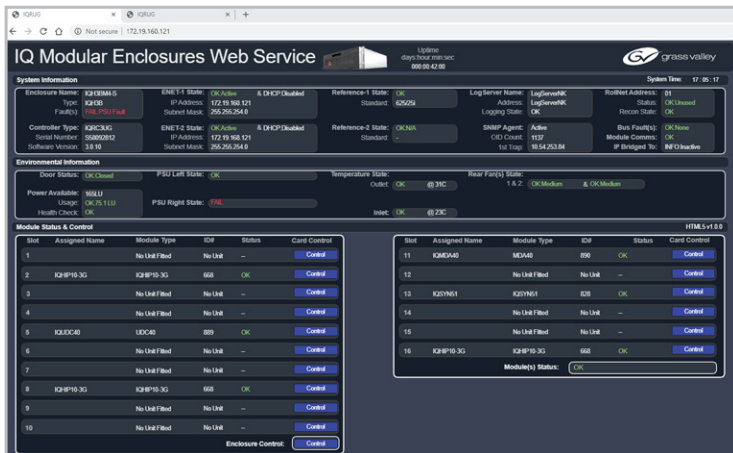
IQ 3 RU Modular Enclosure



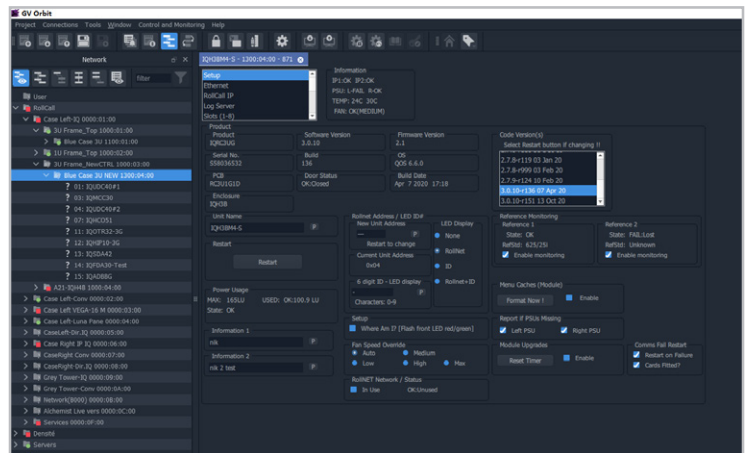
IQH3B enclosures offer industry-leading, high-density delivery of modular solutions. The 3 RU enclosure accepts up to 16 modules, and has dual redundant PSUs and cooling fans. Analog reference signals can be distributed through the enclosures via two connections that can be independently selected by the installed modules. Control and monitoring is included as standard using the latest generation Gateway (IQRG) control card that has its own module style rear connector, providing improved (faster) control template access, HTML5 web browser connectivity, dual Ethernet support with DHCP and improved menu caching, with full GV Orbit and SNMP control and monitoring functionality.

KEY FEATURES

- 16 single or 8 double-width modules (or any combination)
- Plug-in gateway communications card to enable RollNet, and GV Orbit control over TCP/IP Dual 1 GbE connections
- Fast control access with full menu and control caching for all modules
- Integrated HTML5-based web browser access for enclosure and module configuration and control
- SNMP Control and Monitoring of all intelligent IQ modules as standard
- Dual Ethernet with DHCP support, failover rules and auto-discovery
- Dual redundant network architecture over Ethernet and RollNet enables mission-critical control applications to function even if a complete network failure occurs
- 2x analog reference signal distribution for dual standard (bi-level or tri-level), dual video standard (SD or HD), and reference redundancy applications with reference status reporting (Note: Only applicable to modules with -B order codes)
- Hot-swappable redundant power supplies
- Optimum use of rack space — frames do not require any additional ventilation spacing
- Dual redundant in-service removable fan unit
- Variable fan speed, dependent upon load and ambient temperature
- Full chassis monitoring, including inlet and outlet temperature, fan condition and module status
- Door status monitoring (open/close)
- Full CE and UL compliance



IQH3B HTML-5 based frame status overview.



IQH3B GV Orbit control panel view.

