

EG Series – Electric Gage and Swichgage® Instrument



Features

- EG Air Core Movement Design
- Technological Improvements in Lighting, Accuracy in Reading and Wiring Installation
- Environmentally Sealed Design
- Exceeds the Rigid SAE J1810 Standard
- Corrosion-Resistant Materials
- Desirable for Marine and Other Environmentally Sensitive Applications
- Soft, Non-Glare Dial and Pointer Illumination by “Cold Light” LED

The **EGS21 Series Swichgage** instrument has all of the features of the EG21 Series Gage plus an adjustable set point PowerHall Effect switch output for operating alarms or equipment shutdown. The trip point is adjustable over 90% of the scale and has a set point indicator visible from the gage face. Now you can have both, the ease of electric gage installation and the reliable switching of Murphy’s famous Swichgage instrument.

Specifications

Power Input: For Gage, Swichgage instrument and Sender: 12 VDC or 24 VDC.

NOTE: EG21 Series gage and EGS21 Series Swichgage instrument **MOVEMENT** and **ILLUMINATION** require 12 VDC to function. For 24 volt systems, voltage converters are built into the electrical wire/connector assembly **and supplied with instrument. Specify voltage when ordering.**

Case: Polyester (PBT), impact and weather resistant; with convenient screw-on mounting clamp.

Bezel: Polished 316 stainless steel bezel is supplied as standard; Available in black. SAE style optional.

Lens: Clear Polycarbonate and UV stabilized.

Air Core Movement: Silicon dampened pointer.

Dial: Black background and white markings; behind dial lighting (white marking becomes red when illuminated); dual scale with mirror band to reduce parallax reading errors.

Swichgage instrument Sensor: PowerHall Effect; outputs ground signal (sinking output) rated: 300 mA continuous (EGS21 Series only). Pressure, Fuel, Volts set on decreasing scale. Temperature and Amps set on increasing scale.

Output saturation voltage (voltage drop across switch): 1.3-2.3 Volts @ 25°C (May require some conditioning to work with logic inputs)

Swichgage instrument Set Point Indicator: Visible on mirror band (scale); adjustable from the back of the unit (1/16 in. hex type wrench).

Wiring: Plug connector with wire leads, 18 AWG (1.0 mm2) x 8 in. (203 mm) length.

Operating Temperature: -40 to 185°F (-40 to +85°C).

Storage Temperature: -77 to 185°F (-60 to 85°C).

Over Voltage (Gage Movement): Withstands a voltage of 200% of nominal system voltage for 5 minutes. (Meets SAE J1810 standards).

Reversed Polarity (Gage Movement): Withstands reversed battery terminal polarity indefinitely within operating temperatures.

Environment and Test: Meets SAE J1810 standards.

Ranges



PRESSURE	80 psi	(552 kPa)	[5.52 bar]
	100 psi	(689 kPa)	[6.89 bar]
	200 psi	(1.38 MPa)	[13.80 bar]
	300 psi	(2.07 MPa)	[20.70 bar]
	400 psi	(2.76 MPa)	[27.60 bar]



TEMPERATURE	250°F	(121°C)
	300°F	(149°C)



FUEL LEVEL	Empty — 1/4 — 1/2 — 3/4 — Full
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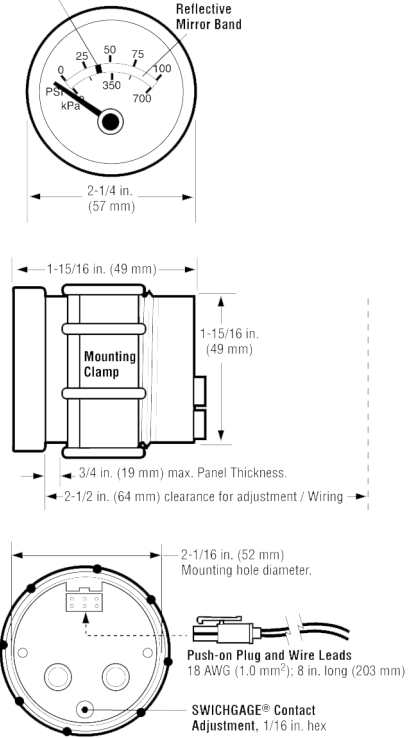
AMMETER	60 — 0 — 60 amps (internal shunt)*
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VOLTMETER	12 VDC: 8 — 18 Volts
	24 VDC: 16 — 36 Volts

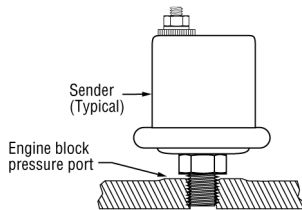
IMPORTANT: EGS21 Series gage and EGS21 Series Switchgag Movement and Illumination require 12 VDC to function. For 24 volts systems, voltage converters are built into the electrical wire / connector assembly and supplied with the instrument. Specify voltage when ordering.

SWICHGAGE Adjustable Contact Indicator



Electric Gage Senders

Pressure



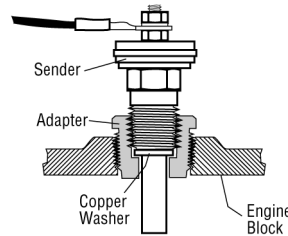
- **ESP:** 1-wire-to-ground sender *
- **ES2P:** 2-wire ungrounded sender *
- **ESDP:** 2-wire ungrounded sender, drives 2 gages *
- **ESPM:** 1-wire-to-ground sender † ‡
- **ES2PM:** 2-wire ungrounded sender † ‡

* Thru 100 psi (689 kPa) [6.89 bar].

