



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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▶▶▶ Rugged Operator Panels with Modular I/O

The Graphite[®] operator panels are the industry's first rugged HMI touchscreens to combine I/O modules with protocol conversion, data logging, web-based monitoring and IEC 61131 control capabilities.

Available in eight different sizes ranging from 7" to 15", Graphite HMIs feature sleek full-color touchscreens in a streamlined, compact footprint for easy installation. Rugged cast-aluminum construction supports outdoor and indoor display with wide operating temperatures and high shock/vibration tolerances that enable organizations to connect, monitor and control processes regardless of environment. Unify disparate devices by converting up to 20 industrial protocols simultaneously from a built-in library of over 300 supported drivers. In addition, select from a wide variety of module and expansion options to seamlessly extend capabilities and address varying requirements.



INDUSTRY APPLICATIONS

- > Factory Automation
- > Oil & Gas
- > Power & Utilities
- > Maritime
- > Water/Wastewater
- > Plastic Extrusion
- > Data Acquisition
- > Industrial Internet of Things (IIoT)

PRODUCT HIGHLIGHTS

- > Protocol Conversion of over 300+ Drivers
- > Built-In Web Server for Remote Access
- > Real-Time Data Logging to SD Card or via FTP
- > Rugged Construction for Extreme Protection
- > Wide Operating Temperature Range
- > Outdoor Sunlight-Readable Models
- > Scalable Modules and Expansion Options
- > IEC 61131 control capabilities with Crimson Control

FEATURES & BENEFITS

- > Sleek Full-Color HMI Touchscreens
 - 7" to 15" models with narrow tablet-style bezels
 - Outdoor sunlight-readable and widescreen models
- > Versatile Module and Expansion Options
 - Choose from a mix of I/O, PID control or communication to populate up to 8 local module slots*
 - Use Crimson Control module for enhanced IEC 61131 logic control programming
 - Connect Graphite Expansion Racks to easily scale
 - Extend even further with E3 I/O™ high-density modules
- > Rugged Environmental Specifications
 - Wide -20° to 60°C HMI operating temperature
 - High shock and vibration tolerance
 - CE, UL/cUL, UL/cUL Hazardous, ATEX, IECEx and ABS approvals

- > Industry-Leading Protocol Conversion
 - Communicate with over 300 industrial protocols
 - Support up to 20 simultaneous protocols
 - Convert between serial, USB and Ethernet devices
 - Manage multi-vendor environments with ease
- > Powerful Integration Functionality
 - Intuitive Crimson 3.0 software for easy drag-and-drop configuration
 - Ethernet, USB and serial ports make communication simple
 - Built-in data logging enhances troubleshooting and helps meet regulatory requirements
 - Robust web server provides remote access and control to reduce costly site visits

* Model dependent

▶▶▶ 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

10 to 30 VDC

| 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)

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 per IEC 68-2-6

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. |

CERTIFICATION & COMPLIANCE

CE Approved

EN 61326-1 Immunity to Industrial Locations Emission CISPR 11 Class A
 IEC/EN 61010-1
 RoHS Compliant

ATEX Approved

II 3 G Ex ic nA IIC T4 Gc
 II 3 D Ex tc IIIC T135°C Dc
 DEMKO 14 ATEX 1387X
 EN 60079-0, -11, -15, -31

IECEx Approved

Ex ic nA IIC T4 Gc
 Ex tc IIIC T135°C Dc
 IECEx UL 15.0035X
 IEC 60079-0, -11, -15, -31

UL Approved

cULus Listed for Ordinary Location: File #E302106
 UL 61010-1, -2-201

cULus Listed for Hazardous Location: File #E317425

Class I, Division 2, Groups A, B, C and D
 Class II, Division 2, Groups F and G
 Class III, Division 2
 ANSI/ISA 12.12.01, C22.2 No. 213-M1987, 157-92
 Type 4X Indoor / IP66 Enclosure rating (Face only) for all models Type 4X
 Outdoor Enclosure rating (Face only) for GxxSxxxx models
 ABS Type Approval for Shipboard Applications

