



Industrial

Applications

Oil & Gas

Applications



32 Condensed
Catalog

Control & Instrumentation
Solutions

TAKE A CLOSER LOOK AT POWERVIEW

NOW YOU KNOW WHAT YOUR
ELECTRONIC ENGINE IS TELLING YOU.



POWERVIEW



POWERVIEW GAGES

DOMED LENS BEZEL OPTION – ALSO AVAILABLE IN SILVER



Tachometer



Engine Oil Pressure



Engine Coolant Temperature



12 or 24 VDC Voltmeter



Percent Load



Audible Alarm

(See PowerView Analog Gage information for other options available)

FLAT LENS BEZEL OPTIONS

A20 Style Bezel



Low Profile SAE Style Bezel



Contemporary Style Bezel



Low Curved Style Bezel



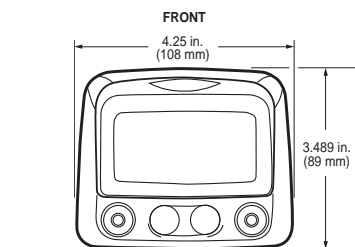
—the next generation *MurphyLink™* system.

The PowerView features a large screen with a great viewing angle and contrast. PowerView Analog Gages display information transmitted from the PowerView in the traditional analog format. Multiple bezels and colors are available. PowerView Audible Alarm alerts operators to fault conditions via piezoelectric alarm relay contact.

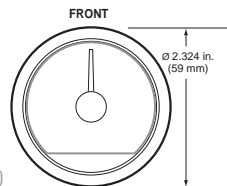
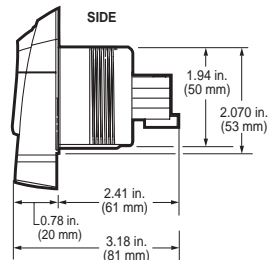
Now, with PowerView, operators see what your engine's Electronic Control Unit (ECU) is telling them in plain text. It puts the information where it's needed most—at the operator's fingertips. A large LCD graphical display and smooth gage pointer operation makes the PowerView and associated gages easy to use and understand. PowerView gives you choices in bezel designs and colors. Even better, all PowerView components feature plug and go con-

venience for easy installation, and they're available in both standard and custom panels.

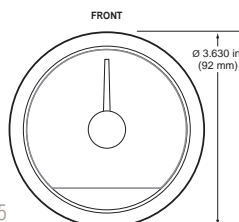
With years of experience, nobody knows more about J1939 CAN instrumentation than we do. Just what you'd expect from a company with a 60-year heritage as the Engine Protection Company. Spec the new PowerView system today.



PV100



PVA20



PVA35

Accurate, Reliable Operation.

- Accurate electronic engine and transmission data via SAE J1939 CAN
- PowerView translates information from electronic engines for precise operation of gages or remote communication
- All PowerView components are environmentally sealed
- Wide operating temperature

Enhanced Gage Design.

- Gages are stepper motor driven allowing smooth pointer operation
- Stepper motor design provides more linear scale, less pointer bounce
- PowerView Analog Gages feature intelligent communications
- Self-diagnostics available on start-up for PowerView Analog Gages

Understandable Diagnostics.

- PowerView displays standard J1939 fault codes with text descriptions for common faults
- Ultra-bright alarm and shutdown LEDs
- Large, easy-to-read fault symbols displayed

Easy-to-Read & Use.

- PowerView features fully graphical LCD screen
- Four touch-sensitive buttons feature increased size and spacing for scrolling and parameter selection
- Display information in single or quadrant (4 parameter) views
- Long-lasting green LED backlighting for both the PowerView and PowerView Analog Gages
- Backlighting intensity adjustable via PowerView menu or external dimmer potentiometer
- PowerView Analog Gages feature 270° pointer sweep

Convenient Installation Options.

- PowerView fits standard 2-1/16 in. (52 mm) hole opening
- PowerView Analog Gages fit standard 2-1/16 in. (52 mm) and 3-3/8 in. (86 mm) openings
- Two 6-pin Deutsch™ DT style connectors molded into casing for quick connections and simple daisy-chain wiring
- Standard connection harnesses available
- "Plug and Go" standard and customizable panels available with harnesses for all major engine manufacturers

FWMURPHY CORPORATE OVERVIEW

Leading the World



FWMURPHY is a leader in the manufacture of quality instrumentation and controls for engines and engine-driven equipment.

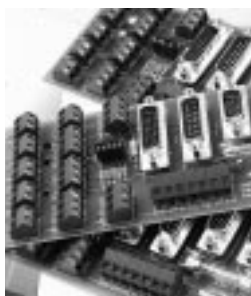
In addition to providing traditional products such as our world-renowned SWICHGAGE®, FWMurphy is leading the way in providing control solutions using the latest technology.

With today's communications networks, including the Internet, it is a natural progression to take the same equipment information we traditionally have read and displayed with our instrumentation, and now communicate it over the Internet from remote sites.

FWMurphy is also taking a leadership position in providing solutions based on the SAE protocols used in electronic engine controls.

FWMurphy has provided control and monitoring devices for over sixty years. Tulsa, Oklahoma is the home base for a worldwide network of factory sales/service representatives, plus domestic and international dealers. Additional manufacturing facilities are located in the United States, Europe, and Central America.

The following pages will give you an overview of both Murphy's traditional instruments and controls, plus our latest control technology solutions.



OUR NEW DIRECTION

Part of FWMurphy's vision is "to bring man and machine closer together through real-time, seamless communication".

The new direction of the company will help ensure this vision is achieved while preserving the inventive and entrepreneurial spirit of the company's founder, Frank W. "Pat" Murphy, and his passion for customer satisfaction.

of Control Technology



OUR CORE VALUES

Customer Focus We are driven by customer satisfaction and service. Our responsibility is to understand our external and internal customer's needs, provide timely solutions, and fulfill our commitments.

Fun We want Employees, Customers, and Suppliers to enjoy working with our company.

Innovation We encourage creativity and the sharing of ideas. Our desire is to cultivate an environment in which new ideas have the opportunity to reach their full potential.

Excellence We strive to achieve the best in all we do. Our responsibility to customers and ourselves is to ensure our actions reflect high standards. Quality is never compromised.

Ethics We are honest and fair with employees, customers, and suppliers. This creates an environment of mutual respect and trust.

OUR VISION

We provide innovative and "state of the art" products and services for comprehensive equipment management and control solutions.

We bring man and machine closer together through real-time, seamless communications.

We encourage and support employees to achieve bold and inspiring common goals in a positive and fun atmosphere.

We exceed the expectations of our employees, customers, and vendors thus becoming their "Preferred Partner".

We preserve and exemplify the inventive and entrepreneurial spirit of our founder Frank W. "Pat" Murphy and his passion for customer satisfaction.

WORLD CLASS MANUFACTURING - QUALITY - SERVICE - SOLUTIONS



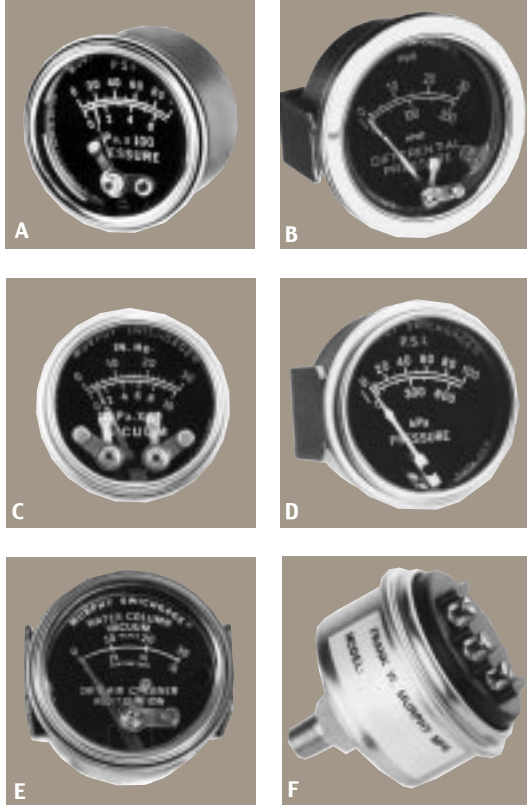
"OUR PURPOSE is to provide complete product, system and service solutions that achieve effective management of our customer's operations and equipment. The results improve the well being of our employees, customers, and, ultimately, people around the world."



