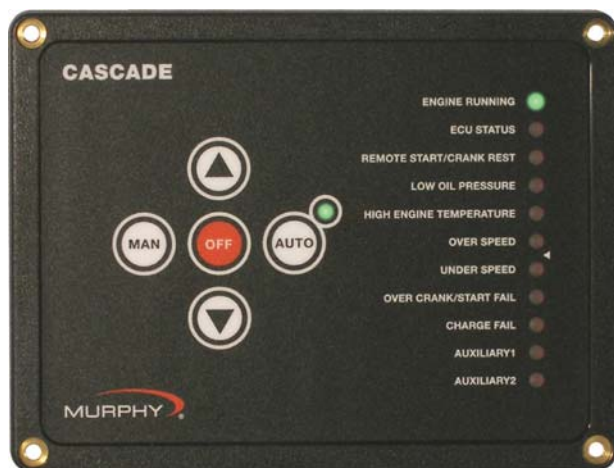# Auto-Start/Stop Controller — Cascade

Features

- Durable encapsulated protection against dirt, water, and dust – rated NEMA4 and IP65
- Operates during low battery blackouts
- Compatible with Electronic and Mechanical engines – ECU, MPU, AC Frequency
- J1939 Ready – Works directly with MurphyLink J1939 PowerView gages

Description

The Cascade controller offers automatic start and stop control with easy configuration for a broad number of applications.

This auto-start controller is designed to fit any engine-driven application requiring a simple and robust automatic start and stop sequence. Pumps, Compressors, Grinders, Power Units and Generators are just few of the industrial applications for the controller.

The Cascade controller is fully compatible with all major engine types. Whether you are running mechanical or J1939 engines, the controller will work with your application.

Here are some of the unique features of the Cascade that only Murphy can offer at our competitive price.

- **Durability:** Encapsulated to protect it against dirt, water and dust, along with a compression gasket to fully seal it to the panel. Cascade is rated NEMA4 and IP65.
- **Low Battery Blackouts:** Operates in total blackout for a minimum of two seconds.
- **Compatibility:** Accept MPU, AC Frequency and ECU speed signals and can operate with standard and J1939 engines.
- **Inputs and Outputs:** The Cascade Inputs and Outputs are ruggedly protected and fault tolerant.
- **J1939 Ready:** Works directly with Murphy's J1939-ready PowerView gages, just plug and go, no sender is required.
- **CD101 Cascade Configuration Tool:** Allows quick setup and loading of parameters into a Murphy standard Cascade via a PC software tool.

Specifications

Power input: 9-35 VDC continuous - operates during total blackout for 2 seconds minimum.

Power consumption: Sleep Mode (Manual): 1mA typical; Sleep Mode (Automatic): 4mA typical Running Mode (Manual) 20mA typical; Running Mode (Automatic) 24mA typical.

Operating/Storage temperature: -40 to 85°C; (-40 to 185°F).

Humidity: 0-100%, non-condensing.

Housing: UV stabilized black polycarbonate and epoxy encapsulation. Weather tight and includes sealing gasket to keep moisture and debris out of enclosure. Properly mounted controller will maintain NEMA4 / IP65 rating of enclosure.

Vibration: Rated to 6G.

Impact: Rated to 10G.

Inputs: Dedicated digital inputs for low oil pressure, high engine temperature, remote start, DC charge fail/Alternator fail. Two aux inputs are configurable for multiple functions.

Outputs: 7 – 4 auxiliary, configurable (1A DC protected). 3 dedicated outputs for Crank, Fuel/ECU, Alternator excitation.

Crank attempts: 3, 5, 10, Continuous.

Crank Rest: 5-60 seconds, adjustable.

Shutdown lockout time delay: 5, 10, 15, 20, 25, 30 seconds.

Crank disconnect speed setting: Field settable 0-9999 RPM (16-60 Hz AC freq input).

Overspeed/underspeed trip point setting: ±5 to 50% of nominal.

