

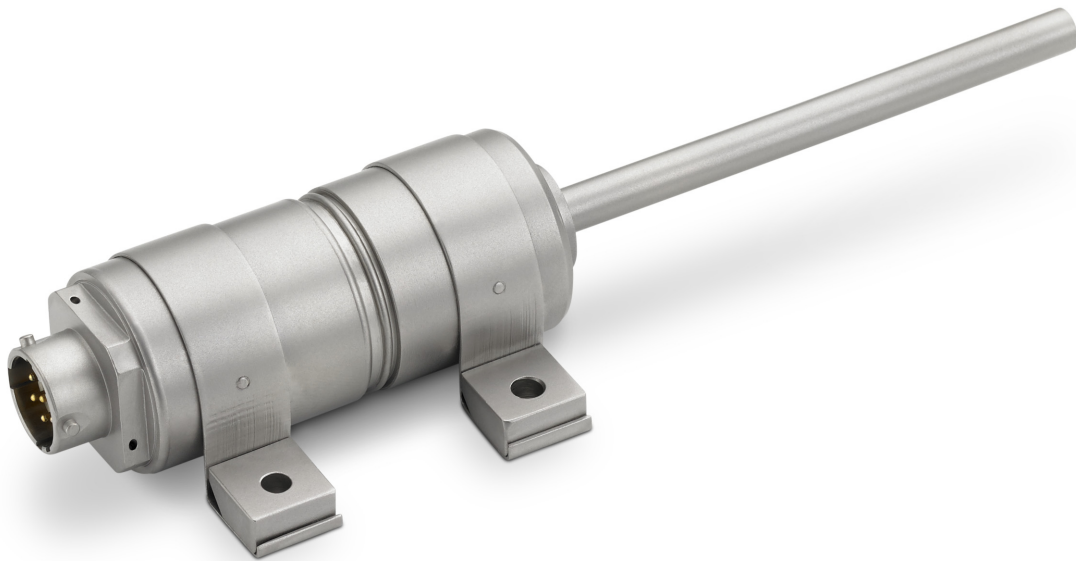


PRODUCT DATASHEET

www.high-accuracy.com

Paine Heritage-Satellite Series Pressure Transmitter

VDC, Space Qualified, Heritage, +70 °C, Ranges to 0-500 to 0-5,000 PSIA (0-34 to 0-344 BAR)



The Heritage-Satellite Series is a space qualified amplified transmitter that offers pressure ranges from 0-500 to 0-5,000 PSIA (34 to 344 BAR), operates at temperatures from -20 °F to +175 °F (-29 °C to +70 °C). Perfected over decades of mission critical satellite and space probe missions.

From satellite thruster propellant pressure systems to space vehicle propellant tank gauging, the Heritage-Satellite Series is designed to tolerate the high levels of shock and vibration of launch and normal operation without damage.

Designed with electronics to meet EEE INST-002/MSFCSTD- 3012 Level 2 standards, this series is utilized as a reference in the design of many new custom sensors and provides a baseline for design engineers in developing a new space rated measurement solution.

Solutions

- Low and high pressure series options
 - 213-76-860-01 Series: 0-500 psia (34 bar)
 - 213-36-740-01 Series: 0-5,000 psia (344 bar)
- Orbital environment ready
- EEE INST-002/MSFCSTD-3012 Grade 2 standard electronics

Potential Applications

- Thruster propellant pressure
- Propellant tank gauging
- Control surface actuator controls
- Propellant temperature
- Manipulator arm controls

Features

- **Accuracy:** ± 1.5%of full scale over the calibrated temperature range
- **Operating temperature:** -20 °F to +175 °F (-29 °C to +70 °C)
- Pressure Range:
 - 213-76-860-01: 0-500 psia (34 bar)
 - 213-36-740-01: 0-5,000 psia (344 bar)
- **Input voltage:** + 22.0 VDC to +39.0, reverse voltage protected, +40.0 VDC maximum.
- **Operating media:** Any compatible with 15-5 PH CRES, H1025 CRES and 304L CRES.
- **Mass:** 8.0 oz (226 grams) maximum

Specifications

Calibration: Calibration Certificates are supplied with each unit and available on-line.

Performance

- **Accuracy:** ± 1.5%of full scale over the calibrated temperature range
- **Full scale output:** +5.000 nominal
- **Zero pressure output:** (10⁻² TORR or less) 0.000 VDC nominal.

Environmental

Operating temperature range: -20 °F to +158 °F (-29 °C to +70 °C)

Compensated temperature range: 43 °F to +140 °F (+6 °C to +60 °C)

Non-operating temperature range: -40 °F to +160 °F (-40 °C to +71 °C)

Contents

Mechanical 3 Dimensional Drawings 4

Mechanical

Pressure range: Contact factory for additional pressure ranges.