USA-ISO 9001 FM 28221
UK-ISO 9001:2000 FM 29422

PRESSURE AND VACUUM

Heavy-duty 2 and 2-1/2 inch (51 and 64 mm) mechanical SWICHGAGE® or MURPHYGAGE®; rugged industrial rated diaphragm movement; plated steel case; polycarbonate lens; stainless steel bezel.



A. Pressure SWICHGAGE® 20P / 25P Series

- 2 and 2-1/2 in. (51 and 64 mm) dial.
- Thru 400 psi (2.76 MPa) [27.60 bar]. With face adjustable contact.

20PE and 25PE Series

- Same as 20P/25P except SPDT snap-switch (factory-set).

B. Differential Pressure SWICHGAGE® 20DP/25DP Series

- 2 and 2-1/2 in. (51 and 64 mm) dial.
- Face adjustable high limit contact.
- For oil, fuel, water filter restriction.

C. Vacuum SWICHGAGE® 20V/25V Series

- 2 and 2-1/2 in. (51 and 64 mm) dial.
- 0-20 or 0-30 in. Hg. (0 to -.68 or 0 to -102 kPa) [0 to -.68 or 0 to -.102 bar].
- Face adjustable high and low limit contacts.

D. MURPHYGAGE® Gage-Only, No Limit Contacts

- 20BPG: 2 in. (51 mm) dial for pressure.
- 25PG: 2-1/2 in. (64 mm) dial for pressure.
- 20BVG: 2 in. (51 mm) dial for vacuum (Hg).
- 20VWCG/25VWCG: for vacuum (H2O).
- 20DPG/25DPG: for differential pressure.

E. 20VWC and 25VWC Series For Air Filter Restriction

- 2 and 2-1/2 in. (51 and 64 mm) dial.
- 0-30 or 0-50 in. H2O (0-76 or 0-127 cm) vacuum.
- Face adjustable high limit contact.

F. Direct Mount Pressure Switch (No Gage) PSB Model

- Same construction as the SWICHGAGE®. With SPDT snap-switch.
- Can operate alarm or shutdown all engine applications.
- Ranges thru 400 psi (2.76 MPa) [27.60 bar].

G. Pressure SWICHGAGE® A20P and A25P Series Models

- 2 and 2-1/2 inch (51 and 64 mm) dial
- Thru 400 psi (2.76 MPa) [27.60 bar].
- Face adjustable low limit contact.

A20PE and A25PE Series Models

- Same as 20P/25P except SPDT snap-switch (factory-set).
- A25PE, CSA listed for non-hazardous areas.
- A25PE-EX, CSA listed for Class I, Div. 1, Grp C & D areas.

Differential Pressure SWICHGAGE® A20DP/A25DP Series

- For oil, fuel, water filter restriction.
- Face adjustable high limit contact.

H. Vacuum SWICHGAGE® A20V/A25V Series

- 0-20 or 0-30 in. Hg. (0 to -.68 or 0 to -102 kPa) [0 to -.68 or 0 to -.102 bar].
- Face adjustable high and low limit contacts.

A25VWC Series For Air Filter Restriction

- 0-30 or 0-50 in. H2O (0-76/0-127 cm).
- Face adjustable high limit contact.
- (2-1/2 inch [64 mm] dial.)

PRESSURE AND VACUUM—ENVIRONMENTALLY SEALED

Environmental sealing keeps out damaging condensation. A-Series features corrosion resistant glass filled polycarbonate case, polycarbonate lens, and stainless steel bezel.



PRESSURE AND VACUUM

Industrial rated 4-1/2 inch (114 mm) mechanical SWICHGAGE® or MURPHYGAGE®; bourdon tube sensing element; adjustable high and low limit contacts or snap-acting switches.

NEW! From FWMurphy

I. SWICHGAGE Mitter™ – SWICHGAGE® with 4-20mA Output SGM45F Series

- Combination pressure indicating gage, critical pressure limit switches and 4-20 mA output.
- Easy-to-read 4-1/2 inch (114 mm) analog dial.
- High & low limit, adjustable, 2-wire pilot-duty contacts.
- 0.5% accuracy on 4-20 mA output.

J. Pressure/Vacuum SWICHGAGE® OPLC Series

- Vacuum, Compound and Pressure ranges from 30 in. Hg. vacuum (-101 kPa) [-1.01 bar] to 10,000 psi (68.95 MPa) [700 bar].
- Flange mount case.
- Easy-to-read 4-1/2 inch (114 mm) analog dial.
- High & low limit, adjustable, 2-wire pilot-duty contacts.

K. OPLFC Series

- Same as OPLC except for panel mount.

NEW! From FWMurphy

45APE Series

- Same as OPLC except with SPDT snap-switches for high and low limits. The indicating pointer (visible pointer) shows actual pressure reading, including below and beyond the low and high trip points. The low and high trip points are adjustable independently on the gage front lens.

L. 45APEF Series

- Same as 45APE except for panel mount.

M. 45 Series

- Same as OPLC with built-in shutdown electromagnetic switch for mag-neto or CD ignitions (specify).

N. OPLBP Series

- Same as OPLC except with built-in latching relay for start and stop operation.

O. Pressure Transmitters PXMS Series and Pressure Transducers PXDGS Series

- State-of-the art transmitter providing a 4-20 mA or 1-5 VDC output.
- Ranges thru 10,000 psi (68.95 MPa) [689 bar].
- Easy to set zero and span adjustments.

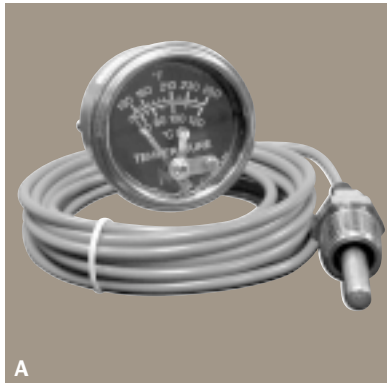
P. Pulsation Dampener PD8100 Series

- To dampen pressure pulsation for controllers, instruments and recorders.
- Brass, carbon steel or stainless steel.
- Models to 10,000 psi (68.94 MPa) [689.47 bar].
- 1/4 and 1/2 NPT inlet and outlet.



TEMPERATURE

Heavy-duty 2 and 2-1/2 inch (51 and 64 mm) mechanical SWICHGAGE® or MURPHYGAGE®; rugged industrial rated diaphragm movement; tough PVC armored capillary; plated steel case; polycarbonate lens; stainless steel bezel.



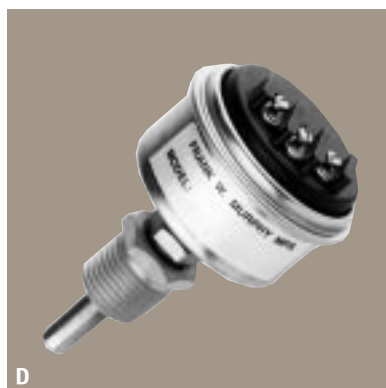
A



B



C



D

A/B. Temperature SWICHGAGE® 20T and 25T Series

- 2 and 2-1/2 in. (51 and 64 mm) dial.
- For coolant or oil temperature.
- Ranges thru 440°F (220°C).
- Various sensing bulbs and fitting sizes available.
- Face adjustable contact.

20TE and 25TE Series

- Same as 20T and 25T except SPDT snap-switch.
- Factory-set switching.

20TABS and 25TABS Series

- Same as 20T/25T with internal SPDT snap-switch for pre-alarm.