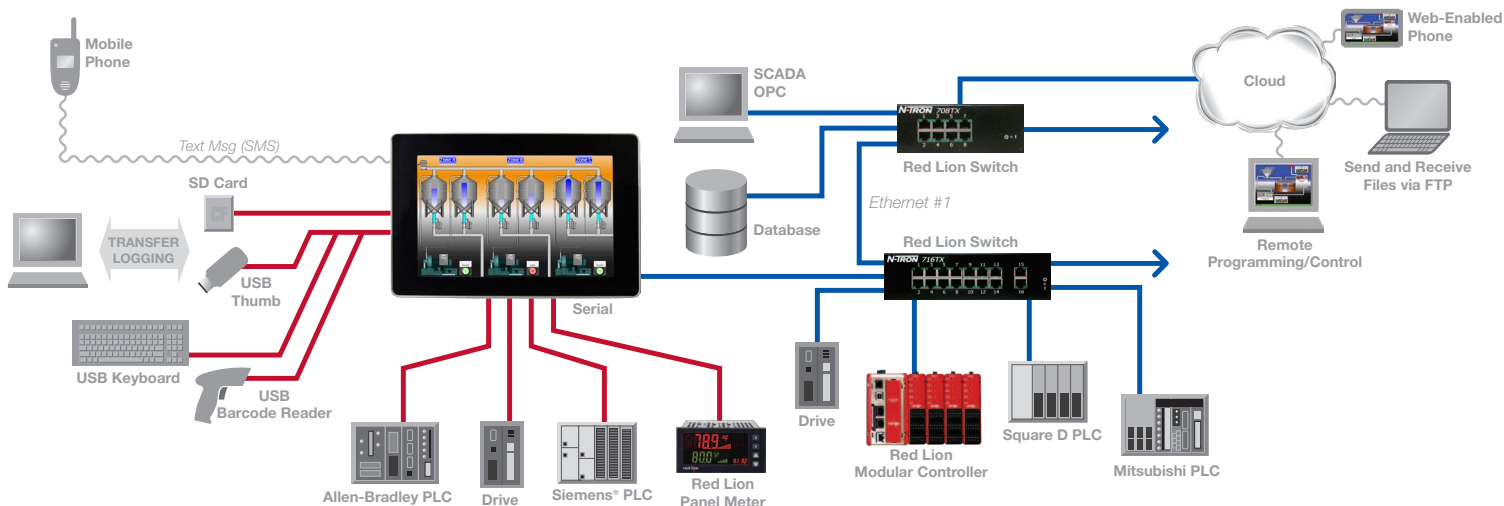
MECHANICAL

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:

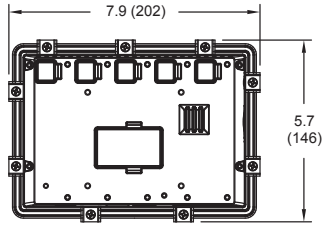
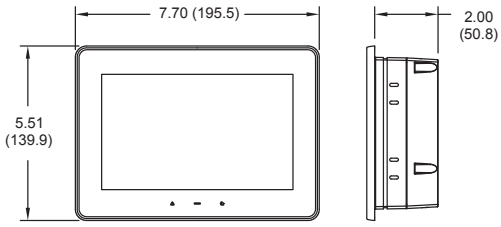
G07 – 2.26 lb. (1.03 kg)
 G09 – 3.39 lb. (1.54 kg)
 G10 – 4.80 lb. (2.18 kg)
 G12 – 5.06 lb. (2.29 kg)
 G15 – 7.73 lb. (3.50 kg)

Specifications are subject to change. Visit www.redlion.net for more information.



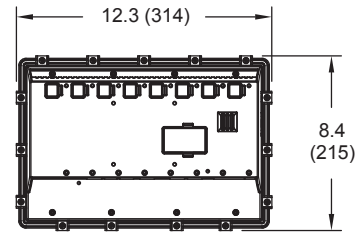
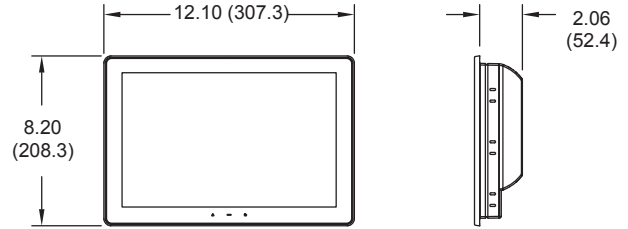
▶▶▶ Graphite Dimensions in Inches (mm)