Speed sensing inputs: Magnetic pickup (5-120 VAC RMS / 0-10kHz) & AC frequency (30-600 VAC RMS / 16-80 Hz).

CAN bus interface: Directly read engine speed, & engine status data[*] from SAE-J1939 enabled engines.

MODbus interface: In J1939 applications drives PVA series analog gages.

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[*] Engine status data limited to low oil pressure, high engine temperature, "Wait to start" status, Warning & Fault lamp information, and communication error.
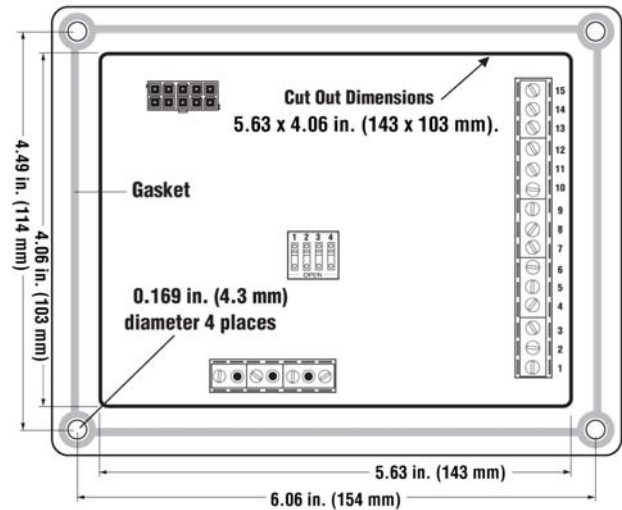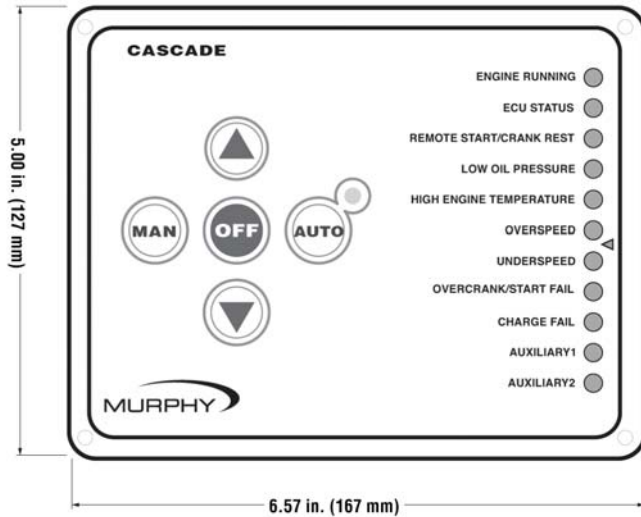
Cascade Auto-Start Controller Dimensions

Front View   **Back View**

Front View

Back View

CASCADE

ENGINE RUNNING
ECU STATUS
REMOTE START/CRANK REST
LOW OIL PRESSURE
HIGH ENGINE TEMPERATURE
OVERSPEED
UNDERSPEED
OVERCRANK/START FAIL
CHARGE FAIL
AUXILIARY1
AUXILIARY2

MAN   OFF   AUTO

MURPHY

5.00 in. (127 mm)

6.57 in. (167 mm)

Cut Out Dimensions
5.63 x 4.06 in. (143 x 103 mm).

Gasket

0.169 in. (4.3 mm)
diameter 4 places

4.49 in. (114 mm)

4.06 in. (103 mm)

5.63 in. (143 mm)

6.06 in. (154 mm)

How to Order the Cascade Controller

To Order specify: CD101 P/N 40700259

Shipping Weight: 1 lb. (453 g) approximately.

Shipping Dimensions: 5.1 x 6.7 x 1.6 inch (130 x 170 x 41 mm) approx.

Accessories

CD101 Cascade Configuration Kit P/N:40090045

MURPHY ®   Murphy

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