FW MURPHY®
PRODUCTION CONTROLS

Official FW Murphy Distributor
PT. ATAMORA TEHNIK MAKMUR

Centurion® Configurable Control Panel

Fully Integrated Control & Monitoring System

The Centurion Configurable 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.

- Combines monitoring and shutdown features of an annunciator and controller, with auto-start and basic engine controls that help prevent shutdowns
- Designed on an engineered-to-order basis and create standard, multiapplication designs for your specifications
- Applications for electric motor, electronic engine and mechanical engine-driven gas compressors and pumps and more
- 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
- Configuration changes made with simple Centurion Configuration Tool software
- IoT remote access with M-LINK® is available

Overview

The Centurion® Configurable Control Panel is a fully integrated control and monitoring system for a variety of applications. Design your panel on an engineered-to-order basis partner with FW Murphy 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.

The Centurion Configurable Controller (C5 Series) is a hybrid of annunciator and compressor controller. The C5 combines the monitoring and shutdown features of an annunciator, with auto-start and basic engine controls that help prevent shutdowns.

IoT Remote Access

M-LINK is available for purchase. See M-LINK page for details.

Specifications

C5 Series 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 resistive potentiometer measurement
- 32 Digital inputs*:

HEAD OFFICE, MARKETING & BUSINESS DEVELOPMENT
Equity Tower, 25th Floor, Suite 25F, SCBD Lot 9,
Jl. Jend. Sudirman Kav. 52-53, Jakarta Selatan, 12190 - Indonesia
Phone : (021) 5154560, 5154561, Fax: (021) 6326748, 5154563
Mobile Phone : 081310787177 (Products)
email : products@atamora.co.id | atamora@atamora.co.id

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Centurion® Configurable Control Panel

Fully Integrated Control & Monitoring System

  - 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 (ungrounded)
  - 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 (source)
  - 2 FET outputs (sink)
- Four analog outputs:
  - 4-20 mA, 16-bit hardware
- 11 Communication ports:
  - Two SERIAL RS232:
    - Protocol: MODBUS RTU (server)
  - Two SERIAL RS485:
    - Protocol: MODBUS RTU (server)
  - One USB: Host Type A (data log access, firmware updates)
  - One USB: Server 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 (server)
    - EtherNet/IP (CIP)
  - One WiFi: Optional C5-1 only
- Third-party approvals:
  - Class I, Div 2, Grps A, B, C, D Haz. Loc. T4
  - Class I, Zone 2, AEx ec [ic] nC IIC T4 Gc, Ex ec [ic] nC IIC T4 Gc X
  - ATEX Zone 2
    - II 3G Ex ec [ic] nC IIC T4 Gc
    - DEMKO 18 ATEX 1926X
    - -40°C < Tamb < +85°C
  - IECEx Zone 2
    - Ex ec [ic] nC IIC T4 Gc
    - IECEx UL 18.0072X
    - -40°C < Tamb < +85°C

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Centurion® Configurable Control Panel

Fully Integrated Control & Monitoring System

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 (ungrounded)
- 9† 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 I, 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
        - II 3G Ex ec [ic] IIC T4 Gc
        - DEMKO 18 ATEX 1926X
        - -40°C < Tamb < +85°C
    - 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 I, 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
        - II 3G Ex ec [ic] IIC T4 Gc
        - DEMKO 18 ATEX 1926X
        - -40°C < Tamb < +85°C
    - IECEx Zone 2
        - Ex ec [ic] IIC T4 Gc X
        - IECEx UL 18.0072X
        - -40°C < Tamb < +85°C

* 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.
† When configured for an RTD channel, two consecutive odd/even T/C channels are consumed.
M-VIEW Monochrome Display MV-5-C

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Centurion® Configurable Control Panel

Fully Integrated Control & Monitoring System

- 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 client)
  - RS485-2 (MODBUS RTU server)
  - 1 USB server Type B (firmware updates)
  - 1 USB Host 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
- Built-in screens (examples):
  - Digital input status and polarity
  - Digital output status
  - Temperature input status/fault
  - Fault snapshot (mirror of line by line)
  - Alarm log
  - Event log
- Third-party approvals:
  - – Class 1, Div 2, Grps A, B, C, D Haz. Loc. T4
  - – Class I, Zone 2, AEx ec ic [ic] IIC T4 Gc Ex ec ic [ic] IIC T4 Gc X
  - – ATEX Zone 2
    - II 3G Ex ec ic [ic] IIC T4 Gc
    - DEMKO 18 ATEX 1926X
    - -40°C ≤ Tamb ≤ +85°C
  - – IECEx Zone 2
    - Ex ec ic [ic] IIC T4 Gc
    - IECEx UL 18.0072X
    - -40°C ≤ Tamb ≤ +85°C

