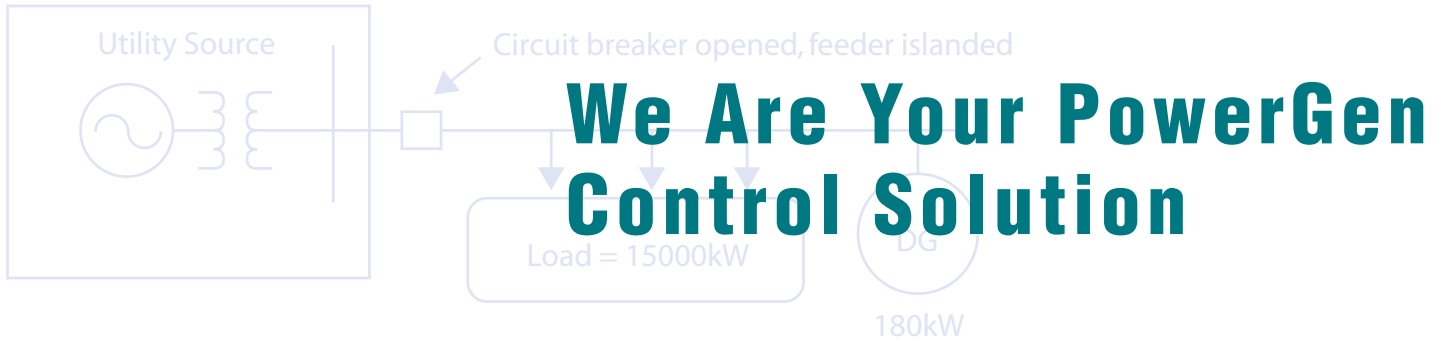




Control & Instrumentation **SOLUTIONS**



For Power Generation Equipment



With over 60 years of experience in building quality and cost-effective engine and generator protection, we can help you meet your toughest challenges.

Whether its our standard panels or panel solutions customized for your application needs, or our comprehensive series of gages, switches and instrumentation, Murphy's solution oriented offerings have you covered.

- Engineering and design
- Turnkey delivery
- Engine and generator control panels
- Automation systems
- Generator controls for NFPA-110, Levels 1 & 2
- Off-Highway / Mobile
- Emergency Backup systems
- Prime Power

Introducing the *iGUARD™ Gen-Set Controller*



The most versatile controller for your engine-driven generator set applications. Designed to work with today's electronic engines accepting SAE-J1939 protocol. The iGUARD™ also works with non-electronic engines.

The new iGUARD™ controller can be used for all gen-set applications: single-phase or three-phase, and 12 or 24 V. Engine speed can be read from a magnetic pickup or SAE-J1939, and/or AC frequency. Both RS232 for connection to computers, and RS485 MODBUS ports for PowerView Gages, Remote Relay Boards, or communication devices. Designed to meet and exceed NFPA-110, the iGUARD™ has flexible inputs and outputs to more than meet the requirements. The iGUARD™ features a 64 x 128 pixel full-graphic backlit LCD display. The microprocessor is flash-based, the controller can be easily re-programmed from the front panel or updated using a PC in the field.

REMOTE RELAY BOARD for iGUARD Controllers

This powerful Remote Relay Board allows for additional input/output capabilities enhancing the iGUARD to handle more applications.



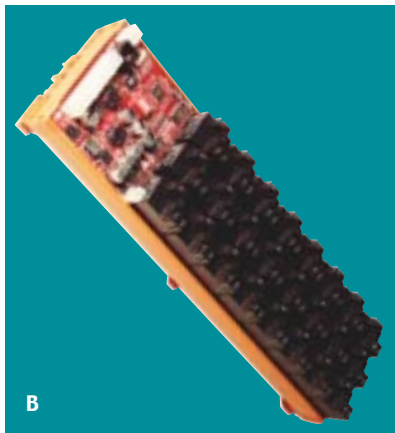
And for SAE-J1939 CAN equipment applications use the microprocessor-based PowerView Analog Gages.