C. MURPHYGAGE® Gage-Only, No Limit Contacts

- Same as 20T/25T without limit switch contacts.
- 20BTG: 2 in. (51 mm) dial.
- 25TG: 2-1/2 in. (64 mm) dial.
- For coolant or oil temperature.
- Ranges thru 440°F (220°C).
- Various sensing bulbs and fitting sizes available.

Direct Mount 20SD and 20TD Models

- Same as the 20T, mounts directly into the process.
- 20SD ranges: 220° or 250°F (104° or 121°C) with 11/32 x 1-1/2 in. (9 x 38 mm) sensing bulb.
- 20TD ranges: 220° or 250°F (104° or 121°C) with 1/4 x 4 in. (6 x 102 mm) sensing bulb.

D. Direct Mount Temperature Switch (No Gage) TSB Model

- Same construction as the SWICHGAGE®.
- SPDT snap-switch.
- Can operate alarms/shutdown all engine applications.
- Range 130–250°F (54–125°C)

TEMPERATURE—ENVIRONMENTALLY SEALED

Environmental sealing keeps out damaging condensation. A-Series features corrosion resistant glass filled polycarbonate case, polycarbonate lens, and stainless steel bezel.



E



F

E/F. Temperature SWICHGAGE® A20T/A25T Series Models

- 2 and 2-1/2 in. (51 and 64 mm) dial.
- For coolant or oil temperature.
- Ranges thru 440°F (220°C).
- Face adjustable high limit contact (isolated from ground).
- Optional sensing bulb and fitting sizes for specific applications.

A20TE and A25TE Series

- Same as A20T/A25T except with factory-set SPDT snap-switch.
- A25TE is CSA listed for non-hazardous areas.
- A25TE-EX is CSA approved for Class I Div. 1, Groups C & D hazardous areas.

MURPHYGAGE® Gage-only (No Limit Contacts)

- Version of the A-Series without limit switch contacts.
- A20TG: 2 in. (51 mm) dial.
- A25TG: 2-1/2 in. (64 mm) dial.

TEMPERATURE

4-1/2 inch (114 mm) dial mechanical/analog readout; adjustable high and low limit contacts.

G. Temperature SWICHGAGE® SPLC Series

- 4-1/2 in. (114 mm) dial SWICHGAGE®.
- Flange mounting case.
- 2-wire adjustable high & low limit pilot-duty contacts.
- Ranges thru 450°F (232°C).
- 5 ft. (1.524 m) capillary standard — specify other.

H. SPLFC Series

Panel mounting version of SPLC.

45TE Series

Same as SPL except with SPDT snap-switches.

45TEF Series

Panel mounting version of 45TE.

I. Exhaust Pyrometers

Dual Port Reading: 10705146

Single Port Reading: 10705147

- 2% Accuracy and sealed construction.
- Temperature compensation and easy-to-read scales.

J. Direct Mount SWICHGAGE® SDB Series

- Bi-Metallic sensor with Easy-to-read analog dial.
- Two ranges: 100-500°F (40-260°C); 200-1000°F (100-500°C). Celsius dials available.



NEW! From FWMurphy

K. Temperature Scanner/Pyrometer Model TDXM

- Scans up to 24 channels.
- Three (3) adjustable trip points per channel.
- Accepts any combination of "J" or "K" type grounded or ungrounded thermocouples.
- Powered by 10 to 32 VDC systems.
- RS485 serial communication port.
- Approved for Class I, Div.2, Gps. C & D areas.

L. Temperature Scanner/Pyrometer Model TDX6

- Continually scans six thermocouples.
- Adjustable trip points with 6 isolated transistor outputs.
- "J" or "K" Types grounded/ungrounded thermocouples.
- Powered by CD ignition 120 VAC or 24 VDC.
- 1/4 DIN (90 x 90 mm) case. For Class I, Div. 2 areas.

M. Digital SWICHGAGE® MDTM89 Series

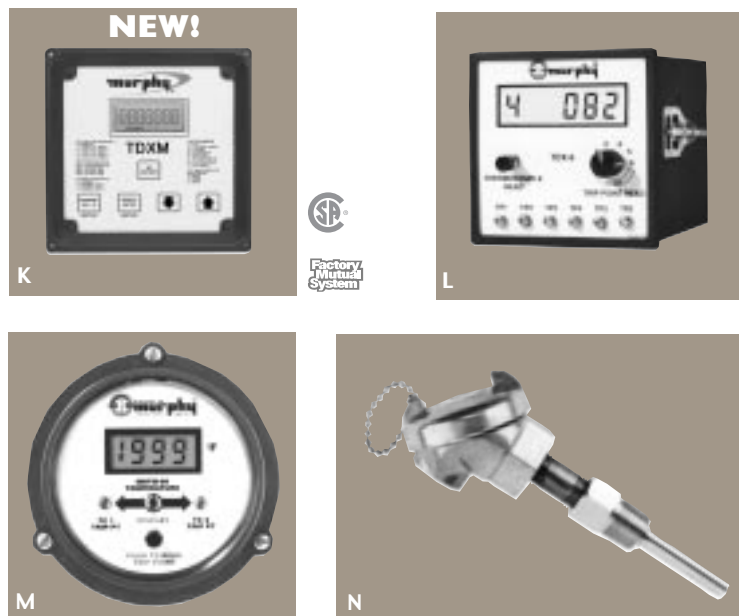
- 4-1/2 inch (114 mm) dial face. Panel mount design.
- LCD readout four digit 3/8 in. (9 mm) high.
- Reads 2 separate "J" or "K" ungrounded thermocouples.
- Adjustable switch trip points.
- Powered by CD ignition or 12-24 VDC.
- Models approved for Class I, Div. 2 areas.

N. Thermocouple, RTD Assemblies

- Industrial quality. Ungrounded.
- Types "J" or "K" thermocouples.
- Includes 304 stainless steel thermowell.
- Thermowells with RTD assemblies and RTD transmitter assemblies are available.

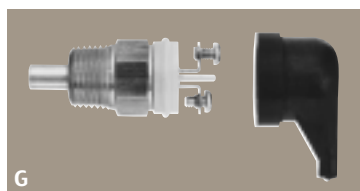
TEMPERATURE — DIGITAL

4-1/2 inch (114 mm) dial face and DIN type module with digital indication; four digits, 3/8 inch (9 mm) high.



ELECTRIC GAGE AND ELECTRIC SWICHGAGE®

EG21 Series electric gages feature shock resistance air core movement, polyester (PBT) case and polycarbonate lens, and stainless steel bezel. Environmentally sealed to exclude moisture and other corrosive elements. Backlighted dial. Easy to install, fits standard 2-1/16 in. (52 mm) opening. EGS21 Series SWICHGAGE® includes all of the features of the EG21 Series gages plus an adjustable set point, PowerHall switch output, for operating alarms or equipment shutdown. Set point is visible from the gage face.



Electric Gages Series For Industrial and Marine Applications

A. EG21P Series Pressure Gage

- Scales through 400 psi (2.76 MPa) [27.60 bar].
- Various units of measurement available.

EGS21P Pressure SWICHGAGE®

- Same as EG21P Series with adjustable switch output.

B. EG21T Series Engine Coolant or Oil Temperature Gage

- Dual-scale dials in degrees Fahrenheit and Celsius.
- 100 to 250°F (38 to 120°C) or 140 to 300°F (60 to 150°C).

EGS21T Temperature SWICHGAGE®

- Same as EG21T with adjustable switch output.

C. EG21F Series Fuel Level Gage

- Monitors tank fuel level from full to empty.

EGS21F Fuel Level SWICHGAGE®

- Same as EG21F with adjustable switch output.

D. EG21AM Series Ammeter (Easy to Read Dial with Center Zero)

- For ± 60 amperes or ±100 amperes (both with internal shunt).

EGS21AM Ammeter SWICHGAGE®

- Same as EG21AM with adjustable switch output.

E. EG21VM Voltmeter with Easy to Read Dial

- Available for 12 and 24 volt systems.

EGS21VM Voltmeter SWICHGAGE®

- Same as EG21VM with adjustable switch output.