† Ranges above 100 psi (689 kPa) [6.89 bar].

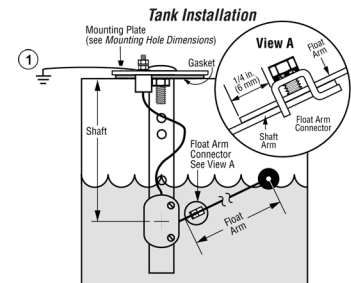
‡ Mounting off-equipment recommended.

Temperature



- **EST:** 1-wire-to-ground sender
- **ES2T:** 2-wire ungrounded sender
- **ESDT:** 2-wire ungrounded sender, drives 2 gages.

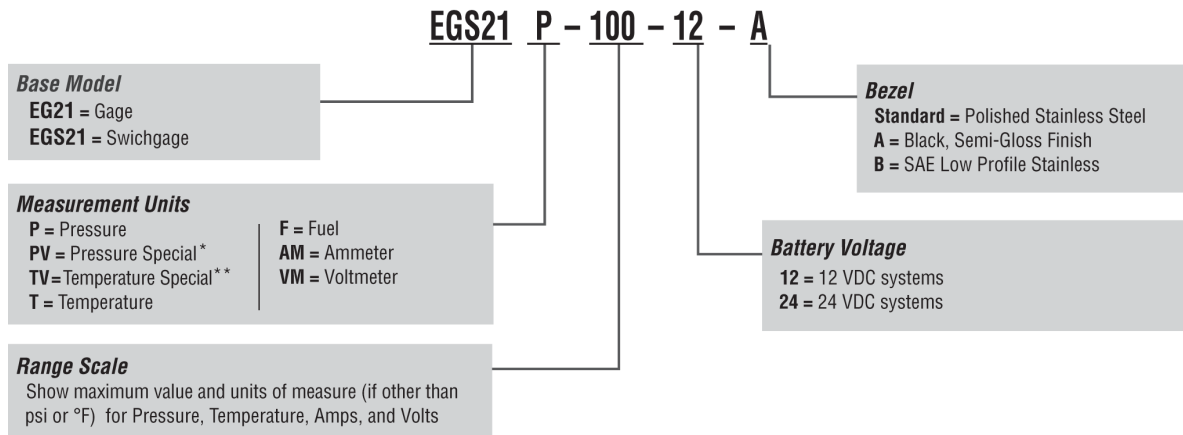
Fuel



- **ESF:** 1-wire-to-ground sender
- **ES2F:** 2-wire ungrounded sender
- **ESDF:** 2-wire ungrounded sender, drives 2 gages.

How to Order

EG Series Gage and Swichgage Instrument



NOTE: EG21 and EGS21 Series are designed for use with 12 volt systems. For 24 volt systems, voltage reducing resistors are included in the wire/connector assembly. No designator required for **Standard** configurations.

*The **EG21PV-80-12 or 24** is designed to read senders with a resistance curve of 9.5 to 182Ω, which are commonly supplied as standard senders on Deutz and VW Engines.

The **EG21TV-300-12 or 24 is designed to read senders with a resistance curve of 240 to 18Ω, which are commonly supplied as standard senders on Deutz and VW Engines.

EG Series Senders

ES 2 T - 250/300 - 1/4

Sender Type

Blank = 1-wire
2 = 2-wire
D = 2-wire, dual

Process to be Measured

P = Pressure¹⁾
PM = Pressure^{2) & 3)}
T = Temperature
F = Fuel

Range/Scale

Show maximum value and units of measure (if other than psi or °F) for Pressure, Temperature, Amps, Volts.

Thread Sizes

(for temperature senders)

X = 5/8-18 UNF⁴⁾
1/8 = 1/8-27 NPT⁵⁾
1/4 = 1/4-18 NPT
3/8 = 3/8-18 NPT
3/8B = 3/8-19 BSPT
1/2 = 1/2-14 NPT⁵⁾
1/2B = 1/2-14 BSPT
5/8 = 5/8-18 UNF
3/4 = 3/4-14 NPT
7/8 = 7/8-9 UNC
M14 = 14 mm x 1.5
M16 = 16 mm x 1.5
M18 = 18 mm x 1.5
M20 = 20 mm x 1.5
M22 = 22 mm x 1.5
M24 = 24 mm x 1.5

Accessories and Replacement Parts

Off-Equipment Mounting Kit

This kit allows off-equipment mounting of the ESPM, ES2PM and ESDPM pressure senders. Recommended for protection from damaging vibration. Customer supplies hose and fittings. **Specify part number 30-00-0213 when ordering.**

Wire/Connector Assembly

Listed below are replacement part numbers for all wire/connector assemblies.

Voltage converter included for 24 volt. **Specify part number when ordering.**

	12 VDC	24 VDC
EG21P / T / F	05004506	05006166 (05004546) ⁶⁾
EGS21P / T / F	05004507	05006168 (05004548) ⁶⁾
EG21AM	05004505	05006170 (05004550) ⁶⁾
EGS21AM	05004504	05006172 (05004552) ⁶⁾
EG21VM	05004508	05004508
EGS21VM	05004504	05004504

1) Thru 100 psi (689 kPa) [6.89 bar].

2) Ranges above 100 psi (689 kPa) [6.89 bar].

3) Mounting off-equipment recommended.

4) Straight threads, for use with adapter nut.

5) Separate adapter nut not required.

6) For gages with date code R1 (January 1996) or earlier (Q12, Q11, etc.) specify part number shown in parenthesis.