SPECIFICATIONS

Inputs, Outputs and Controls

Inputs/Outputs

RollNet remote control:

BNC connector

GV Orbit/SNMP over TCP/IP

10/100/1000baseT dual Ethernet

Controls via GV Orbit Remote Control System

Full control via HTML5 interface (available from chassis), any hardware RollPod control surface and GV Orbit

General Specifications

SDI module complement: 8 double width or 16 single width (or combinations of both) fitted vertically

IP module complement (all double width):

IQUCP25: 4

IQMIX25: 4

IQUCP50: 3

Module card dimensions: 100 mm wide, 340 mm long (3.9 in. wide, 13.4 in. long)

Module rear panel dimensions:

Height: 129 mm (5.0 in)

Double width: 40.4 mm (1.6 in.)

Single width: 20 mm (0.8 in.)

Power

Input voltage range: 100-240 V 50/60 Hz

Input connector: IEC320 Fused 4 A(T)

Standby switch: Behind drop-down front panel

Power consumption: 300 VA maximum

Modules power dissipation: 210W/165 LU maximum (100 LU for IQH3BQ)

Output: +7.5V and -7.5V \pm 5%

Note that all modules have built-in power supply fuses.

CE Performance Information

Environment: Commercial and light industrial E2 immunity, controlled EMC E4 emissions

Peak mains inrush current following a 5 second mains interruption: 10A

Reference

Analog reference:

2x analog reference inputs

Black (HD tri-level and SD bi-level) and blackburst (SD bi-level)

SD bi-level – RS-170A

HD tri-level – SMPTE ST 240, SMPTE ST 274 and SMPTE ST 296

Connector/Format: BNC/75 Ω panel jack on standard IQ connector panel

Analog reference return loss:

SD bi-level > 40 dB to 5.5 MHz

HD tri-level > 35 dB to 30 MHz

Mechanical

Temperature range: 0 to 45° C (32° to 113° F) operating, -20 to +85° C (-4 to 185° F) storage. A temperature- and load-sensitive cooling fan is fitted

Humidity range: 10 to 85% (non condensing)

Case type: 3 RU rack mounting aluminum case

Dimensions:

Width: 483 mm (19.0 in.) (445 mm 17.5 in.) behind rack location bracket)

Depth: 490 mm (19.3 in.)

Height: 135 mm (5.3 in.)

Weight:

Approximately 8.25 kg (18.2 lbs.) without modules

Approximately 15 kg (33.1 lbs.) fully populated

Please refer to the IQH3B and respective IQ module Operators Manuals to determine the module power rating limits (PR) for your required configuration. In the IQH3B Enclosure power is quoted in Load Units (LU), which refers to power (in watts) taken from the positive rail. The IQH3B has 165 power loading (LU) units available for modules. The power ratings of each module should be added together and the total should not exceed 165 loading units. Modules that do not specify a "power rating" should use the total power figure (W) as a power rating value.

ORDERING

IQH3B-S-P

Enclosure with Dual Redundant PSU and Ethernet/SNMP Compatible GV Orbit Gateway Card. 16 module slots

IQH3B-SQP

100 load unit quiet enclosure with Dual Redundant PSU and Ethernet/SNMP Compatible GV Orbit Gateway Card. 16 module slots

Accessories

IQH3B-PSU

Single PSU as cold spare or upgrade to dual PSU configuration

IQH3B-FAN

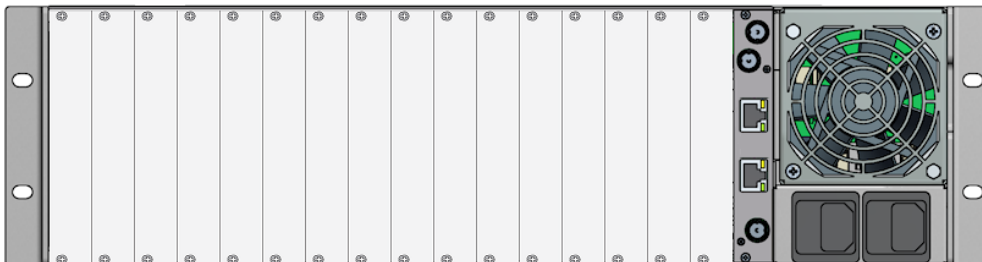
Dual Fan unit for use as cold spare or replacement

IQRCG0000-1B

Ethernet/SNMP compatible GV Orbit Gateway card for IQH4B and IQH3B enclosures

Notes: Although IQ modules are interchangeable between enclosures, each enclosure requires a suitable variant of panels:

