

# Digital Generator Panels

MGC-96079B  
Revised 08-02  
Catalog Section 75  
(00-02-0766)

FWMurphy



MGC547

## MGC447 and MGC547 Series

- Microprocessor-Based Controller
- Digital Engine and Generator Display
- Pre-Programmed, Full Featured
- Built-In Advanced Communications
- Compact Design, NEMA 1 Drip Proof

### Description

The MGC447 and MGC547 generator panels provide inexpensive engine and generator monitoring and control with digital accuracy. These microprocessor-based controllers include all basic industry requirements plus many value added features such as: remote communications and control capabilities; on-board real time clock; shutdown history display of last 5 shutdowns; service reminders.

Operating parameters are configured through a three-button interface. Data is displayed on a 32-character, back lit alphanumeric liquid crystal display. Access to the system memory is controlled by entry codes, and the program is stored in EPROM.

These panels accept a variety of sensor inputs such as from Murphy electric gage type resistive sending units and digital inputs such as from SWICHGAGE® instruments.

The MGC447 and MGC547 feature open collector transistor type and relay type outputs.

These compact panels measure only 13-1/4 x 8-1/2 x 12-1/2 inches (337 x 216 x 318 mm), and are shock mounted and rated NEMA 1 drip-proof.

The MGC547 Series models incorporate built-in serial ports for advanced communication capabilities. They can communicate with remote terminals, such as a computer via modem or can automatically dial your pager to inform you of the status of the generator.

The user is able to start or stop the engine, view operating parameters and reset or acknowledge abnormal conditions from a computer.

### Features

- Pre-programmed generator panels for typical gen-set operations: warm-up, transfer to load, run time, engine unload, cooldown.
- For 3-phase, 4-wire or 1-phase, 3-wire generators.
- Digital readout of all engine and generator functions: pressure, temperature, rpm, amps and volts. Monitored with first-out shutdown annunciation.
- Built-in communication for remote start/stop and monitoring engine and generator functions (MGC547 models).
- Optically-isolated noise resistant inputs.
- Open collector transistor outputs.
- Crank and Rest cycle timers, 1 to 300 seconds each (adjustable).
- Shutdown time delay, 2 to 2000 seconds (adjustable), locks out low oil pressure and high temperature on start-up.
- Crank disconnect and overspeed sensing operates from a magnetic pickup signal (requires 2 Vrms minimum) or alternator tachometer terminal.

**Important:** Off-panel items such as senders, magnetic sensors and CT's must be ordered separately.

### Specifications

**NOTE:** These specification apply to all models unless otherwise indicated.

**MGC447 models:** EMS447 controller.

**MGC547 models:** EMS547 controller.

#### Power Requirements:

- 12 VDC battery for 12 V models.
- 24 VDC battery for 24 V models.

**Operating Temperature:** -4 to 149°F (-20 to 65°C).

**Storage Temperature:** -4 to 149°F (-20 to 65°C).

**Relative Humidity:** 95%RH @ 60°C (140°F).

#### Communications:

MGC447: 1-RS485 serial port.

MGC547: 2-RS485 and 2-RS232 serial ports.

**Digital Inputs:** 3 optically-isolated, (positive voltage or ground) such as from Murphy SWICHGAGE®s.

Input 1: Auto position on toggle switch\*

Input 2: Test position on toggle switch\*

Input 3: Spare 1 Input

#### Analog Inputs: 7

Analog 1: Water Temperature Sender

Analog 2: Engine Oil Pressure Sender

Analog 3: Low Coolant Input (closed on fault)

Analog 4: Oil Level Input (closed on fault)

Analog 5: AC Volts (0-5 VDC)\*

Analog 6: AC Amps (0-5 VDC)\*

Analog 7: Remote Start/Stop

**Frequency Input:** 1 optically-isolated for speed reference from magnetic sensor (pickup).

#### Outputs: 7

Output 1: Fuel Solenoid†

Output 2: Starter†

Output 3: Common Fail†

Output 4: Glow Plug\*\*

Output 5: Generator Regulator Control\*\*

Output 6: Phase 2 Selection\*

Output 7: Phase 3 Selection\*

**NOTE:** I/O's and comm. ports are program specific and will vary depending upon the software program used. Custom programming is available.

\* Internal, not for customer connection.

