



G4 Power Controller for IONPURE® CEDI Modules

Overview of the G4 Power Controller

The Ionpure® G4 DC Power Controller is a modern, compact, and highly reliable product specifically designed for use with MX, LX and VNX Ionpure® Continuous Electrodeionization (CEDI) modules.

When paired with an isolation transformer, the G4 is the optimal single-phase-input solution to provide independent control of DC current applied to Ionpure® CEDI modules. It allows for a cost-effective and standardized solution for simplified electrical controls and optimized system performance.

The G4 provides advanced troubleshooting features, including CEDI module electrical resistance logging, together with alerts when cleaning is potentially required.

The G4 is available in two versions: G4-R and G4-M. The G4-R is specifically designed to retrofit legacy Ionpure® single-phase power controllers (G1, G2 and DCR-R) and is compatible with DSP1, DSP8 and G2 displays. In addition, it offers 0-5 VDC I/O for analog control and monitoring of the DC output. The G4-M is designed for new installations. It can be interfaced with the Ionpure® Touch Panel Display or any Modbus TCP client. It also offers 4-20 mA I/O for analog control and monitoring of the DC output.

Contact Information:

For additional information on our G4 power controller or CEDI modules, email us at ionpure@xylem.com or visit our website at ionpure.com.



Features and Benefits:

- Modern, highly reliable design with filtered output for optimal CEDI module performance
- Constant current operation
- Compact, touch-safe, fully enclosed design
- Current leakage detection circuitry built-in
- Status LED indicators, configuration switches and ports located on the front for easy access and maximized visibility
- Pluggable electrical connectors for convenient wiring
- On-board diagnostics with advanced capability through Ionpure® Power Panel software via USB-C or Ethernet port
- CEDI module resistance tracking and alerting
- Ethernet connection for G2 display (G4-R) or a Modbus TCP client (G4-M)
- Daisy-chain thru Ethernet for control and monitoring of multiple power controllers from a central location
- 0-5 VDC (G4-R) or 4-20 mA (G4-M) for optional analog control and monitoring of DC output
- Several units can be powered from a single transformer secondary. Voltage taps not required.
- Designed and Manufactured in the USA
- Meets applicable international standards

Physical Specifications:

- Length: 6 in (152.4 mm)
- Width: 6 in (152.4 mm)
- Depth: 5.4 in (137.2 mm)
- Weight: 4.7 lb (2.13 Kg)

Environmental Requirements:

- Operating temperature: 0 – 50 °C (32 – 122° F)
- Storage temperature: -20 – 70 °C (-4 – 158° F)
- Relative Humidity: 0 - 95% (non-condensing)
- Altitude: < 6,000 ft
- Cooling: heat-sink/forced air

Display Connection Information

Display Model	Connection Cable Required	G4 Controller Required
IP-DSP1, IP-DSP8, IP-DSP1P, IP-DSP8P	IP-VNXCABLE06 or IP-VNXCABLE10	IP-POWER-G4-R
IP-POWERDSP-G2	IP-CABLE2M-G2 or generic Cat-6 ethernet	IP-POWER-G4-R
IP-POWERDSP-TP	IP-CABLE2M-G2 or generic Cat-6 ethernet	IP-POWER-G4-M

AC Input Specifications:

- Line voltage: 220 - 660 VAC (auto-ranging)
- Phase: single
- Frequency range: 45 - 65 Hz

DC Output Specifications:

- Current: 0 - 13.2 ADC
- Maximum voltage: 90% of line voltage (up to 600 VDC)
- Constant current mode

Digital Communications:

- Configuration and diagnostics port: USB-C
- Fieldbus protocol: Modbus TCP (G4-M) or Proprietary G2 (G4-R)
- Fieldbus port: RJ-45 (2x)
- Address setting via 16-position rotary switch

Low Voltage I/O:

- Input for output current setpoint: 4-20 mA (G4-M) or 0-5V (G4-R)
- Output current and voltage retransmits: 4-20 mA (G4-M) or 0-5V (G4-R)
- Dry remote ON/OFF input
- N.O. relay output for alarm and/or status indication

Protections:

- Selectable DC output current limit range: 0 - 2.5, 0 - 4, 0 - 6.5, 0 - 10 and 0 - 13.2 Amps
- Configurable DC output voltage limit
- DC output shutdown at open interlock
- Short circuit, ground current leakage, line transients, over voltage, under voltage, over temperature, etc.
- Conformal coated PCBs
- Touch-safe connectors
- Fully enclosed

Regulatory Compliance:

- UL recognized (US and Canada)
- CE
- RoHS

Ordering Information

Order #	Model #	Description
W3T612101	IP-POWER-G4-M	G4-M DC Power controller, 0-600V, 0-13.2A, Modbus TCP version
W3T612103	IP-POWER-G4-R	G4-R DC Power controller, 0-600V, 0-13.2A, Retrofit version