Four Function Annunciator (Same Construction as EG21)

EN204 Series — Designed For Use with Electric Gages

- LED Annunciation for Low Oil Pressure; High Water Temperature; Loss of Battery Voltage; Low Fuel level or Glow Plug.

Sender for Electric Gages

F. Pressure Sender (Specify pressure range for each sender)

- ESP: 1-wire sender.
- ES2P: 2-wire sender drives one gage.
- ESDP: 2-wire sender drives two gages.

G. Temperature Sender (Specify temperature range for each sender)

- EST: 1-wire sender.
- ES2T: 2-wire sender drives one gage.
- ESDT: 2-wire sender drives two gages.
- 130-250°F/140-300°F (54-121°C/60-149°C).

H. Fuel Level Sender (For use on fuel tanks only)

- ESF: 1-wire sender.
- ES2F: 2-wire sender drives one gage.
- ESDF: 2-wire sender drives two gages.
- Tank depths 6 to 24 in. (152 to 610 mm).

MAGNETIC SWITCHES AND TATTLETALE® ANNUNCIATORS

TATTLETALE® annunciators and Magnetic Switches are the nerve centers that translate SWICHGAGE® contact operations into decisions and operate the alarm or shutdown device. They are the electrical load carrying devices for the alarm or shutdown device. TATTLETALE® annunciators indicate which monitored function failed leading to the alarm or shutdown whereas magnetic switches do not.

A. MS2100 (Replaces 100PH, 307CD, 307PHCD and 224CD)

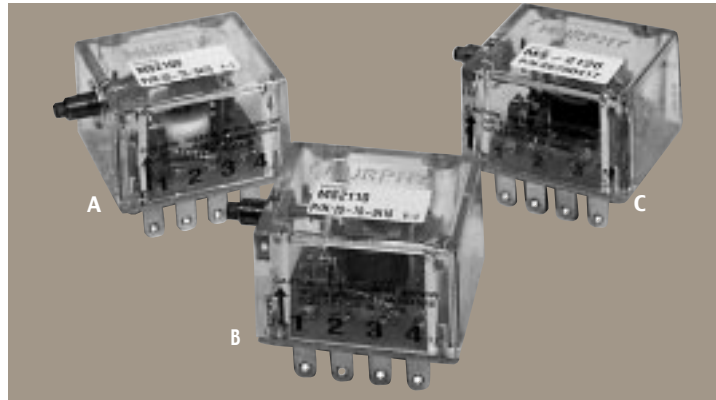
- Operates from Capacitor Discharge Ignition or 120 VAC.
- SPDT Dry Contacts.

B. MS2110 (Replaces 221PH, 169PH, 274 and 274PH)

- Operates from 12 or 24 VDC or 24 VAC.
- SPDT Dry Contacts.

C. MS2120 (Replaces 307, 307PH and 224)

- Operates from Magneto Ignition.
- SPDT Dry Contacts.

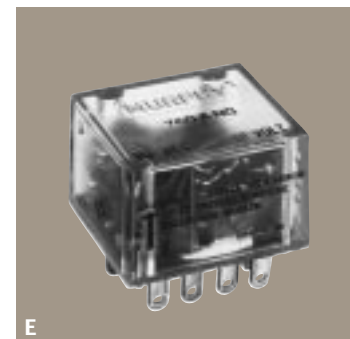
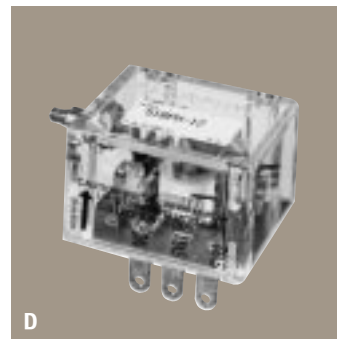


117/117PH TATTLETALE® For Diesel/ Battery Ignition

- 12-24 VDC; opens run device circuit to stop.
- Disconnects from power after trip.

D. 518PH/518APH Model

- Specify 12 or 24 VDC. Remove power to trip.
- Open circuit to run device when tripped.
- Energized to run.



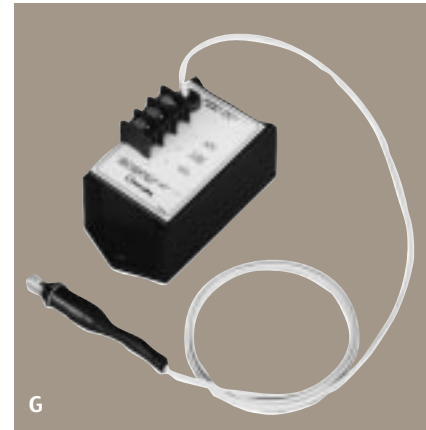
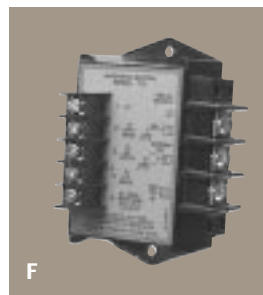
E. 760A /761APH Models

- Specify 12 or 24 VDC.
- Time delay lockout at start. Remove power to reset.
- Delay or immediate stop on trip signal.
- Breaks and makes circuits on trip.

761APH Same as 760A series except push button reset.

F. 773 Series

- Use for energized to stop shutdown systems.
- With lockout time delay on start and alarm delay before shutdown, immediate stop on overspeed, and automatic disconnect after trip.



M4264 TATTLETALE®

- Magneto /CD Ignition Failure TATTLETALE®.
- Senses loss of magneto/CD ignition output and closes fuel valve and grounds the ignition for shutdown.

R129A Series Relay-Time Delay

- SPDT relay w/10 A dry contacts. Specify 12 or 24 VDC.

G. TD781 Time Delay

- Used for "Turbocharger cooldown".
- Delay shutdown circuit for 5 minutes after trip signal.
- Trips from attached push button. Specify 12 or 24 VDC and Positive or Negative ground.



H./I. STAS Series Selectronic® TATTLETALE® Annunciators

- Remote alarm annunciators. 8-40 VDC, 8-32 VAC.
- Flashing LED denotes point of fault.
- N.O. or N.C. sensor inputs. Output for general alarm.
- Pulsating audible MINI-SIREN®.
- Flush or gimbal mount.

ST5AS Series: 5 points. For general purpose.

ST10AS Series: 10 points. For general purpose.

ST16 Series: 16 points. For generator sets

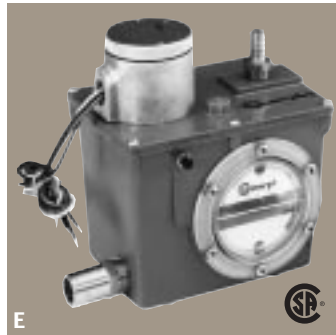
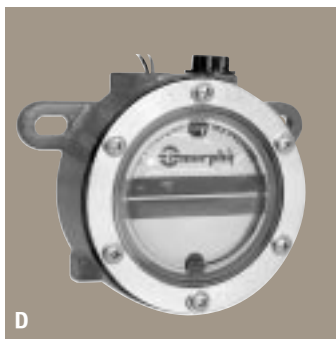
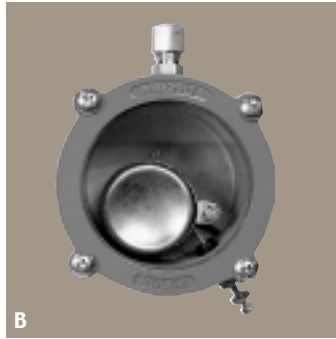
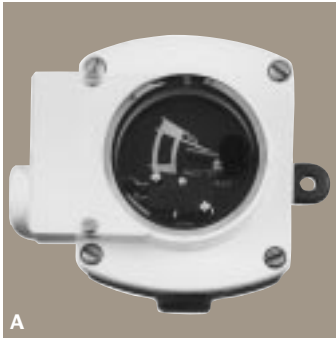
ST110 Series: 16 points labeled per NFPA-110. For generator sets.

