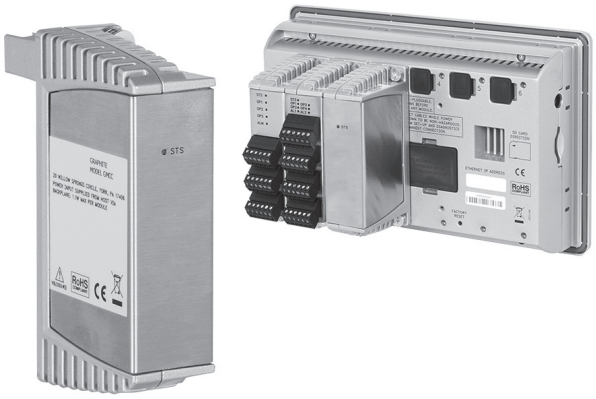
Install - GMCC-E
Drawing No. LP0993
Revised 11/2023

Model GMCC - Graphite® Crimson® Control Module

Installation Guide



- Enables control engine to function in Graphite HMIs
- Works with any existing Graphite HMI
- Control programs are configured in Crimson Control, which is now included in Crimson 3 software
- Module can be mounted in any open slot on Graphite HMI or expansion racks

c UL US LISTED
IND. CONT. EQ.
E302106

c UL US LISTED
IND.CONT. EQ.
E317425

FOR USE IN HAZARDOUS LOCATIONS:
Class I, Division 2, Groups A, B, C, and D
T4

UK CA CE Ex

II 3 G Ex nA IIC T4 Gc
-40°C≤T_{AMB}≤75°C
DEMKO 14 ATEX 1387X
IECEx UL 15.0035X
UL23UKEX2879X

GENERAL DESCRIPTION

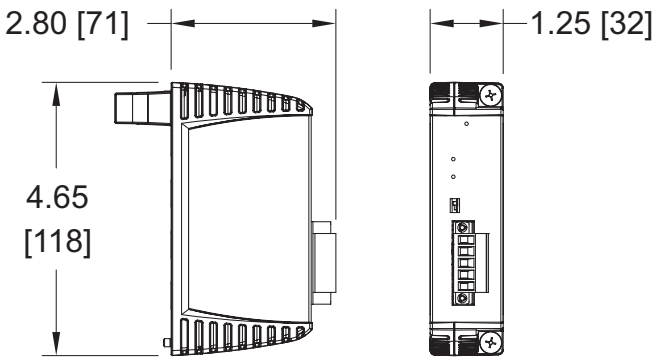
The Graphite Crimson Control Module enables control capability in any Graphite HMI. Crimson Software provides the ability to write control programs using one of the following IEC 61131-3 languages - Ladder Diagram, Function Block Diagram, Structured Text and Instruction List. The Control Module must be physically installed in a slot on the back of the Graphite HMI or in a slot on the Expansion System, for these programs to be executed.

The modules connect and communicate via proprietary USB connection to the various Graphite devices. The Graphite devices, equipped with serial ports as well as Ethernet port(s), allow the system to share data with PCs, PLCs and SCADA systems. The maximum number of modules varies for each Graphite device, see specific model for details. Remove power from the host device before installing or replacing any modules.

CONFIGURATION

The Graphite host can be programmed with Red Lion's Crimson 3.0 software. The software is an easy to use, graphical interface which provides a means of configuration and commissioning of new systems, as well as routine module re-calibration. Embedded in Crimson 3.0 software platform is the control engine, Crimson Control which can be written in 4 programming languages including Ladder Logic, Function Block, Structured Text and/or Instruction List.

DIMENSIONS In inches [mm]



SAFETY SUMMARY

All safety related regulations, local codes as well as instructions that appear in this document or on equipment must be observed to ensure personal safety and to prevent damage to either the device or equipment connected to it.

Do not use these products to replace proper safety interlocking. No software-based device (or any other solid-state device) should ever be designed to be responsible for the maintenance of personnel safety or consequential equipment not equipped with safeguards. Red Lion disclaims any responsibility for damages, either direct or consequential, that result from the use of this equipment in a manner not consistent with these specifications.