M-VIEW Touch Displays MV-7T and MV-12T

- 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-12T, 23 W max 10-30 VDC (57 W max with modules)
- Screen (sunlight readable):
  - MV-7T, 800×480 pixels, 7” widescreen, brightness 1000 cd/m2

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Centurion® Configurable Control Panel

Fully Integrated Control & Monitoring System

- MV-12T, 1280×800 pixels, 12” widescreen, brightness 1600 cd/m2
- User interface: resistive analog touchscreen
- Communication interface
  - 2x RS232
  - 1x RS485
  - 2x USB host type A (file transfer, datalogging, USB device)
  - 1x USB server (program/firmware updates)
  - 2 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
    - – EN 61326-1 immunity to industrial Locations emission CISPR 11 Class A
  - IEC/EN 61010-1
    - – RoHS compliant
  - ATEX approved
    - – II 3 G Ex ic nA IIC T4 Gc
    - – II 3 D Ex tc IIIC T135°C Dc
    - – DEMKO 14 ATEX 1387X
    - – EN 60079-0, -11, -15, -31
  - IECEx approved
    - – Ex ic nA IIC T4 Gc
    - – Ex tc IIIC 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

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Centurion™ C5 Series Configurable Control Panel

The Centurion C5 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 examples 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.

C5 Series Main I/O Module

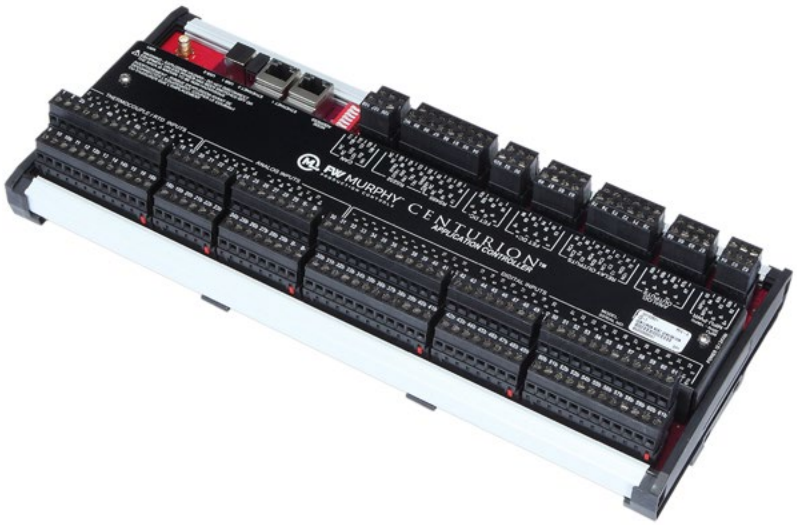
- Operating temperature: -40° to 185° F (-40° to 85° C)
- Power input: 30 W max 10-30 VDC
- Configuration: PC-based Centurion Configuration Software
- Application firmware:
  - Standard offers a user-configurable experience
- All I/O options individually software selectable: No jumpers required
- Clock: Battery backed real-time clock, approximately 10 years unpowered service life

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 (ungrounded)
  - 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 (source)
  - 2 FET outputs (sink)
- Four analog outputs:
  - 4-20 mA, 16-bit hardware

C5 Series Main I/O Module (continued)

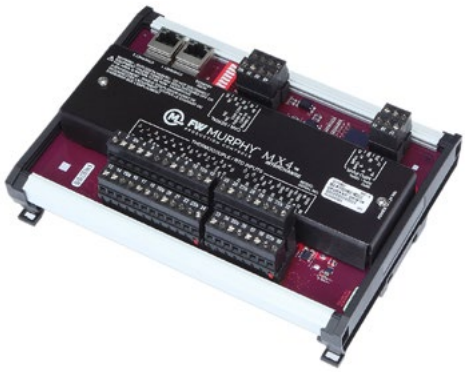
- 11 Communication ports:
  - Two Serial RS232:
    - > Protocol: Modbus RTU (server)
  - Two Serial RS485:
    - > Protocol: Modbus RTU (server)
  - One USB: Host Type A (data log access, firmware updates)
  - One USB: server Type B (configuration/ firmware updates)
  - Two CAN:
    - > One proprietary for FW Murphy hardware
    - > One reserved for J1939 Engine ECU
  - Two Ethernet 10/100 (DLR), Single MAC ID:
    - > Protocol: Modbus TCP/IP (server)
    - > EtherNet/IP (CIP)
  - One Wi-Fi: Optional C5-1 only
- Third-party approvals:
  - Class 1, Div 2, Grps A, B, C, D Haz. Loc. T4
  - Class I, Zone 2, AEx ec [ic] nC IIC T4 Gc Ex ec [ic] nC IIC T4 Gc X
  - ATEX Zone 2
    II 3G Ex ec [ic] nC IIC T4 Gc
    DEMKO 18 ATEX 1926X
    -40° C ≤ Tamb ≤ +85° C
  - IECEx Zone 2
    Ex ec [ic] nC IIC T4 Gc
    IECEx UL 18.0072X
    -40° C ≤ Tamb ≤ +85° C



