

PowerCore™ MPC-10

The Murphy PowerCore MPC-10 Controller is a general, all-purpose manual/auto start and manual/auto throttling engine controller designed with rental applications in mind. The controller is purposed primarily for applications where a wide array of inputs and outputs are not required. This is a powerful and rugged controller that supports J1939 CAN protocols for electronically governed engines as well as analog sensors on mechanical engines for fault and safety shutdowns.

While reprogrammable, the MPC-10 follows a standard operating sequence. This operating sequence is a set of 22 machine states that happen in a predetermined order. Machine states can be set to zero if not needed or adjusted to fit the application. The menu structure is incredibly versatile, with the ability to change many parameters and settings from the face without the need of a PC tool, if desired.

The MPC-10 is flexible in many aspects, with the ability to:

- use the same controller on 12VDC or 24VDC systems;
- assign multiple levels of passcode protection to the menu using the free of charge PC Configuration Tool;
- change the input sensor type for the analog inputs;
- use analog inputs as digital ground inputs;
- be mounted in all-weather environments;
- be customer mounted in panel of choice.

Specifications

Power Input: 8-32 VDC, reverse polarity and load dump protection

Cranking Power Holdup: 0 VDC up to 50mS (also good for brownout/blackout instances)

Total Current Consumption: Power on in stopped state; 117 mA at 12 VDC. Power on in standby mode; 52 mA at 12 VDC.

Display: 2.7" WQVGA Monochrome HR-TFT 400x240

Keypad: 11 Tactile Feedback Buttons

LEDs: (1) Red, Shutdown, (1) Amber, Warning, (1) Green, Auto Mode or Running Loaded State

Outputs:

- (3) Relays: 10A, SPDT, Form C (30 VDC @ 10A max.), 30A max aggregate @ 85C
- (2) Low-side (1A)
- (2) High-side (1A)
- (1) Dedicated Alternator Excite (provides Charge Fail Fault if unable to excite alternator)

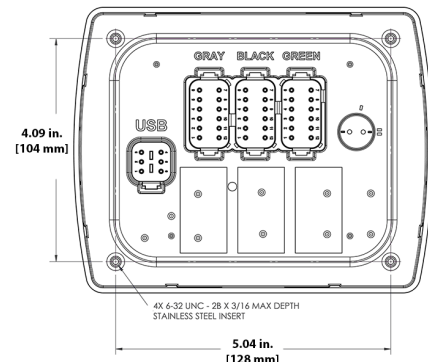
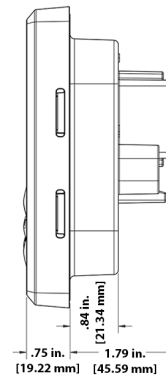
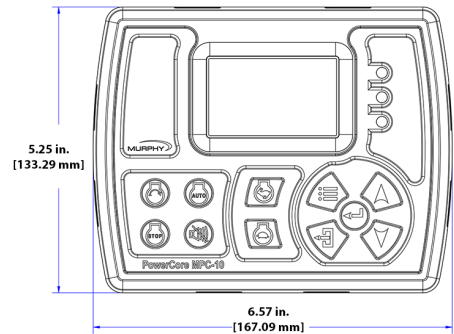
Inputs:

- (5) Digital, configurable (high/low)
- (3) Analog, configurable (4-20mA, 0-5V, resistive)
- (1) Frequency, supporting Magnetic pickup (30Hz - 10kHz, 2.0VAC-120VAC) and Engine Alternator (30Hz - 10kHz, 4.5 VRMS - 90 VRMS)



*Approved by CSA for non-hazardous locations (Group Safety Publication IEC 61010-1 Third Edition). Products covered in this document comply with European Union electromagnetic compatibility directive 2004/108/EC and electrical safety directive 2006/95/EC.

Dimensions



Specifications (continued)

Communications:

- (1) CAN J1939
- (1) RS485, MODBUS RTU
- (1) USB 2.0B for Programming

Dimensions:

- Width: 6.57 in. (167.09 mm)
- Height: 5.24 in. (133.29 mm)
- Depth: 2.55 in. (64.81 mm)

Mass: 1lb. 1oz. (0.5 kg)

Operating Temperature: -40°F to 185°F (-40°C to 85°C)

Storage Temperature: -40°F to 185°F (-40°F to 85°C)

EMI/EMC: SAE J1113, 2004/108/EC

Shock: ± 50G in axes

Vibration: Random, 7.86 Grms (5-2000Hz), 3 axes

Sealing: IP67 front and back, IP66 Panel Seal with Gasket

Case: Polycarbonate/ABS

Mating Connector: Deutsch Wedge Lock W12S-P012:

Gray DT06-12SA-P012

Black DT06-12SB-P012

Green DT06-12SC-P012

USB 6 pin

Shipping Weight: 2lbs. 7.1 oz. (1.11 kg)

Shipping Dimensions:

8 x 8 x 5-11/16 in. (204 x 204 x 127mm) (WxHxD)

Languages: English, Spanish, German, French, Italian

Connectors

Deutsch 12 pin Connector Gray		Deutsch 12 pin Connector Black		Deutsch 12 pin Connector Green		Deutsch 6 pin Connector USB	
PIN	Function	PIN	Function	PIN	Function	PIN	Function
1	Battery (+)	1	Battery (+)	1	Battery (-)	1	USB1_VBUS
2	RS485 (H)	2	Not Used	2	Battery (+)	2	USB_DP_OUT
3	RS485 (L)	3	Digital Out 2 HS 1A	3	Battery (+) Switched	3	USB_DM_OUT
4	Relay 3 NC	4	Digital Out 1 HS 1A	4	Alt Excite	4	USB_ID_OUT
5	Relay 3 COM	5	Digital Out 2 LS 1A	5	CAN (H)	5	USB_SHLD
6	Relay 3 NO	6	Digital Out 1 LS 1A	6	CAN (L)	6	USB_GND
7	Analog In 3	7	Analog In 1	7	Relay 1 NO		
8	Digital In 3	8	Analog In 2	8	Relay 1 COM		
9	Digital In 4	9	Digital In 1	9	Relay 1 NC		
10	Digital In 5	10	Digital In 2	10	Relay 2 NO		
11	Not Used	11	Frequency In	11	Relay 2 COM		
12	Battery (-)	12	Battery (-)	12	Relay 2 NC		

How to Order

Part Number	Model/Description
40700494	MPC-10 Controller
40051142	Panel Gasket, IP66, MPC-10
40700506	PowerCore 3X12 Position Connector Kit
40000598	PowerCore 3X12 Position 3' Conn Whip Harness (1m approx.)
78000668	USB Programming Harness