G07



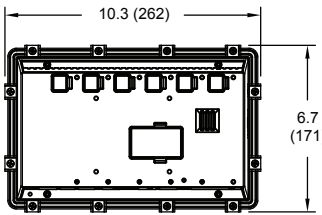
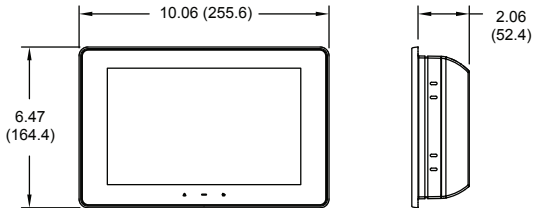
(MOUNTING CLIPS INSTALLED)

G12



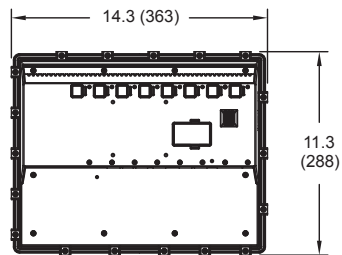
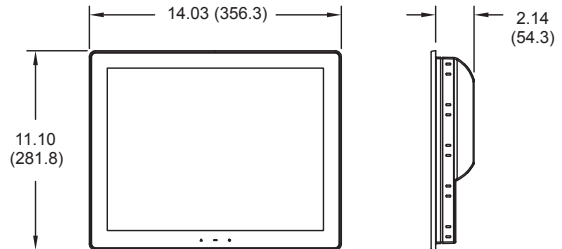
(MOUNTING CLIPS INSTALLED)

G09



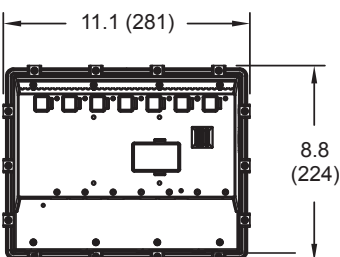
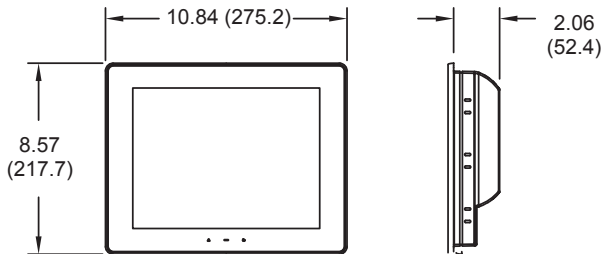
(MOUNTING CLIPS INSTALLED)

G15



(MOUNTING CLIPS INSTALLED)

G10



(MOUNTING CLIPS INSTALLED)

GRAPHITE OPERATOR PANELS

| MODEL 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 |
| G09C1000 | 9" Operator Interface Terminal for Indoor Use |
| G10C0000 | 10" Operator Interface Terminal for Indoor Use |
| G10C1000 | 10" Operator Interface Terminal for Indoor Use |
| G10S0000 | 10" Operator Interface Terminal for Outdoor Use |
| G10S0000 | 10" Operator Interface Terminal for Outdoor Use |
| G10R0000 | 10" Operator Interface Terminal, High Resolution Display for Indoor 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 |

CRIMSON CONTROL MODULE

| MODEL NUMBER | DESCRIPTION |
|--------------|---|
| GMCC0000 | Graphite Module, enables IEC 61131 control capabilities via Crimson Control |

PID CONTROL MODULES

| MODEL 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

| MODEL 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 |
| GMTC8000 | 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

| MODEL 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 |

EXPANSION RACKS

| MODEL NUMBER | DESCRIPTION |
|--------------|--|
| GEXRACK1 | Graphite Wide Expansion Rack for Modules |
| GEXRACK2 | Graphite Standard Expansion Rack for Modules |
| CBLUSBM0 | USB Tethering Cable, 0.5 M Metal Jacketed |
| CBLUSBM1 | USB Tethering Cable, 1 M Metal Jacketed |
| CBLUSBM2 | USB Tethering Cable, 2 M Metal Jacketed |

* Non ATEX approved modules



BUILD THE PERFECT HMI SOLUTION.

With up to eight available plug-and-play module slots and additional expansion rack options, Graphite HMIs provide a scalable all-in-one platform to help integrate complex multi-vendor environments. Employing modules to address PID control, data acquisition and communication, Graphite HMIs allow users to connect, monitor and control a wide array of equipment to meet specific application requirements. In addition, our Crimson Control module enables users to leverage industry-standard IEC 61131 programming languages such as Ladder Logic, Function Block, Structured Text and Instruction List to develop logic code much like a Programmable Logic Controller (PLC) or Remote Telemetry Unit (RTU) without the added expense.



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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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