CAUTION: Risk of Danger.
Read complete instructions prior to installation and operation of the unit.

WARNING - EXPLOSION HAZARD - Do not disconnect equipment unless power has been switched off or area is known to be non-hazardous.

WARNING - EXPLOSION HAZARD - Substitution of components may impair suitability for Class I, Division 2

ORDERING INFORMATION

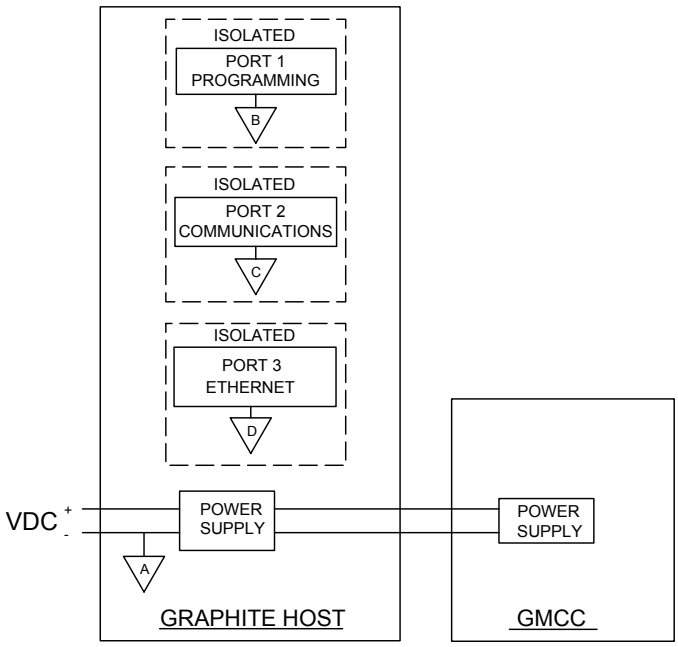
DESCRIPTION	PART NUMBER
Graphite Module, Crimson Control	GMCC0000

A listing of the entire Graphite family of products and accessories can be found at www.redlion.net

SPECIFICATIONS

1. **POWER**: Power will be supplied by the Graphite host device. Some modules, depending on usage may consume high levels of power. This may limit the total number of modules that can be installed on a single Graphite host. Check the Graphite module and Graphite host data sheets for specific usage and power requirements.
   GMCC Max Power: 1.1 W
2. **LEDS:**
   STS - Status LED shows module condition.
3. **ENVIRONMENTAL CONDITIONS**:
   Operating Temperature Range: -40 to +75 °C T_{AMB}, or lowest range among equipment used in your Graphite system. Consult the user manual or www.redlion.net/OpTemp for further details.
   Storage Temperature Range: -40 to +85 °C T_{AMB}
   Operating and Storage Humidity: 85% max relative humidity, non-condensing
   Altitude: Up to 2000 meters
4. **CERTIFICATIONS AND COMPLIANCES**:
   CE Approved
   EN 61326-1 Immunity to Industrial Locations
   IEC/EN 61010-1
   RoHS Compliant
   ATEX/UKEX Approved
   II 3 G Ex nA IIC T4 Gc
   DEMKO 14 ATEX 1387X
   EN 60079-0, -11, -15 -31
   UL23UKEX2879X
   IECEx Approved
   Ex nA IIC T4 Gc
   IECEx UL 15.0035X
   IEC 60079-0, -11, -15 -31
   India PESO Approved:
   A/P/HQ/MH/104/7441 (P549599)
   UL Listed: File #E302106
   UL Hazardous: File #E317425
   ABS Type Approval for Shipboard Applications
5. **CONSTRUCTION**: Case body is all metal construction.
6. **CONNECTIONS**: Removable wire clamp screw terminal block.
7. **MOUNTING**: Screws to host.
8. **WEIGHT**: 6.7 oz (189.9 g)