Expansion I/O Modules (optional)

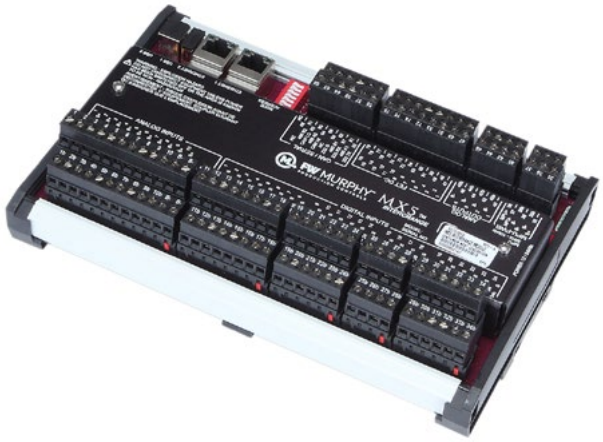
MX4-R2 Expansion I/O Module

- 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 (ungrounded)
- 9† 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
  - ATEX Zone 2
    II 3G Ex ec [ic] IIC T4 Gc
    DEMKO 18 ATEX 1926X
    -40° C ≤ Tamb ≤ +85° C
  - 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
    II 3G Ex ec [ic] IIC T4 Gc
    DEMKO 18 ATEX 1926X
    -40° C ≤ Tamb ≤ +85° C
  - IECEx Zone 2
    Ex ec [ic] IIC T4 Gc X
    IECEx UL 18.0072X
    -40° C ≤ Tamb ≤ +85° C



* 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.
† When configured for an RTD channel, two consecutive odd/even T/C channels are consumed.

MV-5-C, M-View® Monochrome LCD Display

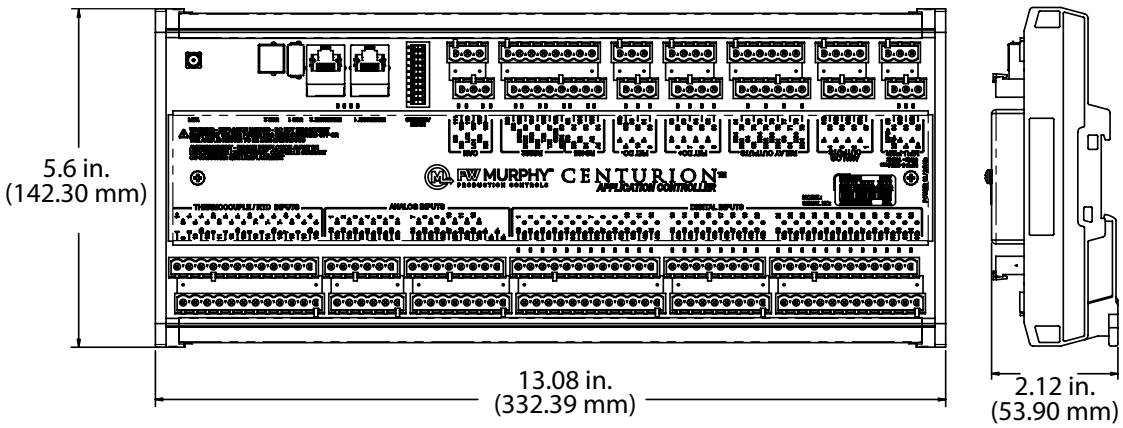
- Operating temperature: -40° to 185° F (-40° to 85° C)
- Power input: 11 W max 10-30 VDC
- Screen: 320 x 240 pixels, LCD display with backlight
- User interface: 12-key keypad set point entry, alarm acknowledgment, start, stop, reset, etc.
- Communications:
  - RS232-1/RS485-1 (Modbus RTU client)
  - RS485-2 (Modbus RTU server)
  - 1 USB server Type B (firmware updates)
  - 1 USB host 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
- Built-in screens (examples):
  - Digital input status and polarity
  - Digital output status
  - Temperature input status/fault
  - Fault snapshot (mirror of line by line)
  - Alarm log
  - Event log
- Third-party approvals:
  - Class 1, Div 2, Grps A, B, C, D Haz. Loc. T4
  - Class I, Zone 2, AEx ec ic [ic] IIC T4 Gc Ex ec ic [ic] IIC T4 Gc X
  - ATEX Zone 2
    - II 3G Ex ec ic [ic] IIC T4 Gc
    - DEMKO 18 ATEX 1926X
    - -40° C ≤ Tamb ≤ +85° C
  - IECEx Zone 2
    - Ex ec ic [ic] IIC T4 Gc
    - IECEx UL 18.0072X
    - -40° C ≤ Tamb ≤ +85° C

