Centurion™
Configurable Control Panel

The Centurion Configurable Control Panel is a fully integrated control and monitoring system for a variety of applications. Control Panels can be designed on an engineered-to-order basis, or we can partner with you to create standard, multi-application designs for your specifications. We specialize in building panels for use in hazardous areas, and you can be assured that the design will include components and wiring methods to meet those standards. The Centurion Controller can be configured for a variety of auto start/stop, various close loop controls for valves, louvers or speed actuation, and sequenced startup and shutdown operation for your equipment. Applications for electric motor, electronic engine and mechanical engine-driven gas compressors and pumps are an example of the types of equipment that can be used with our Control Panel. Changes to configurations can be done with simple Centurion Configuration Tool software, without the need for any programming language experience.

Specifications

C5-1-A Main I/O Module

- Operating temperature: -40° to 185° F (-40° to 85° C)
- Power input: 30 W max 10-30 VDC
- Configuration: PC-based Centurion Configuration Software
- Application firmware:
  - Standard offers a user-configurable experience
  - All I/O options individually software selectable.
  - No jumpers required.
- 12 Analog inputs*:
  - 0-24 mA or 0-5 VDC, 15-bit hardware
  - 4 configurable for resistive potentiometer measurement
- 32 Digital inputs*:
  - NO or NC (active high/active low) intrinsically safe
  - Optically isolated DC digital inputs (active high/active low) with LED indicators
  - Polarity sense / wire fault detection on normally closed systems
  - Approved for use with general purpose switches in hazardous areas
- Eight temperature inputs*:
  - J or K Type Thermocouples
  - 3-wire 100Ω Pt RTD temperature inputs***
  - Open, short DC-, short DC+ wire fault detection
  - Cold junction compensation
- One magnetic pickup input/AC run signal:
  - 30 to 10 kHz, 4.5 VAC rms min, 120 VAC rms max.
- 10 digital outputs:
  - LED indicators:
  - 4 relay outputs, form C, dry contacts
  - 4 FET outputs (sink)
- Four analog outputs:
  - 4-20 mA, 16-bit hardware
C5-1-A Main I/O Module (continued)

- 11 Communication ports:
  - Two SERIAL RS232:
    > Protocol: MODBUS RTU (slave)
  - Two SERIAL RS485:
    > Protocol: MODBUS RTU (slave)
  - One USB: Host Type A (data log access, firmware updates)
  - One USB: Slave Type B (configuration/firmware updates)
  - Two CAN:
    > One proprietary for FW Murphy hardware
    > One reserved for J1939 Engine ECU
  - Two Ethernet 10/100 (DLR):
    > Protocol: Modbus TCP/IP (slave)
    > EtherNet/IP (CIP)
  - One WiFi: Optional

- Third-party approvals:
  - North America:
    - Class 1, Div 2, Grps A, B, C, D Haz. Loc. T4
    - Class I, Zone 2, AEx ec [ic] IIC T4 Gc Ex ec [ic] IIC T4 Gc X
    - IECEx Zone 2
      - Ex ec [ic] IIC T4 Gc
      - IECEx UL 18.0072X
      - -40°C ≤ Tamb ≤ +85°C

Expansion I/O Modules (optional)

MX4-R2 Expansion I/O Module
- Operating Temperature: -40° to 185°F (-40° to 85°C)
- Power input: 14.1 W max 10-30 VDC
- Configuration: PC-based Centurion Configuration Software
- 18 thermocouple inputs: J or K Type thermocouples,
  - 5 3-wire 100Ω Pt RTD temperature inputs
  - Open, short DC-, Short DC+ wire fault detection
  - Cold junction compensation

- One magnetic pickup input
  - AC Run Signal: 4.5 VAC – 120 VAC, 30 Hz – 10 kHz

- Third-party approvals:
  - Class 1, Div 2, Grps A, B, C, D Haz. Loc. T4
  - Class I, Zone 2, AEx ec [ic] IIC T4 Gc Ex ec [ic] IIC T4 Gc X
  - IECEx Zone 2
    - Ex ec [ic] IIC T4 Gc
    - IECEx UL 18.0072X
    - -40°C ≤ Tamb ≤ +85°C

MX5-R2 Expansion I/O Module
- Operating temperature: -40° to 185°F (-40° to 85°C)
- Power input: 16.5 W max 10-30 VDC
- Configuration: PC-based Centurion Configuration Software
- 10 analog inputs: 0-24 mA or 0-5 VDC, 15 bit hardware
- 6 digital outputs: FET (sink)
- 4 analog outputs: 4-20 mA, 16 bit hardware
- 1 magnetic pickup input
  - AC Run Signal: 4.5 VAC -120 VAC, 30 Hz to 10 kHz

