

# Graphite<sup>®</sup> Core Controller

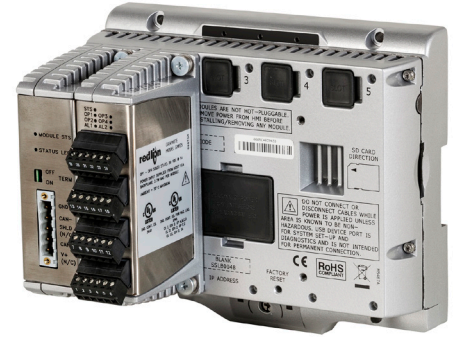
Red Lion Automation Series



## ▶▶▶ Rugged Standalone Industrial Controller

The Graphite<sup>®</sup> Core Controller is a rugged all-in-one industrial solution that reduces cost and complexity by combining IEC 61131 control capabilities with networking and data visualization.

Integrating communication and control into factory automation and process control applications has never been easier. With all-metal construction, a built-in web server and Red Lion's Crimson<sup>®</sup> 3.0 software with Crimson Control functionality, our rugged controller operates in the harshest environments to provide a single programming solution for control, networking and data visualization. Simply use 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. In addition, select from a variety of I/O, PID control and communications modules to connect, monitor and control a wide array of devices – regardless of location – to meet specific application requirements.



### INDUSTRY APPLICATIONS

- > Factory Automation
- > Oil & Gas
- > Power & Utilities
- > Water/Wastewater
- > Transportation
- > Industrial Internet of Things (IIoT)

### PRODUCT HIGHLIGHTS

- > Industry-Standard Crimson Control Engine
- > Protocol Conversion of over 300 Drivers
- > Web Server for Data Visualization
- > Real-Time Data Logging to SD Card or via FTP
- > Rugged Construction for Extreme Protection
- > Wide Operating Temperature Range
- > Scalable Modules & Expansion Options

### FEATURES & BENEFITS

- > Powerful Crimson 3.0 Software with Crimson Control
  - Intuitive drag-and-drop graphical software for easy setup
  - Use industry-standard IEC 61131 programming languages such as Ladder Logic, Function Block, Structured Text and Instruction List
  - Map over 300 drivers to other devices without the need for special gateways
  - Easy single-solution configuration eliminates need for third-party software
- > Versatile I/O Module & Expansion Options
  - Choose from a mix of I/O, PID control or communication to populate up to 5 local module slots
  - Connect Graphite Expansion Racks to easily scale
  - Extend even further with E3 I/O™ high-density modules
- > Industry-Leading Protocol Conversion
  - Communicate with over 300 major industrial protocols
  - Support up to 18 simultaneous protocols
  - Convert between serial, USB and Ethernet devices
  - Manage multi-vendor environments with ease
- > Rugged Environmental Specifications
  - Wide -40° to 70°C operating temperature
  - High shock and vibration tolerance
  - CE, UL/cUL and UL/cUL Hazardous approvals
- > Powerful Integration Functionality
  - Ethernet, USB and serial ports make communication simple
  - Built-in data logging enhances troubleshooting and helps meet regulatory requirements
  - Robust web server provides remote visualization, access and control to reduce costly site visits

industrial  
automation



# ▶▶▶ Graphite Core Controller Specifications

## POWER INPUT

Input Voltage: 10-30 VDC

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.

	GRAC00C5 Power Ratings (Watts)			
	10 V	12 V	24 V	30 V
Input Voltage	10 V	12 V	24 V	30 V
Typical Power (GRAC00C5 only)	4 W	4 W	5 W	5 W
Maximum Power (GRAC00C5 only)	10 W	10 W	10 W	11 W
Available Power for Modules	21 W			
Max Power GRAC00C5 With Module(s)	31 W	31 W	32 W	32 W

## CONNECTORS

USB Port: One (1) USB Type B complies with USB specification 2.0 (high speed, full speed)

USB 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

Ethernet Ports: 1500 Vrms network isolation

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

Power: 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)

## ENVIRONMENTAL

Operating Temperature: -40°C to 70°C\*

Storage Temperature: -40°C to 85°C

Operating Humidity: 0% to 85% max. RH non-condensing

Altitude: Up to 2000 meters

Panel Mount Vibration to IEC 68-2-6: Operational 5-500 Hz, 4 g

Panel Mount Shock to IEC 68-2-27: Operational 40 g (10 g, modules w/ relays)

DIN Rail Mount Vibration to IEC 68-2-6: Operational 5-500 Hz, 2 g

DIN Rail Mount Shock to IEC 68-2-27: Operational 15 g (10 g, modules w/relays)

Requires DIN Rail type: DIN 1010, DIN 1065, or DIN 3065

## CERTIFICATIONS AND COMPLIANCES

Product Safety:

EN 61326-1 Immunity to Industrial Locations

Emission CISPR 11 Class A

IEC/EN 61010-1

cULus Listed: File #E302106

cULus Hazardous: File #E317425

Other:

RoHS Compliant

## MECHANICAL

Cast aluminum. Installation Category II, Pollution Degree 2 as defined in IEC 60664-1

Case Dimensions:

Height: 6.10" (15.5 cm)

Width: 7.02" (17.8 cm)

Depth: 1.98" (5.0 cm)

Weight: 2.1 lbs (0.95 kg)

Mounting: Panel mount or DIN rail

## ORDERING GUIDE

MODEL NUMBER	DESCRIPTION
GRAC00C5	Graphite Core Controller, 5 Port Self-contained Rack

\* Lowest range among equipment used in your Graphite system; refer to user manual.

Specifications are subject to change. Visit [www.redlion.net](http://www.redlion.net) for more information.

## DIMENSIONS