- Either 'A' or 'B' order codes may be used when installing modules in IQH3B enclosures
- 'A' build rear panels will fit into IQH3B enclosure, however features such as frame reference (if relevant to the module) would not be supported by those modules



IQH1A

IQ 1 RU Modular Enclosure



The IQH1A enclosure offers high-density delivery of HD and SD modular solutions. The 1 RU enclosure accepts up to four “A” & now “B” single-width style SDI modules, two double-width style SDI modules. The IQH1A is available with hot-swappable dual redundant PSUs for maximum reliability. The enclosure is fitted with control and monitoring as standard, including full GV Orbit and SNMP control and monitoring functionality.

KEY FEATURES

- Four single-width or two double-width modules (or any combination)
- Capable of accepting all types of IQ modules including HD-SDI, SD-SDI, AES and analog audio, analog video and fiber optics
- Dual redundant power supplies (hot swappable) for high system availability
- Optimum use of rack space — frames do not require any additional ventilation spacing
- Plug-in GV Orbit enabled via gateway card with TCP/IP, RollNet, SNMP and RS-232/422/485 connectivity
- In service replaceable cooling fans
- Chassis monitoring, including inlet temperature, fan condition and module status
- Full CE and UL compliance

SPECIFICATIONS

Inputs, Outputs and Controls

Inputs/Outputs

RollNet remote control: BNC connector
RS-232/422/485

Remote control: 9-pin D-Type connector
GV Orbit/SNMP over TCP/IP
10/100base-T Ethernet

Preset Controls

Unit address code set switches: 2 Hex switches 0 to F
Communications mode switch: Select RS-232, RS-485 or RS-422 interface

Additional Controls via GV Orbit Remote Control System

Full Control via GV Orbit Control Panel PC Application

General Specifications

Number of modules that may be accommodated:

1 RU: 2 double-width or 4 single-width SDI (or combinations of both) fitted horizontally.

Module card dimensions: 100 mm wide, 340 mm long

Module rear connector:

SD – 64 way HD/SD – 55 way
Z pack + 6/9 coax inserts

Module rear panel dimensions:

-A versions: 129 mm (5.1 in.) wide
Double-width: 40.4 mm (1.6 in.) high
Single-width: 20 mm (0.8 in.) high

CE Performance Information

Environment: Commercial and light industrial E2 immunity, controlled EMC E4 emissions
Peak mains inrush current following a 5 second mains interruption: 16A

Power (each PSU)

Input voltage range: 100 – 240V 50/60 Hz

Input connector: IEC320 Fused T3.15AH

Input current: 2.5A

Enclosure power consumption: 86.25W maximum ($\pm 7.5V$ supplies)

Modules power dissipation: 63W maximum

Outputs:

+7.5V and -7.5V $\pm 10\%$
Fan supply 11V $\pm 1V$
0.7A typical

Note that all modules have built-in power supply fuses.

Mechanical

Temperature range: 0 to 40° C (32 to 104° F) operating, -30 to +75° C (-22 to 167° F) storage. Cooling fan is fitted

Humidity range: 10 to 85% (non condensing)

Case type: 1 RU rack mounting aluminum case

Dimensions: 483 x 470 x 44.4 mm (19.0 x 18.5 x 1.7 in.) (WxDxH)

Depth behind rack ears excluding space for leads: 450 mm (17.7 in.)

Weight empty: 6.45 kg (14.2 lbs.)

Weight including modules: 8.25 kg (18.2 lbs.)

ORDERING

IQH1A-S-P

Enclosure with Dual Redundant PSU & Ethernet/SNMP Compatible GV Orbit Gateway Card. 4 module slots

Accessories

IQH1APSU

Single PSU as cold spare or upgrade to Dual PSU configuration

IQH1A-S-GATEW

Ethernet/SNMP compatible GV Orbit Gateway card for IQH1A enclosures



Notes: Although IQ modules are interchangeable between enclosures, each enclosure requires a suitable variant of panels:

- Either 'A' or 'B' order codes may be used when installing modules in the newer IQH1A enclosures

- When selecting 'B' build rear panels to fit into the IQH1A enclosure, please ensure features such as frame reference (if relevant to the module) are available on the rear since distributed reference is not supported in this enclosure

DS-PUB-2-0758E-EN



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