ST10HC Series: 10 point. NFPA-99. For generator sets.

ST8 Series: 8-point first-out TATTLETALE®. For general purpose.

FLUID LEVEL - ENGINE

Instruments for coolant, fuel and lubricant levels.



A. Engine Coolant Level SWICHGAGE® EL150K1 Model

- Float actuated low level/loss of coolant.
- SPDT snap switch contact.
- Manual switch test knob.

EL150EX Model

Explosion-proof version of EL150K1. Class I, Div.1.

L150 Model

Same as EL150K1 with pilot-duty, grounded contact.

B. Engine Lube Level SWICHGAGE® L100 Series

- Primarily for small engine lube level.
- Sight gage and low level switch.

L127 and L128 Series

- Low lube level sight gage and shut down switch.
- L127 for Fairbanks-Morse type engine.
- L128 for Arrow engines.

C. L129 Series

- Adjustable high/low lube level contacts.
- Large 6-3/4 in. (171 mm) sight glass.
- L129CK series has ungrounded contacts.

L971 Series

- For I-R types 30 and 40 air compressors.
- Direct mount into crankcase.
- SPDT snap-switch.
- Class I, Division 1, Groups C and D.

D. Lube Level Maintainers LM2000 Series

- Used on small to medium size engines.
- SPDT snap-switch for low level shutdown.
- High visibility "frog eye" lens.
- Low limit shutdown switch.
- Positive seal make-up valve keeps cells at proper lube level.

LR579 and LR589

- For cell type lubricators
- Low limit shutdown switch.
- Positive seal make-up valve keeps cells at proper lube level.
- LR579 and LR589 for Lincoln lubricators.

E. Lube Level Maintainers LM300 Series

- Shutdown on low, or high and low levels.
- SPDT snap-switch.
- Low level alarm before shutdown.
- Manual float switch test.
- High visibility "frog eye" lens.

FLUID LEVEL

F. Tanks and Wet Wells Level SWICHGAGE®

OPLHC / OPLHACS Series

- Analog level readout from a 4-1/2 in. (114 mm) dial.
- Adjustable high and low level pilot duty contacts.

OPLHACBPS

Same as OPLHAC with built-in latching relay for start/stop.

G. Hydrostatic Pressure Switch DF755 Series

- Diaphragm actuated SPDT snap-switch.
- Available for vented or non-vented tanks and in Class I, Division 1 configurations.

DF755AL: Aluminum case.

DF755EXBR: Bronze case.

DF757: Same as DF755 with adjustable switch differential up to 118 in. (3 m).



F



G

H. Pneumatic Dump Valve Operator for Scrubber Tank Control L1200 Series

L1200N: 2 NPT level switch.

- Rated 2000 psi (13.8 MPa) [138 bar].
- Pneumatic vent orifice.

L1200NDVO: Same as L1200N with pneumatic valve operator.

L1200NDVOR: Same as L1200NDVO with pressure regulator and pressure MURPHYGAGE® indicator.

I. Electric High Level Shutdown Switch

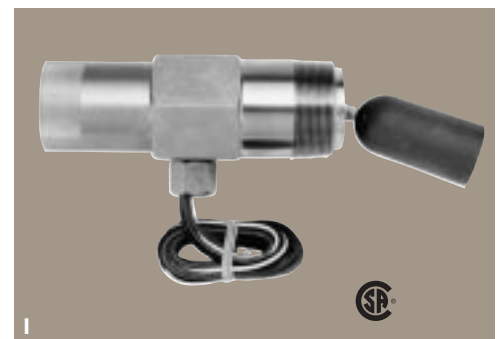
L1100: 1-1/2 NPT level switch.

- Rated 2000 psi (13.8 MPa) [138 bar] for Class I, Div. 1.
- SPDT snap-switch; optional DPDT.

L1200: 2 NPT same as L1100.



H



I

J. Pneumatic Operated Dump Valves

DVU Series: For compressor scrubber tank condensate.

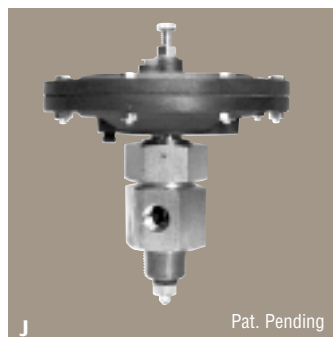
- Direct mount into scrubber tank.
- Valve open/close indicator button.

DVU150: 1 NPT connection, 1/2 NPT drain connection.

DVU175: 1 NPT connection, 3/4 NPT drain connection.

DVU2105/2115/2120:

- 2 NPT connection, 1 NPT drain connection.



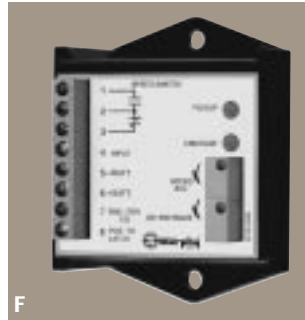
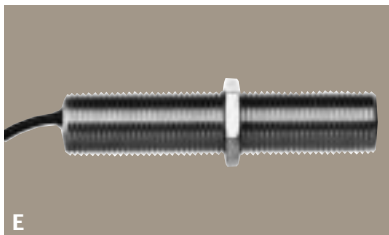
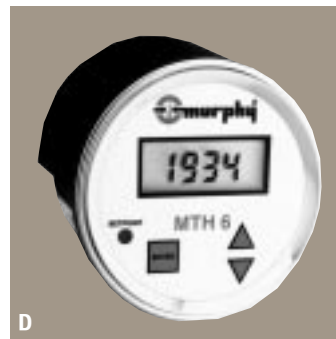
J

Pat. Pending

FLUID LEVEL—SCRUBBER VESSEL CONTROLS

TIME AND OVERSPEED

Instrumentation for Underspeed and Overspeed monitoring and control. Tachometers and tachometer/hourmeters, time delays, speed switches, and magnetic sensor pickups.



Digital Tach-Hourmeters with Overspeed Trip Point Control

A. SHD30 and SHD30-45 Series

- Adjustable overspeed trip point.
- Magnetic pickup or CD ignition powered.
- Easy-to-operate faceplate membrane buttons.
- CSA NRTL/C Approved.

SHD30-45: Similar to the SHD30 except in a large (4-1/2 in. [114 mm] face diameter) panel mount case.

B. Digital Tachometers and Tach-Hourmeters (3.5 inch Case)

- Digital tachometers or tach/hourmeters combined.
- 5-digit LCD display (3/8 in. [9 mm] long digits).
- Quick and easy dial-in calibration.
- 8-40 VDC powered.
- Magnetic sensor (pickup) or engine alternator input.

MT90 (shown)

- Digital tachometer (no switch)

C. Analog Tachometer, Tach-Hourmeter

- High visibility with backlight for night view.
- Ranges 0-3000 RPM and 0-4000 RPM.
- Magnetic sensor or engine alternator input.
- 12 VDC (converter for 24 VDC available).

D. Digital Tachometer & Hourmeter with Adjustable Overspeed Trip Point Control MTH6 Model

- Tachometer & hourmeter with overspeed shutdown or alarm switch.
- Reads RPM data from a magnetic pickup or battery charging alternator.
- Powered by 8 to 40 VDC.
- Maintains hours count when power is lost.
- MTH6 (Shown)

E. Magnetic Sensors

MP3298: 303 stainless steel body.

- 5/8 -18 UNF x 3 in. (76 mm).

MP7905: aluminum body.

- 3/4-16 UNF x 4.5 in. (114 mm).

MP7906: Aluminum body.

- 3/4 -16 UNF x 3 in. (76 mm).

F. Single Set Point Overspeed Switch

SS300 Series

- Overspeed switch with adjustable SPDT relay output.
- Magnetic sensor, engine alternator, distributor ignition, or 12/24 volt-age input.
- Available low frequency signal or adjustable differential.

OS77D: Features transistor output and magnetic sensor input.

