

Graphite[®] Advanced Rugged HMIs

Red Lion Automation Series



▶▶▶ Graphic Operator Interface Panels with Modular I/O

Graphite HMIs are the industry's first rugged HMI solution to combine plug-in modules with protocol conversion, data logging and web-based monitoring and control.

From factories to extreme locations, Graphite HMIs allow customers to easily connect, monitor and control their processes and equipment. Graphite HMIs provide powerful protocol conversion between 300 drivers providing up to 13 simultaneous protocol conversions ensuring every device is integrated. Available in eight different models with sizes ranging from 7" to 15", Graphite's sleek design provides full-color touchscreen displays that consume minimal panel space.



APPLICATIONS

- > Machine Automation
- > Oil and Gas
- > Water/Wastewater
- > Plastic Extrusion
- > Data Acquisition

PRODUCT HIGHLIGHTS

- > Protocol Conversion With Over 300 Drivers
- > Up to Eight Plug-In I/O and Communication Module Slots
- > Built-in Web Server for Remote Access
- > On-Board Data Logging to SD Card or via FTP
- > Industrial Construction, Die-Cast Aluminum Housing Provides Extreme Protection
- > Wide -20° to 60°C Operating Temperature Range
- > Outdoor Sunlight Readable Models Available
- > Dual USB Host Capability

FEATURES & BENEFITS

- > Plug-in I/O, PID Control and Communication Modules
 - Minimizes equipment complexity with an all-in-one solution
- > Full-Color Touchscreen Display
 - Outdoor sunlight readable models
 - Optional widescreen
 - Narrow bezel reduces installation space
- > Rugged Construction
 - Wide -20° to 60°C operating temperature
 - High tolerance to shock and vibration
 - UL Class 1, Division 2, ABS, ATEX and IECEx approvals for hazardous locations
- > Configured via Crimson[®] 3 Software
 - Intuitive drag-and-drop graphical software for easy setup
 - Quickly create simple applications using step-by-step process
 - Over 300 built-in drivers can be mapped to PLCs, drives and scanners in seconds
- > Powerful Integration Features
 - Ethernet, USB and serial ports make communication simple
 - Built-in data logging for all connected equipment ensures equipment uptime
 - Robust web server provides remote access and control

industrial
automation



▶▶▶ Graphite Specifications

COMMUNICATION PROPERTIES

USB Ports

Programming Port: One (1) USB Type B adheres to USB specification 1.1
 Host Ports: Two (2) USB Type A complies with USB specification 2.0
 Supports full-speed data transfers

Hardware over current protected (0.5 A max per port)

Serial Ports: Format/Baud rates independently configurable

Programming Port: One (1) RS-232 port with RJ12 connector

Communication Ports:

One (1) RS-232 port via RJ12 connector

One (1) RS-422/485 port via RJ45 connector

Optional Serial Ports:

One (1) RS-232 port via RJ12 connector

One (1) RS-422/485 port with via RJ45 connector

Ethernet Ports: 1500 Vrms network isolation

One (1) 10/100Base-T(X) port via RJ45 connector

Optional Ethernet Port: One (1) 10/100Base-T(X) port via RJ45 connector

POWER INPUT

24 VDC ± 20%

Model	Typical	Max	With Modules
G07C	9 W	16 W	37 W
G07S	10 W	17 W	38 W
G09	13 W	20 W	45 W
G10C/R	12 W	19 W	48 W
G10S	18 W	24 W	53 W
G12	16 W	23 W	56 W
G15	20 W	27 W	60 W

Must use a Class 2 circuit according to National Electrical Code (NEC), NFPA-70 or Canadian Electrical Code (CEC), Part I, C22.1 or a Limited Power Supply (LPS) according to IEC 60950-1 or Limited-energy circuit according to IEC 61010-1. Power connection via removable three position terminal block.