Pressure Table			
Standard part number	Pressure range PSIA (BAR)	Proof pressure PSIA (BAR)	Burst pressure PSIA (BAR)
213-76-860-01	0-500 (0-34)	750 (51)	1,250 (86)
213-36-740-01	0-5,000 (0-344)	6,300 (434)	10,500 (723)

Operating media: any compatible with 15-5 PH CRES and 321 CRES

Pressure tube: weldable, type 321 CRES

Total Ionizing Doze: 100K Rad minimum

Weight/mass: 8.0 oz. (226 grams) maximum

Mounting requirements:

- Mounting surface: metal, flat ± 0.005 (± 0.13)
- Surface finish: 125- μ in. (.0032)
- Contact area: metal to metal point contacts between pads and mounting surface are sufficient. Use of heat sink compound under pads is optional.
- Mounting surface area total: 0.83-in.² (535 mm²)

Electrical

Input voltage: + 22.0 VDC to +39.0, reverse voltage protected, +40.0 VDC maximum

Input power: 30.0 mA, MAX (1.02 W @ 34 VDC)

Output impedance: 150 Ω maximum

Output load: 100K Ω minimum, 0.5M Ω or greater recommended, short circuit protection

Output voltage: 0–5 Vdc

- Full scale pressure: +5.000 VDC nominal
- Zero pressure: 10⁻² torr or less, 0.000 VDC nominal

Output ripple: ≤ 10 mV peak to peak, DC to 10kHz

Insulation resistance (Input/Output): 100M Ω MIN at 100 VDC for 30 seconds

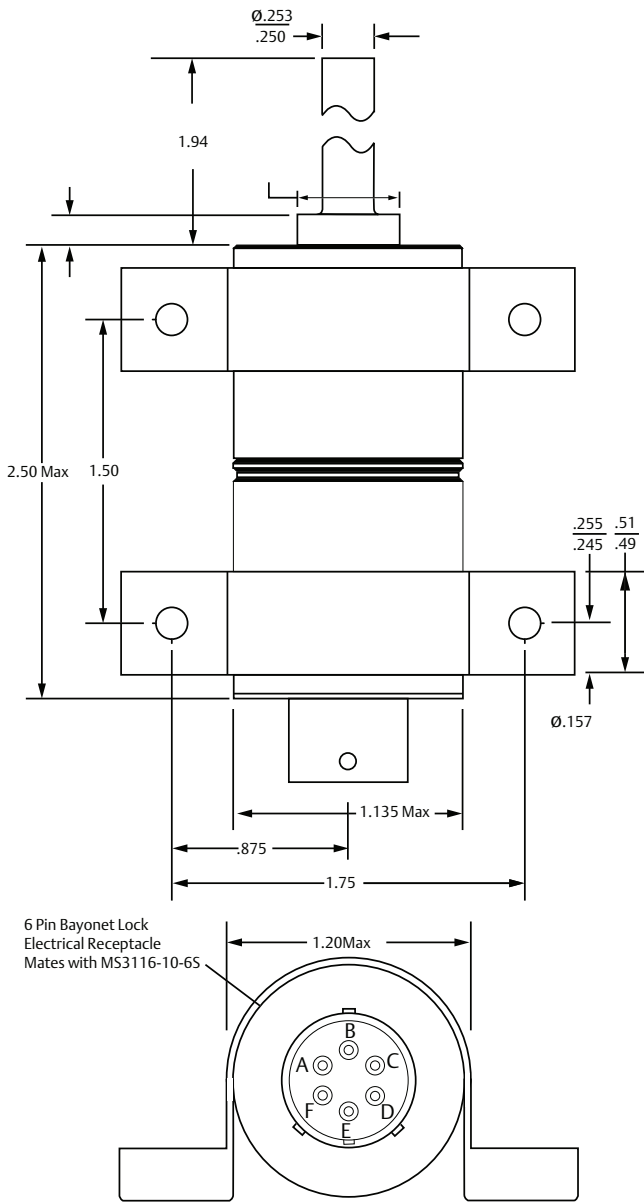
Insulation resistance: all pins (except F) to case, 100M Ω MIN at 50 VDC for 30 seconds

Electrical connections: mates with MS3116-10-6S or equivalent, sold separately

Electrical connections: determined to be ESD Insensitive when tested per DOD-STD-1686, Appendix B (16000 V)

Dimensional Drawings

Figure 1. Miniature-Satellite Series



Connection:

PIN	213-36-740-01 213-76-860-01
A	+ Input
B	Input return
C	No Connection
D	Signal return
E	Signal output
F	Case ground

Dimensions are inches.

This page is intentionally left blank.

HA HIGH ACCURACY

m e a s u r e m e n t i n s t r u m e n t s

Our offering:

	Pressure Measurement		Level Measurement
	Temperature Measurement		Flow Measurement
	Marine Measurement & Analytical		Gas Analysis
	Liquid Analysis		Flame and Gas Detection
	Tank Gauging		Wireless Infrastructure
	Acoustic & Discrete		

www.high-accuracy.com

Product Name

Paine 213-Heritage-Satellite-DS, Rev E

Product Data Sheet

February 2017

Rosemount Specialty Product LLC

Emerson Automation Solutions

5545 Nelpar Drive
East Wenatchee, WA 98822, USA

+1 509 8812100

+1 509 881 2115

Paine.Products@Emerson.com



[Linkedin.com/company/Emerson-Automation-Solutions](https://www.linkedin.com/company/Emerson-Automation-Solutions)

Standard Terms and Conditions of Sale can be found on the [Terms and Conditions of Sale page](#).

The Emerson logo is a trademark and service mark of Emerson Electric Co.
The Paine brand and Paine logotype are trademarks Emerson Electric Co.
All other marks are the property of their respective owners.
© 2017 Emerson. All rights reserved.

PAINE[™]