Block Diagram for GMCC



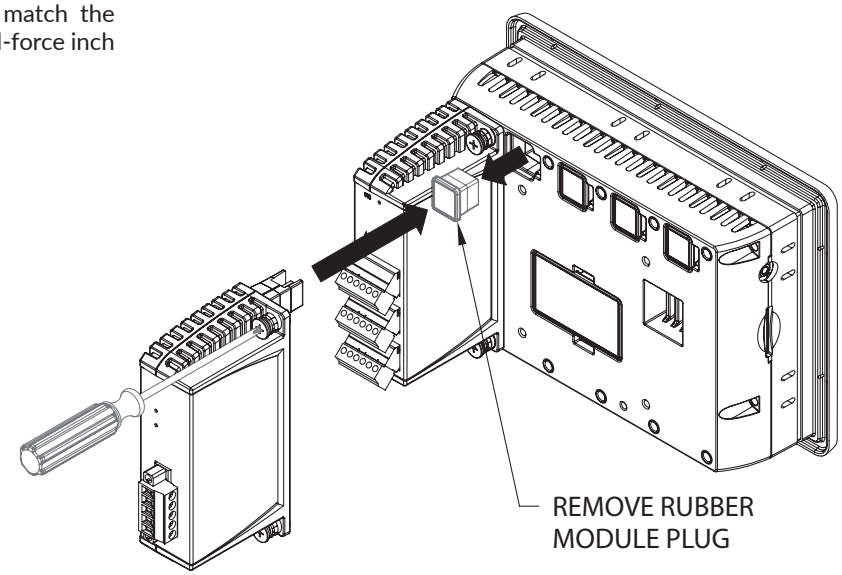
EMC INSTALLATION GUIDELINES

Visit http://www.redlion.net/emi for more information on EMI guidelines, Safety and CE issues as they relate to Red Lion products.

HARDWARE INSTALLATION

The physical order of all installed modules must match the modules order in Crimson. Torque screws to 6.0 pound-force inch [96 ounce-force inch] (0.68 Nm).

WARNING: Disconnect all power to the unit before installing or removing modules.



COMMUNICATING WITH THE GMCC MODULE

LEDs

STS - STATUS LED

The Status LED is a green/red LED that provides information regarding the state of the module. This includes indication of the various stages of the start-up routine (power-up), as well as any errors that may occur.

Startup Routine

LED	INDICATION
Green	Module performing normally.

Error States

LED	INDICATION
Flashing Green	Module has lost communication with the Host.

FIRMWARE UPGRADE

The module's firmware is stored in flash memory so that software/hardware conflicts are avoided, and so features can be added in the future.

During a download, Crimson compares its own library of firmware files with those stored in the module. If they do not match, Crimson will download the necessary firmware.

CONFIGURATION

Programming is done via Crimson 3 software, a Windows® compatible configuration interface. Please see the Crimson manual for more information.

RED LION CONTROLS TECHNICAL SUPPORT

If for any reason you have trouble operating, connecting, or simply have questions concerning your new product, contact Red Lion's technical support.

Support: support.redlion.net
Website: www.redlion.net
Inside US: +1 (877) 432-9908
Outside US: +1 (717) 767-6511

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(a) Red Lion Controls Inc. (the "Company") warrants that all Products shall be free from defects in material and workmanship under normal use for the period of time provided in "Statement of Warranty Periods" (available at www.redlion.net) current at the time of shipment of the Products (the "Warranty Period"). **EXCEPT FOR THE ABOVE-STATED WARRANTY, COMPANY MAKES NO WARRANTY WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY; (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE; OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE.** Customer shall be responsible for determining that a Product is suitable for Customer's use and that such use complies with any applicable local, state or federal law.

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(c) Subject to paragraph (b), with respect to any such Product during the Warranty Period, Company shall, in its sole discretion, either (i) repair or replace the Product; or (ii) credit or refund the price of Product provided that, if Company so requests, Customer shall, at Company's expense, return such Product to Company.

(d) **THE REMEDIES SET FORTH IN PARAGRAPH (c) SHALL BE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND COMPANY'S ENTIRE LIABILITY FOR ANY BREACH OF THE LIMITED WARRANTY SET FORTH IN PARAGRAPH (a).**

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