OS77D-NCRC: Features adjustable trip point, for starter cranking disconnect. Prevents starter re-engagement until the engine stops.

Dual Set Point Speed Switch HD9063 Series

- Dual set point for crank disconnect and overspeed.
- 2 SPDT relay outputs.

TIME AND OVERSPEED

G. Electromechanical Time Meters

TM Series

- Electromechanical, quartz-based time counter.
- Fits 2-1/16 in. (52 mm) diameter opening).
- 12 or 24 VDC.

5T and 15T

- 0-5 or 0-15 minutes spring wound time switch.
- SPDT snap-switch.

H. 12T and 24T

- 0-12 or 0-24 hours spring wound.
- Self contained weatherproof case.
- SPDT snap-switch.



VIBRATION

Shock/Vibration Switches For Fans, Compressors, Etc.

I. VS2 Series

NEMA 1. SPDT leaf contacts.

J. VS2EX

2 x SPDT snap-switches. Class I, Div. 1.

VS2EXR

- 1 x SPDT snap-switch.
- Remote reset feature.

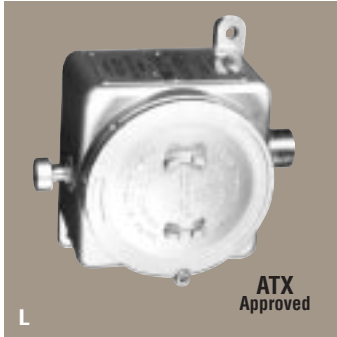
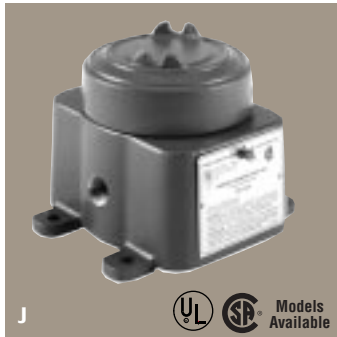
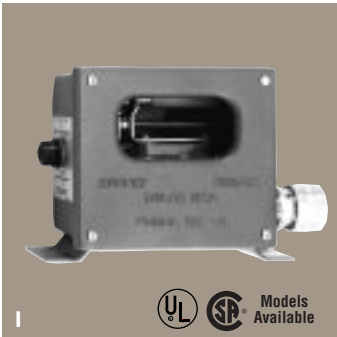
K. VS94

- 2 SPDT snap-switches.
- NEMA 4 & 4X; CSA 4 & 12.

L. ATEX Approved Vibration Switches

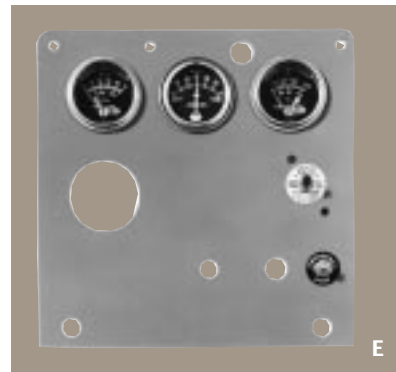
20.SS Series

ATX approved .



ENGINE PANELS

For industrial, agricultural, mobile and marine engines.
Assemblies available or can be designed for most engine applications.



A. Universal Panels W0168 and W0241 Series

- For irrigation engines, generators and hydraulic pumps.
- Semi-enclosed panel with open back.
- Universal mounting and application.
- Pressure, temperature, amp, magnetic switch.
- Provision for additional SWICHGAGE® and tachometer.
- W0241 model with start push button.
- Back cover plate is available.

B. Air-Cooled Engines W0156 and W0169

- For Irrigation Engines and Industrial Power Units.
- Designed Specially for air and liquid cooled engines.
- Unitized weatherproof engine panel. Shock mounted.
- Bolts directly to flywheel housing or a bracket of your design.
- Monitors cylinder head temperature (W0156) or water/oil temperature (W0169), and oil pressure.
- (Optional 3rd gage/SWICHGAGE®)

C. Cummins B and C Series Panels W0162 and W0163

- Specifically for Cummins B and C Series engines.
- Complete kit with oil line and all fittings.
- Pressure, temperature, volt, hour, magnetic switch, key or push button start; provision for tachometer. Mounts to Cummins bracket.

D. WD300 Series

- Semi-enclosed panel with oil pressure and water temperature SWICHGAGE® and shutdown magnetic switch.
- Comes with SV-Series diesel fuel shutoff valve.
- WD300LV is less fuel valve for engine with built-in ETR fuel solenoid, battery ignition engines, RP Series shutdown solenoids.

E. WHB Model

- Open panel for direct mount to flywheel housing.
- Pressure, temperature, amp, shutdown magnetic switch.
- Provision for pump pressure or vacuum SWICHGAGE®.

F. Irrigation Engine Panels 75160 Model

- For Irrigation Power Units.
- Semi-enclosed panel with open back.
- Pressure, temperature, pump pressure, shutdown magnetic switch.

ENGINE PANELS

Easily mounted Murphy panels, include alarm and shutdown protection.

For delivery vans, trucks, lift trucks, etc.

Marine / Industrial Engines

G. W0149

- For Marine, Drilling and Heavy-Duty Engines.
- 316 stainless steel face on semi-enclosed steel housing.
- Specify functions monitored.
- Shock mounted brackets attach to engine brackets.

Mobile Equipment / Off-Road Engines

H. WA12

- Enclosed panel for under or on top dash mounting.
- Pressure, temperature, visual and audible alarms before shutdown.

WA13 : WA12 plus block coolant pressure SWICHGAGE®.

WA14 : WA12 plus transmission temperature SWICHGAGE®.

WA17: Open panel for under the dash mounting.

- Pressure, temperature, visual and audible alarms before shutdown.

WA18 : WA17 plus transmission pressure SWICHGAGE®.

WA19 : WA17 plus transmission temperature SWICHGAGE®.

I. WD100

- Enclosed panel with two or three SWICHGAGE®, alarm and shutdown.
- Supplied with pressure hose and fittings.
- Used for mobile equipment or stationary power units.
- Universal mounting brackets.

SAE J1939 Controller Area Network MurphyLink™ Standard Panels.

MurphyLink™ typical panels are designed for quick and easy installation on diesel powered equipment for Industrial, Marine and Heavy Equipment applications. Each panel communicates with Electronic Control Modules (ECM) over the J1939 communications network. MurphyLink™ components can be standard or optional depending on your application needs:

J. and K. Basic Configurations

Three Basic Standard Configurations are available (depending on engine manufacturer, model, and application requirements).

- Variable speed control via potentiometer type throttle controller – for use on pumps, construction equipment, etc.
- Simple Idle/Run speed control via a switch to toggle between two speeds preset in the engine ECM (may also ramp speed up or down using optional toggle switch).
- Preset speed control (speed is programmed into the engine ECM – no speed control device on the panel).

Basic Standard Panels include the MDDM display module, MLink oil pressure, coolant temperature, voltage and tachometer gages, fuses, and speed control devices. Options may be added as noted below.

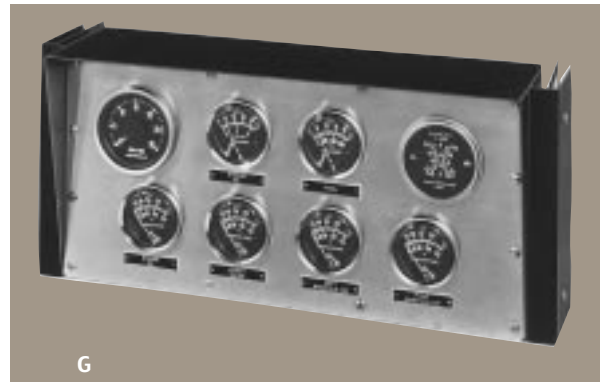
L. MurphyLink™ Low Cost Control Panel

- Features Murphy's MDDM Module for displaying engine parameters and fault conditions.
- Speed-selectable using built-in toggle switch.
- For use on pumping or other applications where the speed is varied from idle to run speed.
- Fully compatible with MLink™ Analog gages.

