

Digital Force Indicator / Controller

Display Load Cell Measurements; Monitor and Control Force Dependent Processes

- 5-Digit, Red LED Display with 1/8 DIN Panel Mounting
- Operates from 115 or 230 VAC Power
- Provides 5 or 10 VDC Strain Gage Bridge Excitation
- Delivers ± 10 VDC and 4 to 20 mA Output Signals
- 4 Programmable Set Points with LED Status Indicators
- Easy, Menu-Driven Setup
- Optional RS-232 output



Series 8159
Digital Force Indicator / Controller

The **Series 8159** is a feature-packed digital indicator / controller designed specifically for use with strain gage load cells. This AC-powered unit provides the necessary, regulated, strain gage excitation voltage and delivers both voltage and current mode output signals for recording, control, or analysis purposes. Open collector outputs for two high and two low set points provide process control or alarm capability.

Additional features include a high-visibility, 5-digit, LED display, LED status indicators, zero (tare), peak and valley recall, shunt calibration, ± 10 VDC output, 4 to 20 mA output, short circuit protection, and optional RS-232 output.

As with all equipment from PCB®, this instrument is complemented with toll free applications assistance, 24-hour customer service, and is backed by a no risk policy that guarantees satisfaction or your money refunded.



Specifications

Series 8159	
Performance	
Channels	1
Frequency Range	0 to 1000 Hz ^[1]
Digital Resolution	1 part in 19,999
Full Scale Input (internal switch selectable)	1.5, 2.5, or 3.5 mV/V
Non-Linearity	0.015% FS
Common Mode Rejection	>120 dB @ 50 - 60 Hz
Display Type	0.4 in (10.2 mm) LED
Display Range	± 99,999 (5 digits)
Decimal Point	Adjustable via front panel
Set Points	2 High and 2 Low
Set Point Outputs	Open Collector
Shunt Calibration	Actuated via front panel
Shunt Calibration Resistor	Accessible through rear panel
Programmability (via front panel)	Tare (zero), Calibration (scale factor), Two High Set Points, Two Low Set Points, Set Point Hysteresis
Display Mode	Run, Program, Peak/Valley Recall
Environmental	
Temperature Range (operating)	+14 to +122 °F (-10 to 50 °C)
Temperature Stability	± 0.56 µV/°F (± 1 µV/°C)
Humidity Range (max)	90% @ 104 °F (40 °C) non-condensing
Electrical	
Power Required (internal jumper selectable)	115 or 230 VAC 50 - 60 Hz
Excitation (delivered to sensor, internal jumper selectable)	5 or 10 VDC ± 0.5% @120 mA max with remote sense short circuit current limiting
Input	Fully differential (bi-polar)
Analog Outputs	± 10 VDC and 4 to 20 mA
Physical	
Housing	Extruded aluminum with shielded front panel
Mounting	Panel mount (1/8 DIN)
Size (1/8 DIN) (w × h × d)	3.78 × 1.89 × 5.88 in (96 × 48 × 149 mm)
Weight	1.3 lb (590 gm)
Notes	

[1] Upper frequency limited by single pole, low-pass filter.

How to order

Base Model	
8159-	115 VAC Powered Indicator with Transducer Excitation
F	Prefix for 230 VAC Powered Version (internal jumper selectable)
Communications	
0	None
1	RS-232 (transmit only)
Sense Leads (internal jumper selectable)	
0	Disabled
1	Enabled (recommended for cables >20 ft (6.1 m))
Bridge Excitation (internal jumper selectable)	
1	10 VDC
5	5 VDC
Full Scale Input (internal switch selectable)	
1	1.5 mV/V
2	2.5 mV/V
3	3.5 mV/V
Version Code	
A	Initial Release
Example	
8159- 0 0 1 2 A	115 VAC Powered Indicator with 10 VDC Transducer Excitation and 2.5 mV/V Full Scale Input

Accessories

Model	Description
8311-17-XXA	PT06A-10-6S sensor connector to 9-pin male D-Sub, specify "XX" length in feet (for cable runs < 20 feet).
8311-18-XXA	PT06A-10-6S sensor connector to 9-pin male D-Sub, specify "XX" length in feet (for cable runs ≥ 20 feet).
8315-17-XXA	PC06W-10-6S sensor connector to 9-pin male D-Sub, specify "XX" length in feet (for cable runs < 20 feet).
8315-18-XXA	PC06W-10-6S sensor connector to 9-pin male D-Sub, specify "XX" length in feet (for cable runs ≥ 20 feet).
8314-21-XXA	I/O cable for voltage, current, and RS-232 signals. 15-pin D-Sub to pigtailed. Specify "XX" length in feet.
182-026A	9-pin male D-Sub sensor input mating connector.
182-027A	15-pin female D-Sub I/O mating connector.

The Force/Torque Division of PCB® Piezotronics, Inc. specializes in the development, application, and support of piezoelectric and strain gage force sensors, load cells, and torque sensors for a wide range of research, test, measurement, monitoring, and control requirements. This product focus, coupled with the strengths and resources of PCB, permits the Force/Torque Division to offer exceptional customer service, 24-hour technical assistance, and a **Total Customer Satisfaction** guarantee.

Visit www.pcb.com to locate your nearest sales office



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ISO 9001 CERTIFIED

A2LA ACCREDITED to ISO 17025

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