AC Frequency	AC Amps	AC Volts	kiloWatts
A circular gauge with a black face and white markings, ranging from 0 to 80 Hz. The needle is pointing to approximately 60 Hz.	A circular gauge with a black face and white markings, ranging from 0 to 300 A. The needle is pointing to approximately 150 A.	A circular gauge with a black face and white markings, ranging from 0 to 400 V. The needle is pointing to approximately 200 V.	A circular gauge with a black face and white markings, ranging from 0 to 800 kW. The needle is pointing to approximately 400 kW.

Now you can send all your AC parameters as data to these PowerView MODBUS Gages. No need to send live AC voltages and current long distances.

GENSET AND ENGINE CONTROLLERS

All models available with manual or auto-start; full array AC meters; engine SWICHGAGE® instruments and optional DC instruments. Inquire about other standard and custom designed automation controllers and panels.



A. iGUARD Controller for all Genset applications

- Applications such as single-phase or three-phase, and 12 or 24 V. Engine speed can be read from a magnetic pickup or J1939, and/or AC frequency. Both RS232 for connection to computers, and RS485 MODBUS ports for PowerView Gages, Remote Relay Boards, or communication devices.

Designed to meet and exceed the needs of NFPA-110, the iGUARD™ has flexible inputs and outputs to more than meet the requirements, it features a 64 x 128 pixel full-graphic backlit LCD display. The microprocessor is flash-based, the controller can be easily re-programmed from the front panel or updated using a PC in the field.

B. Remote Relay Board for iGUARD Controllers

- This powerful Remote Relay Board allows for additional input/output capabilities enhancing the iGUARD to handle more applications.

C. ASM170 Generator Control With Additional Outputs

- Includes field adjustable time delays
- Microprocessor-based design automatic start control module.
- Performs more functions than any comparably packaged controller available at its price.
- Features programmable Smart FET outputs.

D. AS731 Auto-Start System Fully featured generator controller with 3-phase generator voltage and current measurements, display and fault tripping.

E. EMS547 Monitoring System

This microprocessor-based controller is ideal for monitoring equipment functions. Four built-in ports provide a variety of communications capabilities. The EMS547 can be used as an RTU to interface between SCADA applications and other control platforms. Basic programs provide selectable auto or manual start/stop and first-out shutdown for engine functions such as pressure, temperature, level and overspeed. Time delays for lockout during start up are included. Other features include: shutdown history file, service reminder, four communication ports, modem ready, back-lit alphanumeric display.

F. Keystart 9700 Series Engine and Generator Control

- Provides manual control for standby generator or engine driven applications and automatic fault warning and shutdown.
- Enhanced keyswitch operation and configurable fault inputs
- Selectable 12 or 24 VDC power supply

EXPANDABLE CONTROL PANELS

Murphy offers standard and custom designed complete automation control solutions for your emergency and standby power systems. Contact sales for details on our full line of gen-set controls and other automation controllers.

A. iGUARD Control Panel

- This expandable Generator Control Panel features the NEW iGUARD Engine and Gen-Set Controller.
- Shock-mounted, NEMA 1 drip-proof enclosure features a cover for easy access to the internal components.
- Offers standard and custom designed complete automation control solutions for your AC power generation needs.
- For single or three-phase applications, and 12 or 24 V. RPM can be from magnetic pickup, J1939, and/or AC frequency. RS232 for connection to computers, and RS485 MODBUS ports for PowerView J1939 Gages, Remote Relay Boards, or communication devices. Designed with flexible inputs and outputs to meet the NFPA-110 requirements.



B. MGC2001 Generator Controller System

- Dynamic design allows easy installation and full operation flexibility.
- Features the ASM170 Generator controller.
- User-friendly, well-thought out routine for faster and easier set up.



C. MGC547 System Digital Automatic Generator Control

- Provides engine and generator control with digital accuracy.
- NEMA 1 rated, drip-proof, shock-mounted enclosure.
- Features the EMS547 microprocessor-based generator controller.
- Accepts Murphy electric gage type resistive sending units and digital inputs such as from a SWICHGAGE®.
- AC parameters Modbus interface for SAE-J1587 enabled engines.



