L09 - Guardmaster® 440C-CR30
Software Configurable Safety Relay
Agenda

Introduction

Key Features and Ease of Use

Add-on Profile with Integrated Editor

New Features available in Firmware release 9&10

Lab Configuration
Guardmaster® 440C-CR30
Software Configurable Safety Relay

- CR30 Software Configurable Safety for machine safety applications
- PLe and SIL 3
- 22 Safety I/O
- Supports expanded standard I/O via plug-in
- Configured using free Connected Components Workbench™ software, or Add-on Profile v3.01 for Studio 5000 Logix Designer® software
- Intuitive software simplifies configuration
Guardmaster® 440C-CR30 Safety Relay

Key Features

- **Easy to Use:**
  - Innovative rapid configuration editor

- **Single Wire Safety support:**
  - A single wire to expand safety I/O

- **2080 Plug-in support:**
  - Expansion of standard I/O

- **Comms for Diagnostics**
  - EtherNet/IP to Logix
  - Serial to Micro800® or PanelView™ 800

*Keeps safety simple, separate and flexible*
Guardmaster® 440C-CR30 Safety Relay

Easy to Use

- Configured in CCW or by using the Add-on Profile (AOP) in Studio 5000 Logix Designer®
- Logic configured with Simple Drag and Drop Function Block Editor
- Checklist to walk through validation and verification process

Assigned safety function via Drag ‘n’ Drop

Ease of configuration – No previous programming skills required
Guardmaster® 440C-CR30 Safety Relay

Key Features

- Easy to Use:
  - Rapid configuration with pre-configured function blocks

Auto Configuration of I/O based on Function block assignment
Guardmaster® 440C-CR30 Safety Relay

Easy to Use

- Online Monitoring
  - Color-coded online monitoring helps troubleshoot code
  - Diagnostic tooltips provide natural language fault descriptions

Diagnosis tooltips for application troubleshooting
Guardmaster® 440C-CR30 Safety Relay

2080 Plug-in Support

2080-IQ4OB4 plug-in for expansion I/O:

Standard Input Expansion:

- Use standard inputs for standard signals such as circuit resets, feedback monitoring or muting sensors

Standard Diagnostics:

- Land auxiliary contacts of series wired safety devices and share over EtherNet/IP or serial comms
- Use standard outputs to drive status indicators or send gate unlock commands

Expansion I/O with no impact to panel footprint
Guardmaster® 440C-CR30 Safety Relay

Single Wire Safety Support

Supports Single Wire Safety for easy integration of GSR relays:

- Add Safety Relay Outputs
  - Add multiple dry contact outputs by utilizing GSR EM (Expansion module) while only consuming a single safety output configured for Single Wire Safety

- Connect Upstream GSR Relays
  - Expand inputs and functionality using GSR relays by connection through Single Wire Safety
Guardmaster® 440C-CR30 Safety Relay
Optional Ethernet Plug-in for Logix Communication

Share diagnostics with Logix controller via EtherNet/IP

- Add-on Profile for Studio 5000®
  - Requires v20 or later
- Predefined Input tags:
  - I/O Terminal status
  - Verification ID
  - Faults
  - Logic function status
Guardmaster® 440C-CR30 Safety Relay
New Version 3.01 Add-on Profile with Integrated Editor

- Premier Integration with Logix control systems:
  - Add-on Profile v3.01 for Studio 5000 Logix Designer® contains fully functional Logic editor for the Guardmaster® 440C-CR30 safety relay.
  - Single software/project for configuring and monitoring Logix controller and Guardmaster® 440C-CR30 safety relays.
Guardmaster® 440C-CR30 Safety Relay

Working with 440C-CR30 Add-on Profile

1. Download Project From Workstation to Controller.
2. Open device profile.
3. Select Logic Configuration tab.

Configuration stored in project ACD and downloaded to Controller
Guardmaster® 440C-CR30 Safety Relay

Firmware Release 9 - Four New Function Block Features

- Four new function blocks feature available with Guardmaster® 440C-CR30 safety relay firmware 9.004. Compatible with:
  - Connected Components Workbench™ software R8.01 or later
  - Studio 5000 Logix Designer® Add-on Profile 2.01 or later
Four new function blocks feature available with Guardmaster® 440C-CR30 safety relay firmware 10.004. Compatible with:

- Connected Components Workbench™ software R9.01 or later
- Studio 5000 Logix Designer® Add-on Profile 3.01

Mute Enhancements  Mode Selection  Lock Control  Fault and Reset Required Annunciation
Guardmaster® 440C-CR30 Safety Relay
Firmware Release 10 - Mute Function Block Enhancements

Mute Enable:
New interlock to only allow muting when appropriate (i.e. conveyor on)

Mute Fault Reset:
Enable a manual monitored reset after a muting fault

Override Output:
Only enable local conveyor to clear light curtain, not the whole machine
Lab Configuration

- For the purposes of this lab, we are using SoftLogix™, but the process would be the same for any other Logix controller.

- FactoryTalk® View ME Station is also installed to show the CR30 Faceplate that is available for download from the Sample Code website.
Thank you, Enjoy the Lab!