

Red Lion Controls CR30001000000420

Red Lion Controls CR3000 Series HMI User Manual

MODEL: CR30001000000420

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of the Red Lion Controls CR3000 Series Human Machine Interface (HMI), model CR30001000000420. The CR3000 Series HMI is designed for advanced industrial automation, offering a robust and versatile interface for monitoring and controlling industrial processes.

Key features include a 10.4-inch touchscreen display with 800x600 resolution and 16 million colors, dual Ethernet ports, multiple serial and USB ports, and IP66/NEMA 4X rated construction for harsh environments. It supports over 300 industrial protocols and integrates with Crimson 3.1 software for comprehensive control and data management.



Figure 1: Front view of the Red Lion Controls CR3000 Series HMI, showing the 10.4-inch touchscreen display.

2. Safety Information

Read all instructions carefully before installing, operating, or performing maintenance on the CR3000 Series HMI. Failure to follow these instructions may result in equipment damage, personal injury, or death.

- **Electrical Safety:** Ensure all power is disconnected before making any electrical connections or performing maintenance. Only qualified personnel should perform electrical work.
- **Environmental Conditions:** The device is rated IP66 and NEMA 4X for protection against dust and water jets. However, avoid exposing the unit to extreme temperatures, corrosive substances, or excessive vibration beyond its specified operating limits.
- **Mounting:** Mount the HMI securely to prevent accidental dislodgement. Refer to the installation guide for specific mounting instructions.
- **Servicing:** Do not attempt to service the unit beyond routine cleaning. Refer all servicing to authorized Red Lion Controls service personnel.

3. Setup

3.1 Unpacking

Carefully remove the HMI from its packaging. Inspect the unit for any signs of damage during transit. Retain the packaging materials for future transport or storage.

3.2 Mounting

The CR3000 Series HMI is designed for panel mounting. Ensure adequate clearance for ventilation and cable connections. Refer to the separate installation manual for detailed panel cut-out dimensions and mounting procedures.

3.3 Wiring and Connections

The HMI offers various connectivity options. Ensure all connections are secure and correctly polarized before applying power.

- **Power Connection:** Connect the 10-30 VDC power supply to the designated power terminals. Observe correct polarity.
- **Ethernet Ports:** Use standard Ethernet cables to connect to the dual 10/100Base-T(X) Ethernet ports for network communication.
- **Serial Ports:** Connect serial devices (e.g., PLCs, drives) to the available serial ports (up to 4 ports, depending on configuration) using appropriate cables.
- **USB Ports:** Connect USB devices such as keyboards, mice, or USB storage devices to the USB host ports.

3.4 Initial Power On

After all connections are made, apply power to the unit. The HMI will initiate its boot sequence. The display will show the Red Lion Controls logo, followed by the operating system and application interface.

4. Operating Instructions

4.1 Touchscreen Interaction

The CR3000 HMI features a resistive touchscreen. Use a finger or a non-sharp stylus for interaction. Avoid using sharp objects that could damage the screen surface.

4.2 Software Interface (Crimson 3.1)

The HMI operates using applications developed with Red Lion's Crimson 3.1 software. This software allows for configuration, protocol conversion, and creation of custom user interfaces. Refer to the Crimson 3.1 software manual for detailed programming and configuration instructions.

4.3 Data Logging

The CR3000 Series HMI supports real-time data logging. Data can be stored internally or on an SD card (if installed). Configure data logging parameters, including logging intervals and data points, using the Crimson 3.1 software.

4.4 Web Server Access

The built-in web server enables remote monitoring and control of the HMI via a standard web browser. Access the web server by entering the HMI's IP address into a web browser. User authentication may be required, as configured in Crimson 3.1.

5. Maintenance

5.1 Cleaning the HMI

To clean the display and enclosure, use a soft, lint-free cloth dampened with a mild, non-abrasive cleaning solution. Do not use harsh chemicals, solvents, or abrasive materials, as these can damage the screen or enclosure. Ensure no liquid enters the unit.

5.2 Firmware Updates

Periodically check the Red Lion Controls website for firmware updates. Keeping the HMI's firmware up-to-date ensures optimal performance, security, and access to new features. Follow the instructions provided with the firmware update package carefully.

5.3 Regular Inspection

Regularly inspect the HMI for any signs of physical damage, loose connections, or environmental ingress. Address any issues promptly to prevent further damage or operational disruption.

6. Troubleshooting

Problem	Possible Cause	Solution
HMI does not power on.	No power supply, incorrect wiring, faulty power supply.	Verify power connections and voltage. Check power supply unit.
Touchscreen unresponsive.	Calibration issue, software freeze, physical damage.	Restart the HMI. Recalibrate the touchscreen (if applicable). Contact support if physical damage is suspected.
Communication error with connected device.	Incorrect protocol settings, faulty cable, incorrect IP address.	Verify communication settings in Crimson 3.1. Check cable integrity. Confirm IP addresses and network configuration.
Display issues (e.g., flickering, distorted image).	Environmental interference, internal hardware issue.	Ensure proper grounding. Isolate from strong electromagnetic fields. If problem persists, contact technical support.

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact Red Lion Controls technical support.

7. Specifications

Feature	Detail
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Feature	Detail
Model Number	CR30001000000420
Display Size	10.4 Inches
Resolution	800 x 600 pixels
Color Depth	16 Million Colors
Display Type	TFT LCD, Backlit
Touchscreen Type	Resistive
Ethernet Ports	Dual 10/100Base-T(X)
Serial Ports	Up to 4 (configuration dependent)
USB Ports	2 (Host)
Power Supply	10-30 VDC
Environmental Rating	IP66, NEMA 4X
Product Dimensions	5 x 2 x 3 inches (approximate)

8. Warranty and Support

Red Lion Controls products are backed by a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty statement included with your product or visit the official Red Lion Controls website.

For technical assistance, troubleshooting, or service inquiries, please contact Red Lion Controls technical support. Contact information can be found on the Red Lion Controls website or in the product documentation.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question