D. MGC731 Generator Controller Autostart

- Automatic or manual start for engine and generator control in applications not requiring NFPA-99 or NFPA-110 approval.
- Features the AS731 Series Controller with automatic or manual start and annunciation capabilities.
- For 3-phase, 4-wire or 1-phase, 3-wire generators.
- Communications via modem for remote control/monitoring.
- Shock-mounted, NEMA 1 drip-proof enclosure features a cover for easy access to the internal components.



E. AC Series Meter Module

Murphy's alternating current module is the ideal solution for monitoring the generator's AC voltage.



VALUE-ADDED ACCESSORIES AND COMPONENTS



A. Current Transformers

A range of core balances and current transformers are available. We offer units to be used with many cable sizes and bus bars.

B. ES Series Electric Gage Senders

Available for pressure, temperature and level, these senders can be grounded or ungrounded; one- or two-wire type.

C. MP Series Magnetic Pickup Sensors

Murphy offers magnetic pickups with sensing tips of 3 or 4-1/2 inches in length and 5/8-18 or 3/4-16 UNF thread.

D. Acquire AC Parameters With a High Degree of Accuracy

Acquire over 45 AC values such as: AC Volts, AC Amps, AC Frequency, Power Factor, kWatts, kVAR, and more. All the parameters available per phase and total average.

E. SV Series Diesel-Fuel Shutoff Valves

Pressure, temperature, and level SWICHGAGE® instruments trip a magnetic switch breaking a circuit from the battery which closes the SV valve stopping the engine.

F. LM2000 Engine Lube Level Maintainer

Will replenish oil as it is used. Gives an alarm or shuts down the engine if the supply is lost.

G. EL150K1 Level SWICHGAGE® for Engine Coolant, Lube Oil, Hydraulic Fluid, Diesel Fuel

Combination liquid level indicating gage and low level limit switch.

For J1939 CAN applications, Select PowerView MODBUS Analog Gages.
No need to send live AC voltage and current long distance.



PowerView Display Module



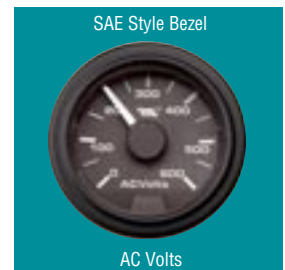
SAE Style Bezel

AC Frequency



SAE Style Bezel

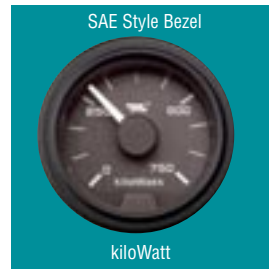
AC Amps



SAE Style Bezel

AC Volts

Flat Lens Bezel options shown.
Domed Lens bezel options available.



SAE Style Bezel

kiloWatt



SAE Style Bezel

Coolant Temp



SAE Style Bezel (Silver)

Coolant Temp



Contemporary Style Bezel

Percent Load



Low Curved Style Bezel

Voltage



A20 Style Bezel

Oil Pressure

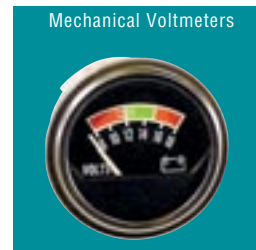
Mechanical or electric SWICHGAGE® instruments to simplify your Gen-set control panels.



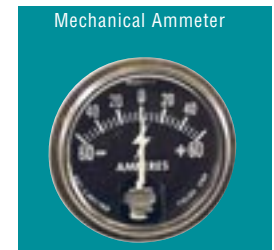
Mechanical SWICHGAGE®



Mechanical Hourmeters



Mechanical Voltmeters



Mechanical Ammeter



Electric SWICHGAGE®



Electric Tachometer



Electric Ammeter



Electric Voltmeter

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