Battery: Lithium coin cell

Typical lifetime of 10 years

POWER CONNECTION

High compression cage-clamp terminal block

Wire Strip Length: 0.3" (7.5 mm)

Wire Gauge Capacity: One 14 AWG (1.63 mm) solid,
 two 18 AWG (1.02 mm) or four 20 AWG (0.81 mm)

LCD DISPLAY

Touchscreen: Resistive analog

Model	Size	Pixels	Brightness	Backlight
G07C	7 in	800 X 480	500 cd/m ²	50,000 HR TYP.
G07S	7 in	800 X 480	1000 cd/m ²	70,000 HR TYP.
G09	9 in	800 X 480	400 cd/m ²	70,000 HR TYP.
G10C	10 in	640 X 480	450 cd/m ²	70,000 HR TYP.
G10R	10 in	800 X 600	400 cd/m ²	70,000 HR TYP.
G10S	10 in	640 X 480	1500 cd/m ²	35,000 HR TYP.
G12	12 in	1280 X 800	400 cd/m ²	70,000 HR TYP.
G15	15 in	1024 X 768	400 cd/m ²	70,000 HR TYP.

NETWORK MEDIA

10BaseT: ≥ Cat3 cable

100BaseTX: ≥ Cat5 cable

ENVIRONMENTAL

Operating Temperature: -20° C to 60° C

Storage Temperature: -20° C to 70° C

Operating Humidity: 0 to 85% (non condensing)

Operating Altitude: Up to 2000 meters

Shock: 40 g per IEC 68-2-27

Vibration: 4 g @ 5-500 Hz (7" model see lit) per IEC 68-2-6

CERTIFICATION & COMPLIANCE

Product Safety:

UL Safety: Class I, Division 2, Groups A, B, C, D , Class II, Division 2, Groups F and G , Class III Hazardous Locations certificate number #E317425

CE Approved: EN 61326-1 Immunity to Industrial Locations

Emission CISPR 11 Class A, IEC/EN 61010-1, RoHS Compliant

ABS Type Approval for Shipboard Applications

Outdoor Enclosure Rating: IP40, UL50 (Face only)

Enclosure Rating: IP66 (Face only)

Enclosure Rating: IP20 (Rear of unit)

MECHANICAL

Construction: Cast aluminum enclosure with NEMA 4X/IP66 rating for indoor/outdoor use when correctly fitted with the gasket provided.
 Installation Category II, Pollution Degree 2.

Weight:

G07 – 2.26 lb. (1.03 kg)

G09 – 3.39 lb. (1.54 kg)

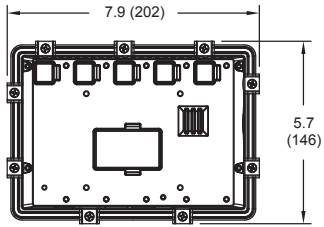
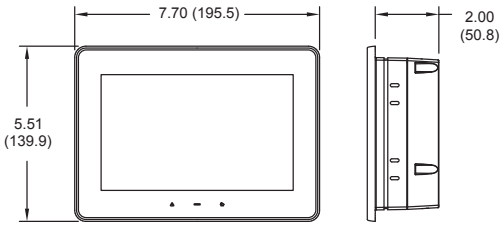
G10 – 4.80 lb. (2.18 kg)

G12 – 5.06 lb. (2.29 kg)

G15 – 7.73 lb. (3.50 kg)

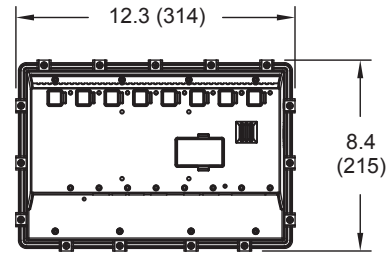
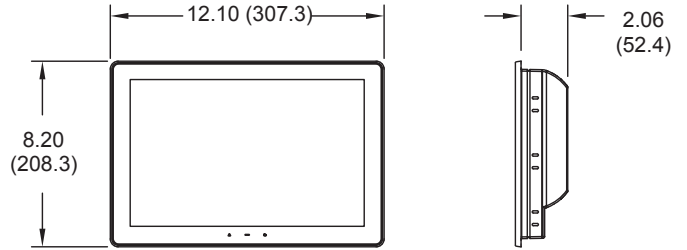
▶▶▶ Graphite Dimensions *In Inches (mm)*

G07



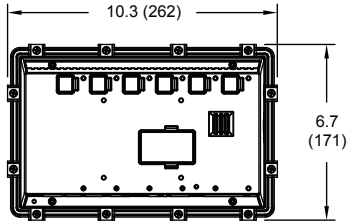
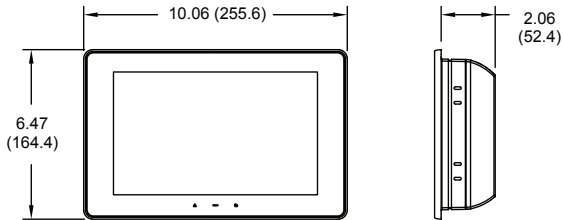
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G12