MV-7T and MV-12T 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-12T, 23 W max 10-30 VDC (57 W max with modules)
- Screen (sunlight readable):
  - MV-7T, 800x480 pixels, 7” widescreen, brightness 1000 cd/m2
  - MV-12T, 1280x800 pixels, 12” widescreen, brightness 1600 cd/m2
- User interface: resistive analog touchscreen
- Communication interface
  - 2x RS232
  - 1x RS485
  - 2x USB host type A (file transfer, datalogging, USB device)
  - 1x USB server (program/firmware updates)
  - 2 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
    - EN 61326-1 immunity to industrial Locations emission CISPR 11 Class A
    - IEC/EN 61010-1
    - RoHS compliant
  - ATEX approved
    - II 3 G Ex ic nA IIC T4 Gc
    - II 3 D Ex tc IIIC T135°C Dc
    - DEMKO 14 ATEX 1387X
    - EN 60079-0, -11, -15, -31
  - IECEx approved
    - Ex ic nA IIC T4 Gc
    - Ex tc IIIC 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

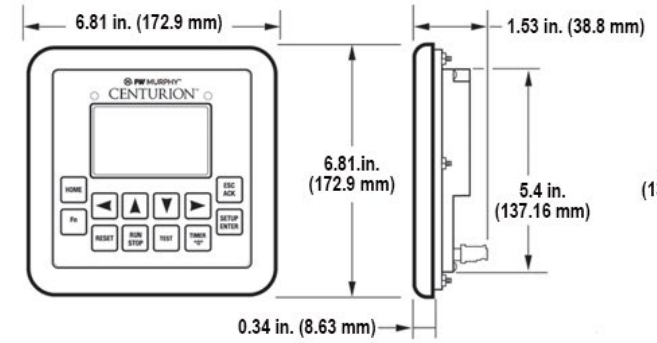
Dimensions

C5 Series

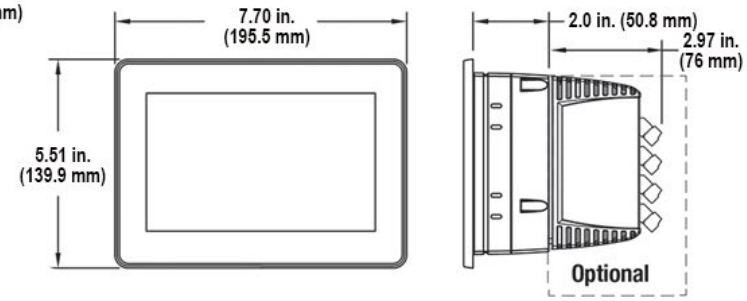


Dimensions (continued)

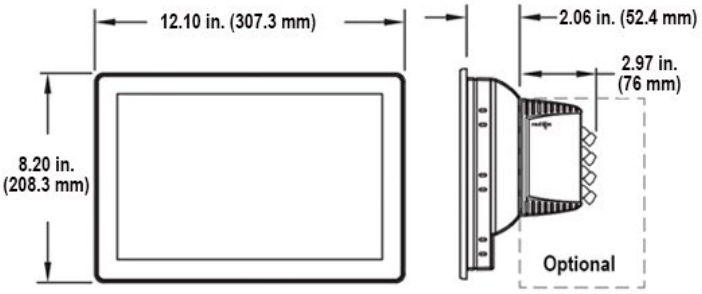
MV-5-C



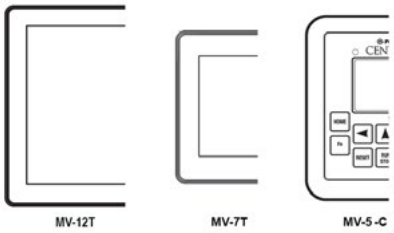
MV-7T



MV-12T



Side-by-Side Screen Approximate Sizes



How to Order

Select the Centurion Configurable Controller.
C5

Specify expansion I/O modules (optional).
MX4-R2 MX5-R2

Specify a display.
MV-5-C, MV-7T or MV12T

The minimum system requirements:
C5 Main I/O Module
Display capable of Modbus communications

The FW Murphy M-View 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
Specify Model	C5, Centurion Controller (Main Module)	Standard - Configurable Controller
	MV-5-C, (5 in. monochrome LCD display)	Optional, Auto sync to C5
	MV-7T, (7 in. touchscreen full-color display)	Standard, Auto sync to C5
	MV-12T, (12 in. touchscreen full-color display)	
	MX4-R2 expansion I/O module	Optional
	MX5-R2 expansion I/O module	