

CP640C Installation Manual



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Introduction

This manual provides general installation information for LOFA's CP640C. This manual's target audience is professional installers for Engine Distributors and OEMs of engine-driven machines. The engine manufacturer specific application information should be followed for any detailed or specific requirements. LOFA sales and technical support are available to discuss specialized requirements or custom applications.

Mechanical Mounting

The CP640C control panel is adaptable to a wide variety of applications. The included engine harness connector facilitates quick installation. The following is list of installation guidelines:

1. Panel mount shall be
 - a. Easily accessible by operator
 - b. Away from moving equipment
 - c. Stable during equipment operation and transportation
2. Vibration isolation mounts shall
 - a. be properly installed with no twists in the rubber isolation material,
 - b. have normal movement, and
 - c. panel must not hit adjacent structure during operation

WARNING!

Correct any problem before proceeding to the next step! Continued testing may damage the panel, harness or engine!

1. Turning key switch on initiates self-test, Check all connections and battery polarity on failure
2. Test to verify over current protection, Identify and correct wiring fault on failure
3. Verify fuel run/stop solenoid or ECM energizes
4. Fuel solenoid should be powered for 10 to 30 seconds when key turned on
 - a. ECM should send CANbus data as soon as self-test completes
 - b. Verify engine cranks when key is turned to start Check all connections on failure
5. If engine does not crank, Check fuel/bleed fuel lines
6. Verify gauges and indicators with engine running
 - a. See user manual for details
7. Test safety shutdowns
 - a. See user manual for details
8. Run engine for extended time to identify temperature or connection problems

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Compact AluFlex™ Panels

AluFlex panel enclosures are constructed from aluminum and powder-coated for durability. The enclosure is splash proof and includes condensation drain holes in the bottom. AluFlex panel isolation mounts are preinstalled to a heavy-duty mounting bracket with mounting holes to accommodate various installations.

Mounting Templates

The following is the CP640C mounting bracket dimensions.

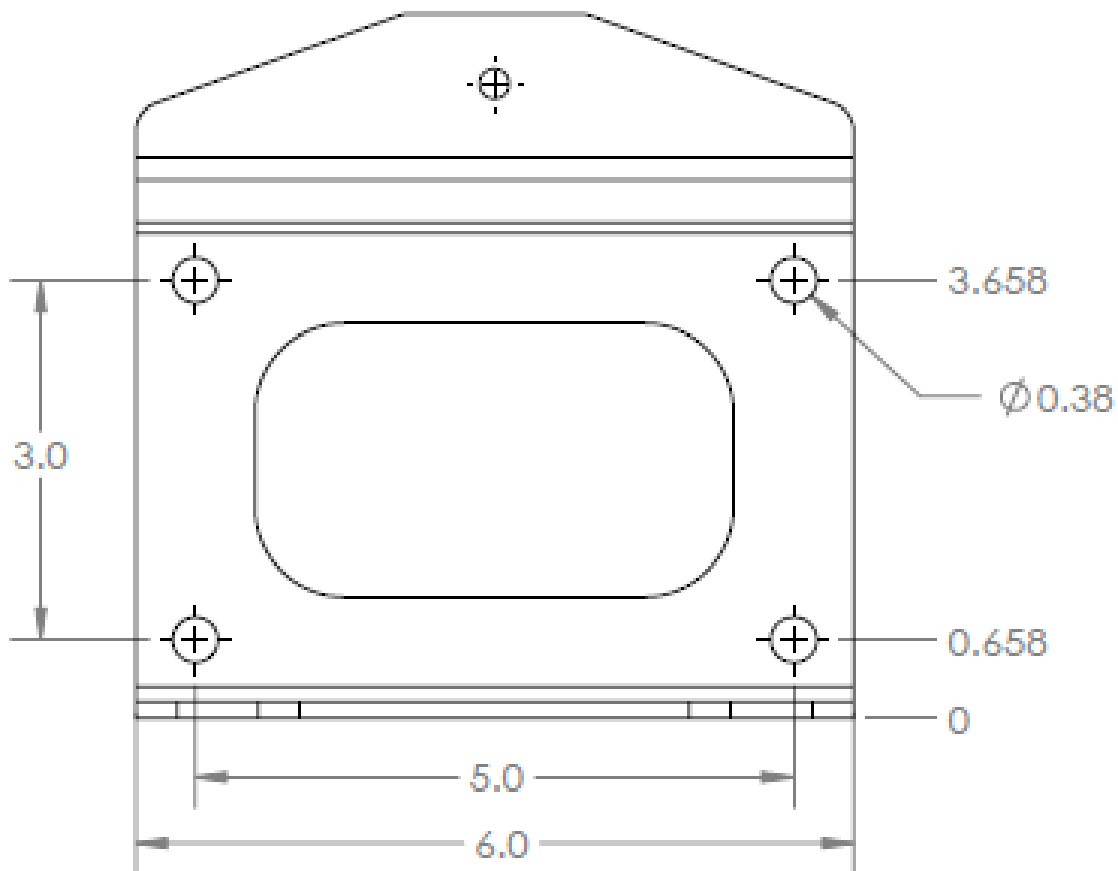


Figure 1:: Compact Aluflex—back

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Connector Pinouts

There is a single engine interface connector on the CP640C.

D21 to Engine pinout

This connector contains the typical connections required for electrically governed engines. The following is the pinout:

Pin	Signal	Comment	Pin	Signal	Comment
A	Pre-Heat	1A @ System Voltage	M	Aux IN 2	Active Low
B	B+		N	Temp SW	Active Low
C	Sender return		P	Reserved	
D	Starter	10A @ System Voltage	R	---	--
E	GND		S	Pulse2 Tach	System Voltage
F	CAN Shield		T	Reserved	
G	ECU/Solenoid	10A @ System Voltage	U	CAN Low	
H	Reserved		V	CAN High	
J	Ignition	1A @ System Voltage	W	Aux IN 1	Active low
K	Pulse Tach	System Voltage	X	Fuel Level Sender	System Voltage 0—750 Ω
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Typical Wiring

The following describes the typical engine interface wiring.

Power and Ground

The panel's Power and Ground must connect directly to the battery posts and must not share its power and ground wiring with any other devices, especially any high current loads. The Power line should have over-current protection in the form of current limiting devices, fuses, circuit breakers or fusible links protect harness wiring in the event of fault conditions.

ECU Power Out

The CP640C can directly power the engine ECU

Starter Power Out

The Starter Power Out is intended to power the starter relay, which is required. When power is removed from the relay coil, the collapsing magnetic field generates a negative voltage surge. Negative voltage surges can damage components. The CP640C has protection against these negative surges. However, it is still required to have a protection/suppression diode as close to the relay as possible. LOFA recommends the use of relays that have this protection/suppression diode built-in. The protection/suppression diode must have sufficient voltage ratings to survive and sufficiently suppress these negative voltage surges. LOFA recommends a 1N4001 diode.

Resistive Fuel Sender

The Resistive Sender connection sends System Voltage out to the sender to obtain the current value. It is required that the Sender Return connection be connected to a ground point as close to the fuel sender as possible for best accuracy.

CANBus Termination

CANBus requires two 120 Ω termination resistors each at the extreme ends of the wiring harness. Typically, the engine ECU provides the termination resistor on its end (see engine documentation to verify). The CP640C has a termination resistor.