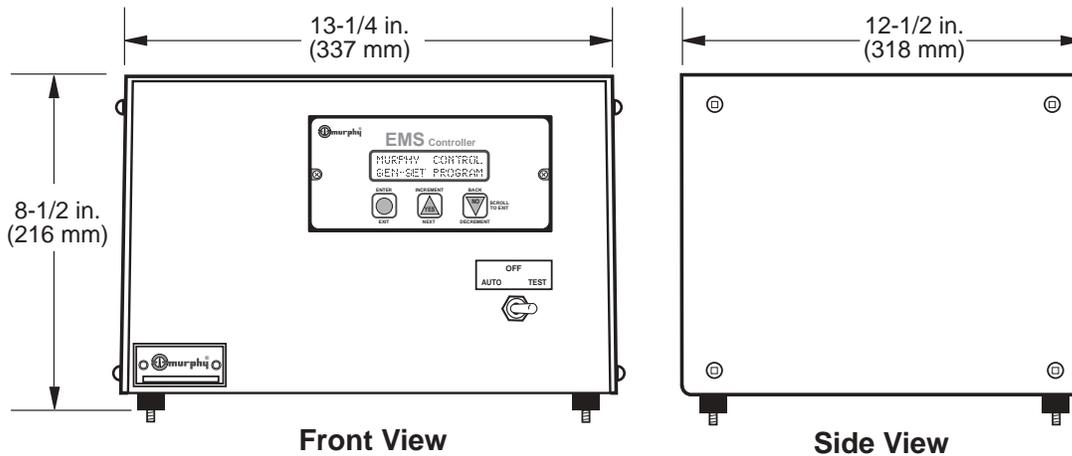
\*\* Open collector transistor type, 300 mA maximum. To drive customer supplied relay.

† Auxiliary relay, customer connection is form "A" relay contact, 12 V, 40 A; 24 V, 16 A.



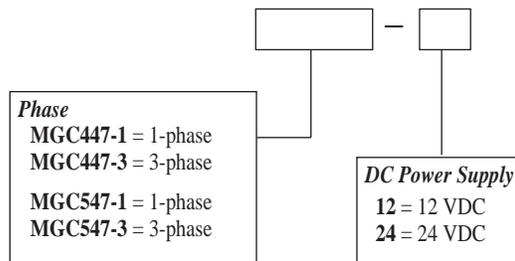
# Dimensions

**Note:** Dimensions apply to all MGC447 and MGC547 Series Models



## How to Order

To order your MGC447 or MGC547 Series Model, just fill in the spaces.



## Warranty

A two-year limited warranty on materials and workmanship is given with this Murphy product. Details are available on request and are packed with each unit.

**Explore Murphy on the web:** <http://www.fwmurphy.com> and <http://www.murphyswitch.com>



**FWMurphy**

P.O. Box 470248  
Tulsa, Oklahoma 74147 USA  
(918) 317-4100  
fax (918) 317-4266  
e-mail [sales@fwmurphy.com](mailto:sales@fwmurphy.com)  
[www.fwmurphy.com](http://www.fwmurphy.com)

**CONTROL SYSTEMS & SERVICES DIVISION**  
P.O. Box 1819; Rosenberg, Texas 77471; USA  
(281) 342-0297 fax (281) 341-6006  
e-mail [sales@fwmurphy.com](mailto:sales@fwmurphy.com)

**MURPHY DE MEXICO, S.A. DE C.V.**  
Blvd. Antonio Rocha Cordero 300, Fracción del Aguaje  
San Luis Potosí, S.L.P.; México 78384  
+52-444-8206264 fax +52-444-8206336  
e-mail [ventas@murphymex.com.mx](mailto:ventas@murphymex.com.mx)  
[www.murphymex.com.mx](http://www.murphymex.com.mx)

**FRANK W. MURPHY, LTD.**  
Church Rd.; Laverstock, Salisbury SP1 1QZ; U.K.  
+44 1722 410055 fax +44 1722 410088  
e-mail [sales@fwmurphy.co.uk](mailto:sales@fwmurphy.co.uk)  
[www.fwmurphy.co.uk](http://www.fwmurphy.co.uk)

**MURPHY SWITCH OF CALIFORNIA**  
41343 12th Street West  
Palmdale, California 93551-1442; USA  
(661) 272-4700 fax (661) 947-7570  
e-mail [sales@murphyswitch.com](mailto:sales@murphyswitch.com)  
[www.murphyswitch.com](http://www.murphyswitch.com)

**MACQUARRIE CORPORATION**  
1620 Hume Highway  
Campbellfield, Vic 3061; Australia  
+61 3 9358-5555 fax +61 3 9358-5558  
e-mail [murphy@macquarrie.com.au](mailto:murphy@macquarrie.com.au)



*In order to consistently bring you the highest quality, full featured products, we reserve the right to change our specifications and designs at any time.*