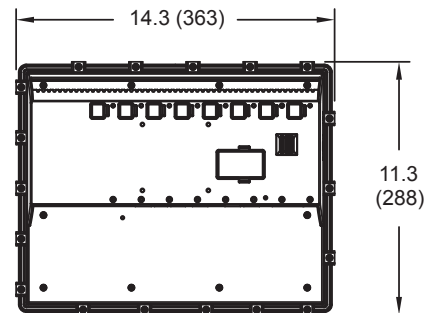
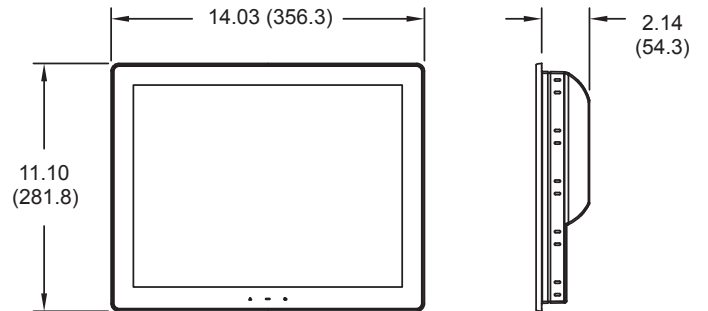
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G09



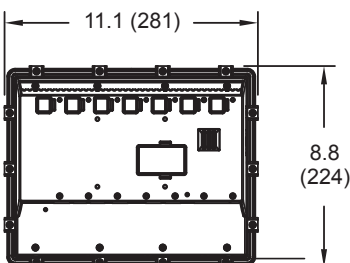
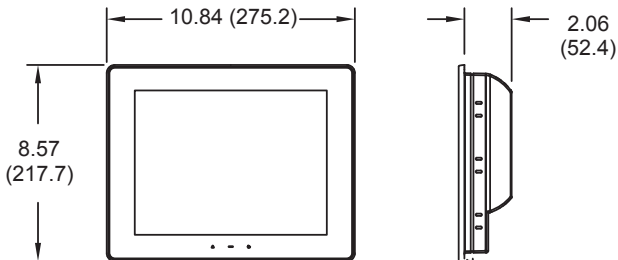
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G15



(MOUNTING CLIPS INSTALLED)

G10



(MOUNTING CLIPS INSTALLED)

GRAPHITE OPERATOR PANELS

PART NUMBER	DESCRIPTION
G07C0000	7" Operator Interface Terminal for Indoor Use
G07S0000	7" Operator Interface Terminal for Outdoor Use
G09C0000	9" Operator Interface Terminal for Indoor Use
G10C0000	10" Operator Interface Terminal for Indoor Use
G10S0000	10" Operator Interface Terminal for Outdoor Use
G10R0000	10" Operator Interface Terminal, High Resolution Display for Indoor Use
G12C0000	12" Operator Interface Terminal for Indoor Use
G12C1100	12" Operator Interface Terminal with Aux. Ethernet and dual RS485 ports
G15C0000	15" Operator Interface Terminal for Indoor Use
G15C1100	15" Operator Interface Terminal with Aux. Ethernet and dual RS485 ports

PID CONTROLLER MODULES

PART NUMBER	DESCRIPTION
GMP1RA00*	Graphite Module, Single PID, Relay and Analog Outputs
GMP1RM00*	Graphite Module, Single PID, Relay Outputs, Heater Current Monitor
GMP1SA00	Graphite Module, Single PID, SSR and Analog Outputs
GMP1SM00	Graphite Module, Single PID, SSR Outputs, Heater Current Monitor
GMP2R000*	Graphite Module, Dual PID, Relay Outputs
GMP2RM00*	Graphite Module, Dual PID, Relay Outputs and Heater Current Monitor
GMP2S000	Graphite Module, Dual PID, SSR Outputs
GMP2SM00	Graphite Module, Dual PID, SSR Outputs and Heater Current Monitor