NEW! From FWMurphy

M. M310 Series MurphyLink™ Panels

- Features new PowerView display and gages, standardized wire harnesses, and mounting options.
- See Basic Configuration under items J. and K. above for details.



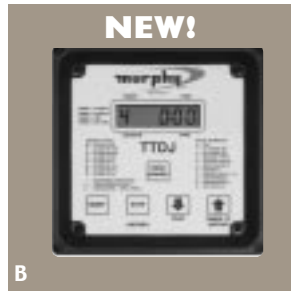
COMPRESSOR CONTROLS AND PANELS

FWMurphy continues to expand and improve our product line of **digital annunciators and controllers**. Instruments are available for hazardous locations. The **annunciator** line offers fixed parameter products such as the Mark and LCDT. Our newest annunciator, the TTDJ, is field configurable allowing the user to match the annunciator to the application while offering communications in an industry standard Modbus format.

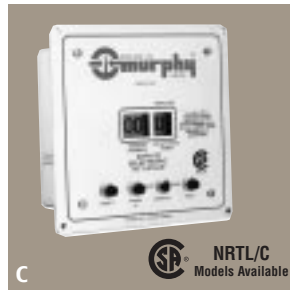
Our line of **controllers** offers small application specific products such as the EMS series up to the New Millennium Programmable Controller. The Millennium is capable of monitoring analog as well as digital inputs and performing tasks such as auto start, loading, PID loop control, data logging, and communications. This product has the flexibility of a PLC while being built for the hazardous environment. We offer the user software to enable freedom of access to the program.



A



B



C



D



E



F



G



H

SELECTRONIC® Digital Fault Annunciators and Controllers such as the Millennium, TTDJ, LCDT, MARK III and MARK IV Series offer alarm, shutdown and control systems for engine-driven pumps and compressors. Power options include 12 or 24 VDC, 120 VAC or CD ignition. Models approved for intrinsically safe and hazardous areas are available.

NEW! From FWMurphy

A. Millennium Programmable Controller

- PC-based programmable logic control and monitoring system.
- User programmable with Windows®-based ladder logic software.
- Local and remote RTU communications, Modbus RTU via RS485.

B. TTDJ Series Digital Fault Annunciator

- Monitors 32, user-configurable N.O. or N.C. sensors inputs. RS485 Serial communications. Tachometer and overspeed models available.
- Suitable for Class I, Div. 2, Grp. D Hazardous Areas.

C. LCDT Series

- Monitors 47 sensor inputs with start and stop lockout for up to 15 sensor inputs. Approved for Class I, Div. 1, Grp. D, Hazardous Areas.
- MARK III Series monitors 32 sensor inputs. Built-in BCD port models available. Approved for Class I, Div. 2, Grp. D, Hazardous Areas.
- MARK IV Series monitors 47 sensor. Approved for Class I, Division 2, Group D, Hazardous Areas.

D. Annunciator Microprocessor-Based Controller S1501

- Alarm and shutdown monitoring and control system.
- Includes built-in tachometer/overspeed functions and hourmeter.
- Alarm/shutdown for 32 or 64 N.O. or N.C. sensors.
- RS232 or RS485 Modbus RTU communication.
- Approved for Class I, Div. 1, Grps. C & D areas.

SELECTRONIC® Micro-Controllers Electronic Monitoring System

Basic programs provide auto-start or manual start and first-out shutdown for engine functions. UL approved for Class I, Div. 2, Grps. C & D Hazardous Areas.

E. EMS447

- For monitoring and control of equipment functions.
- Programmable to a wide variety of engine/equipment requirements.
- Includes service reminder.

F. EMS448

Same as EMS447 within a weatherproof NEMA 4/4X fiberglass enclosure.

G. EMS447

Same as EMS447 except features enhanced external communications capabilities.

H. and I. Series 400/ Series 500/ Series 510

SELECTRONIC® logic control platform. These controllers include standard features not available or only offered as options on PLC's. Trip points are field configurable. Compatible with SWITCHGAGE® systems. Communications capability give control platforms flexibility and on-site convenience. Designed for 12/24 VDC, models include up to 40 digital inputs, 32 outputs, 4 analog inputs. Accessory board for additional analog input/output control is available.

All FWMurphy products can be supplied in an engineered package by our custom controls division, Control Systems & Services located in Rosenberg, Texas.

COMPRESSOR CONTROLS AND PANELS

Custom engineered compressor control panels, housed in weatherproof enclosures are our specialty. All degrees of system protection are provided through our proven concept of *simplified automation*.

Control systems are offered in designs that are suitable for hazardous as well as non-hazardous locations. Custom panels can be designed and built to match your exact specifications. Additionally, multiple pre-engineered control packages that save time and money are also available.

Around the world, Murphy Automation Control Systems are preferred by compressor fabricators and users for their dependability. FWMurphy specializes in engine or motor driven pump and compressor controls for the Oil & Gas Industry.

A



A. Standard Compressor Controls – TTDJ Series

The standard control system features a state-of-the-art TTDJ Digital Fault Annunciator that is suitable for use in a Class I, Division 2 area. This 32-point Annunciator includes several easy-to-change field-configurable options. Select inputs 1-16 to be either Class "A", "B1", "B2", or "C" – shutdown or alarm-before shutdown. Other features include:

- Sensor inputs from N.O. and/or N.C. sensors
- RS485 Serial Communications port (DC Models)
- Built-in Power Supply and Elapsed Time Meter
- Models with Tachometer and Overspeed available
- Powered by 12/24 VDC or CD ignition (neg. ground)

Complete with dependable Murphy SWICHGAGE® instruments this package is the most cost effective control system on the market.

B. Local/Remote Gas Booster System

This typical local/remote control system for fuel gas boosters includes:

- Remote panel indicates valve status, monitors system pressures and will start local units as needed.
- Two local control panels. Each controls one electric motor driven compressor and has local start/stop control.
- Microprocessor based controller with start/stop push buttons, power on/off switches, status lights for valve and unit status, ESD button, Logic Control Platform, and SWICHGAGE® instruments for shutdown—designed for Class I, Div. 2, Group D areas.



B

C. PLC Control

Control panel with ALLEN-BRADLEY PLC for compressor control and automation. The panel communicates to an in-plant DCS system. Inner door seals to accommodate an air purge system.

D. Logic Control

This custom control panel features our own Murphy Logic Platform, with a PID controller/scanner to link with a computer-supervised system. SWICHGAGE® instruments and pulsation dampeners are also included; all housed in a weather resistant enclosure.



C

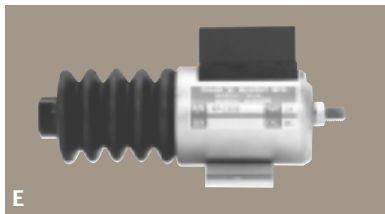
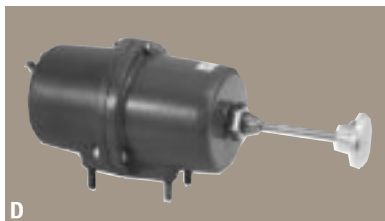
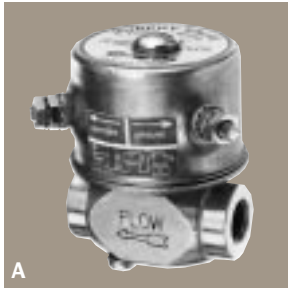


D

PROVEN MURPHYMATIC® CONTROL PANELS AND AUTOMATION CONTROL SYSTEMS
ASSEMBLED TO YOUR REQUIREMENTS FROM STANDARD COMPONENTS.

FUEL SHUTOFF VALVES / SOLENOIDS

Fuel Valves for Line Pressure Relief, Return Line Check, In Line One Way Valves, Fuel Gas Shutdown and Solenoid Operated Push/Pull Valves for Diesel Engines



A. SV Series

- Diesel fuel shutoff valves for engines.
- Solenoid operated for 12-24 VDC models.