- Third-party approvals:
  - Class 1, Div 2, Grps A, B, C, D Haz. Loc. T4
  - Class I, Zone 2, AEx ec [ic] IIC T4 Gc Ex ec [ic] IIC T4 Gc X
  - ATEX Zone 2
    - IECEx Zone 2
      - Ex ec [ic] IIC T4 Gc
      - IECEx UL 18.0072X
      - -40°C ≤ Tamb ≤ +85°C

1 Non-incendive. (Digital Inputs, Analog Inputs and Temperature Inputs are intrinsically safe and non-incendive.)

*** RTD=Resistive Temperature Device, American RTD Standard, TCR 0.00392, units Ohms/Ohm / deg. between 0-100 C.
**MV-5-C, M-VIEW™ Monochrome LCD Display**

- **Dimensions**
  - Height: 5.6 in. (142.30 mm)
  - Width: 13.08 in. (332.39 mm)
  - Depth: 2.12 in. (53.90 mm)

- **Operating temperature:** -40° to 185° F (-40° to 85° C)
- **Power input:** 11 W max 10-30 VDC
- **Screen:** 320 x 240 pixels, LCD display with backlight
- **User interface:** 12-key keypad set point entry, alarm acknowledgment, start, stop, reset, etc.
- **Communications:**
  - RS232-1/RS485-1 (MODBUS RTU master)
  - RS485-2 (MODBUS RTU slave)
  - 1 USB Slave Type A (reserved)
  - CAN x 2
    - 1 proprietary for FW Murphy Hardware
  - 1 reserved for J1939 engine ECU
- **Customizable process screens (up to nine):**
  - Line by line
  - Gage
  - Control loop
  - Generic register

**MV-7T and MV-10T M-VIEW™ Touch Series Displays**

- **Operating temperature:** -4° to 140° F (-20° to 60° C)
- **Power input:**
  - MV-7T, 15 W max 10-30 VDC (36 W max with modules)
  - MV-10T, 22 W max 10-30 VDC (52 W max with modules)
- **Screen (sunlight readable):**
  - MV-7T, 800x480 pixels, 7" widescreen
  - MV-10T, 640x480 pixels, 10.4" screen
- **User interface:** resistive analog touchscreen
- **Communication interface**
  - 2x RS232
  - 1x RS485
  - 2x USB host type A (file transfer, datalogging, USB device)
  - 1x USB slave (program/firmware updates)
  - 2x Ethernet 10/100 Base TX (RJ45)
- **Communication protocols:**
  - EtherNet/IP (CIP)
  - Modbus TCP/IP
  - Modbus RTU standard
  - 300 plus available, web server
- **Third-party approvals:**
  - CE Approved
  - IEC/EN 61326-1 Immunity to Industrial Locations Emission CISPR 11 Class A
  - RoHS Compliant
  - ATEX Approved
  - II 3 G Ex ic nA IIC T4 Gc
  - II 3 D Ex to IIC T135°C Dc
  - DEMKO 14 ATEX 1926X
  - EN 60079-0, -11, -15, -31
  - IECEx Approved
  - Ex ic nA IIC T4 Gc
  - Ex ic 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
  - IP66 Enclosure rating (Face only)
  - Type 4X Outdoor Enclosure rating (Face only)
  - ABS Type Approval for Shipboard Applications
Select a Centurion Configurable Controller.

- **C5-1-A**
- Specify expansion I/O modules (optional).
  - MX4-R2
  - MX5-R2
- Specify a display.
  - MV-5-C, MV-7T or MV-10T

### How to Order

**The minimum system requirements:**
- C5-1-A Main I/O Module
- Display capable of MODBUS communications

The FW Murphy MVIEW Series Display Modules are highly integrated HMI for use with the Centurion system and is recommended for most customers.

Some systems may require additional I/O which is available on the MX4-R2 or MX5-R2 expansion I/O modules.

### Part Number | Model and Description | Notes |
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<td>Specify Model</td>
<td>C5-1-A, Centurion Controller</td>
<td>Standard</td>
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<td></td>
<td>MV-5-C, (5 in. monochrome LCD display)</td>
<td>Standard, Auto sync to C5</td>
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<td></td>
<td>MV-7T, (7 in. touchscreen full-color display)</td>
<td>Optional, Auto sync to C5</td>
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<td>MV-10T, (10 in. touchscreen full-color display)</td>
<td>Optional</td>
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<td></td>
<td>MX4-R2 expansion I/O module</td>
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