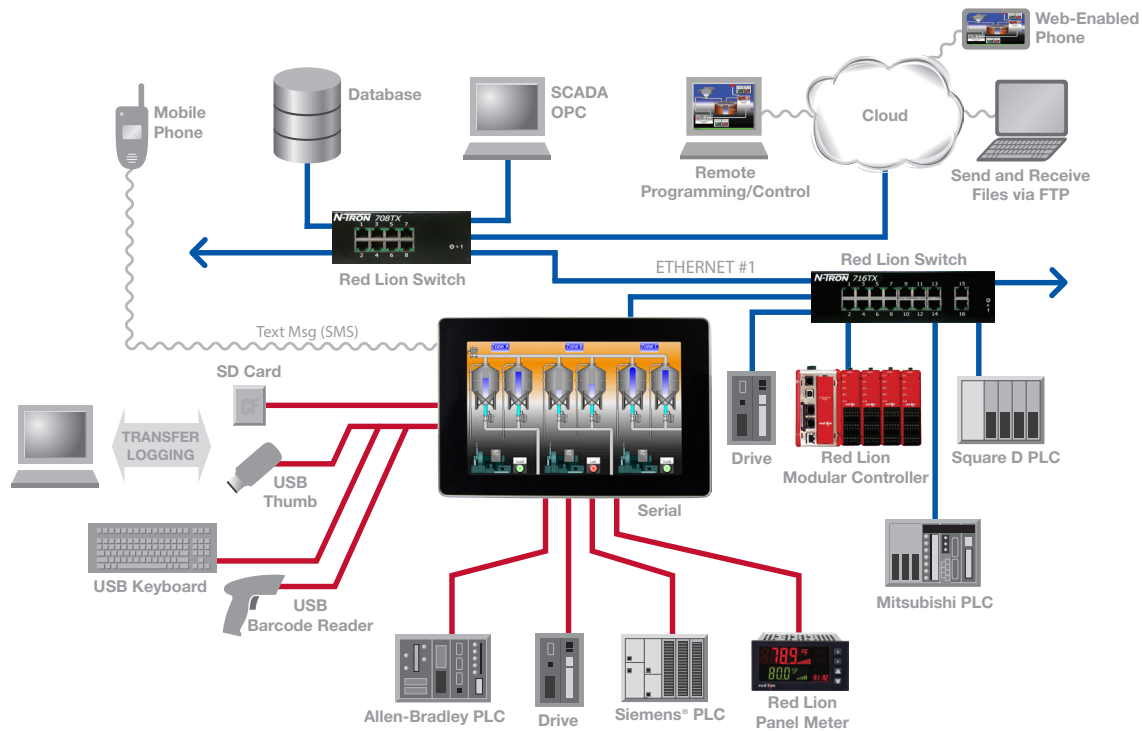
DATA ACQUISITION MODULES

PART NUMBER	DESCRIPTION
GMDIOR00*	Graphite Module, Digital I/O, 8 Inputs and 6 Relays Outputs
GMDIOS00	Graphite Module, Digital I/O, 8 Inputs and 6 Solid State Outputs
GMUIN400	Graphite Module, 4 Universal Analog Inputs
GMOUT400	Graphite Module, 4 Analog Outputs
GMINI800	Graphite Module, 8 DC Current Inputs
GMINV800	Graphite Module, 8 DC Voltage Inputs
GMTCB000	Graphite Module, 8 Thermocouple Inputs
GMRTD600	Graphite Module, 6 RTD Inputs
GMSG10R0*	Graphite Module, 1 Strain Gage Input, Relay Output
GMSG10S0*	Graphite Module, 1 Strain Gage Input, SSR Output
GMSG11R0*	Graphite Module, 2 Strain Gage Input, Relay Output
GMSG11S0*	Graphite Module, 2 Strain Gage Input, SSR Output

COMMUNICATION MODULES

PART NUMBER	DESCRIPTION
GMCAN000*	Graphite Module, CAN Protocol Interface
GMJ19390*	Graphite Module, J1939 Protocol Interface
GMDN0000*	Graphite Module, DeviceNet Protocol Interface
GMPBDP00*	Graphite Module, PROFIBUS DP Protocol Interface
GMHSPA00*	Graphite Module, HSPA+ Cellular

* Non ATEX approved modules



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As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our automation, Ethernet and cellular M2M technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron® and Sixnet®. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. Red Lion is part of Spectris plc, the productivity-enhancing instrumentation and controls company. For more information, please visit www.redlion.net.

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