B. CKV2336

- Fuel return line check for diesel engines with external injection pump.
- In-line, one way valve preventing fuel siphoning from the fuel return line.
- 1/4 NPT connection each end.

C. PRV50/PRV70

- Fuel line pressure relief valve.
- In-line, one way valve.
- Prevents overpressure damage to fuel filters and housings.
- 1/4 NPT connection each end.

D. RP75 Rack Puller for Diesel Engines

- Pulls injection pump or air intake shut-off lever.
- 30 lbs (133N) operating force.
- Models available for 12 or 24 Volts.
- Operates on signal from SWICHGAGE®.

E. RP2300 Series

- DC solenoids for diesel engine fuel rack operation.
- Available for shutdown or positioning push or pull operation.
- Externally switched.
- RP2307B Series: 12 VDC, 1 in. (25 mm) stroke.
- RP2308B Series: 24 VDC, 1 in. (25 mm) stroke.
- RP2309B Series: 12 VDC, 1-1/2 in. (38 mm) stroke.
- RP2310B Series: 24 VDC, 1-1/2 in. (38 mm) stroke.

F. M25, M50 and M51 Fuel Valves

- 1 and 2 NPT fuel gas shutdown valves.
- Manual or pneumatic open.
- Electric or pneumatic trip to close.
- Instant response to shut-off signal, positive valve closure.
- Explosion-proof rating.
- Trip from magneto, CD ignition, battery or VAC.

G. TL7 Flashing/Audible Alarm

- 1-1/8 in. (25.6 mm) diameter flashing red light.
- Output to SAH MINI-SIREN®.
- Specify 12 or 24 VDC and polarity.

H. SAH Audible Alarm MINI-SIREN®

- 6-28 VDC. Steady or pulsating.

AUDIBLE / VISUAL ALARMS



ENGINE AND MOTOR CONTROLS

Fit most applications requiring unattended starting and stopping of engines.
Available for inclusion or as a complete system.

A. A91 Series Automatic Controller

- Microprocessor-based automatic controller.
- Start-up lockout timer.
- 5 LED signal indicators.
- NEMA 3R weatherproof enclosure.
- Optional Warmup-cooldown relays.

B. EA150 Engine Controller

- Automatic engine controller with built-in shutdown SWICHGAGE® instruments and hourmeter — all in an easy-to-install panel.
- Operates on 12 or 24 volt systems.

C. ASM150 Basic Auto-Start Module

- Highly competitive microprocessor-based design automatic start control module.
- Performs more functions than any controller available at its price.

D. ASM170 Additional Outputs

- Same features as ASM150 with additional outputs.
- Includes field adjustable time delays.
- Features Smart FET outputs.

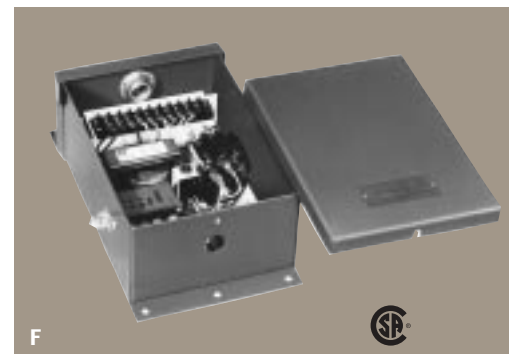
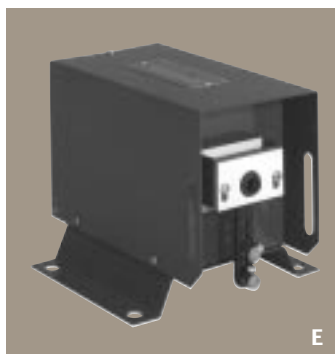
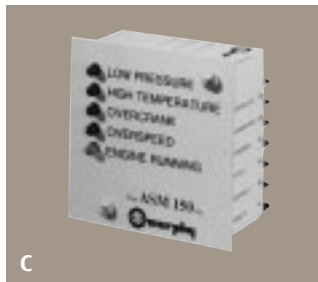
E. AT67207 Engine Throttle Controller

- Automatically adjusts engine speed (slowly) to meet demands of pressure, level, load and temperature.
- Saves fuel, engine wear, horsepower and labor.
- Perfect for warm-up/cooldown on automatic systems.

F. Electric Motor Control TR Assemblies

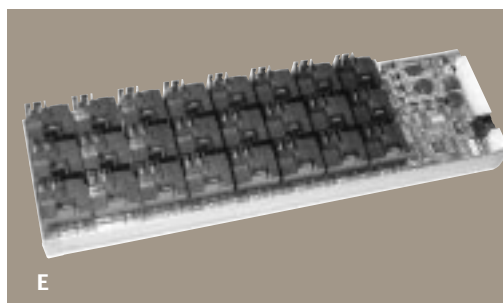
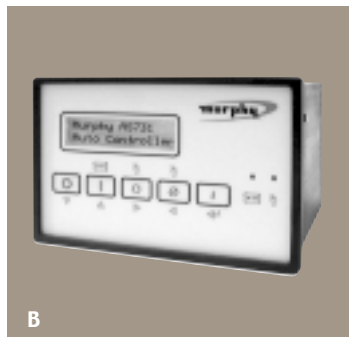
TR Assemblies simplify the automation and control of your electric motor. Operate in conjunction with SWICHGAGE®.

- 480/240/120 VAC input.
- Can be used with standard SWICHGAGE® for electric motor control.
- Control circuit is "man-safe" 24 VAC.
- For start and stop, stop only, lockout, etc.
- Enclosure available with NEMA 1, 3, or 7 specifications.



GEN-SET CONTROLS

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. 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

B. AS731 Fully featured generator controller with 3-phase generator voltage and current measurements, display and fault tripping.

C. MGC2000 Generator Control Systems

- New dynamic design allows for easy installation and full operation flexibility
- Features AS3000 engine/generator controller
- User-friendly, well-thought out routine for faster and easier set up
- 1/4" push-on terminations for easier interface
- Front panel setup of overspeed and crank disconnect speed

D. iGUARD Panel

- iGUARD offers standard and custom designed complete automation control solutions for your AC power generation needs. Contact sales for details on our full line of iGUARD Panel accessories.

E. Remote Relay Board for iGUARD Controllers

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

F. ASM170 Generator Control With Additional Outputs

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

Introducing the **New** *iGUARD™ Gen-Set Controller*

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

iGUARD™



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, J1939, and/or AC frequency. The iGUARD™ includes both RS232 ports for connection to computers and RS485 MODBUS ports for easy connection to computers, PowerView Gages, Remote Relay Boards, or communication devices.

Designed to meet 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, and the controller can be easily re-programmed from the front panel or updated using a PC in the field.

Applications:

- Packagers and OEM's
- Rental Companies
- Prime Power
- Hospitals
- Ground Support Equipment
- Agriculture
- Aquaculture

AC Frequency



AC Amps



AC Volts



kiloWatts



ALSO AVAILABLE: **POWERVIEW ANALOG GAGES** FOR POWER GENERATION

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.



FWMurphy

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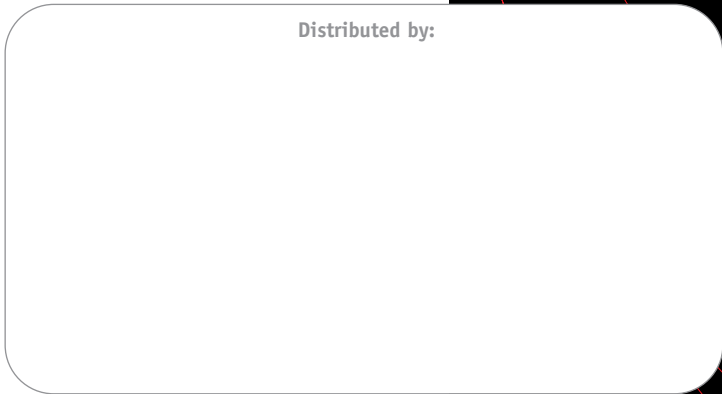
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