Description

The G123-818 Signal Conditioner is a complete transducer signal conditioning module. It is typically used in conjunction with a load cell but may also be used with other low level output transducers.

A stable constant voltage source provides transducer excitation. A precision instrumentation amplifier and filter combination provides an accurate, conditioned ±10 V output and a 4-20mA current output. The 4-20mA output can be selected as unipolar or bipolar.

A wide adjustment range is provided for excitation, span, zero and filtering to allow the majority of commercial load cells to be accommodated.

Features

- Supports a wide range of load cells and other low level transducers.
- Flexible internal dip switch configuration options.
- Output polarity and zero balance LED.
- Front panel adjustment of zero and span.

Front panel controls and test points allow convenient in place adjustment with LED indication of polarity and zero.

Shunt calibration using a known resistance is provided. Either an on board shunt or external user provided shunt can be selected.

The Signal Conditioner can also be used as a stand-alone amplifier for static and dynamic measurement, outputting a scaled ± DC voltage or current.

The Signal Conditioner is housed in a compact DIN rail enclosure and requires a +24 V supply.

For information on applying and configuring the G123-818 Signal Conditioner refer to the Application Notes C31961.

Specifications

Functional

Transducer support: 4 wire or 6 wire lead compensation, 120 Ω minimum.

Transducer excitation: selectable +5 or +10 V, 40mA max.

Output: ±10 V @ 10mA. 4-20mA unipolar, or 4-20mA bipolar, 12mA = no load.

Internal switches:

Connection: 4 wire or 6 wire transducer.

Full scale span range: 1: 24 to 52mV
2: 12 to 26mV
3: 6 to 13mV

Calibration select: Internal or external user shunt.

Excitation: 5 or 10 V and on/off selection.

Switch functions also available on test header for remote configuration.

Filter:

Low pass, 3rd order, selectable by four plug-in resistors, Frequency range 5 to 1000Hz.

Front panel adjustments:

Span: 15 turn trimpot.

Zero: ±2.5 % full scale by 15 turn trimpot.

Shunt calibration: Centre off, ± shunt connection, toggle switch.

Front panel LED's:

Vs, internal supply = green
Vo, output polarity, positive = red, negative = green, zero = off.

Front panel test points:

Vout and 0 V, 2mm test plug.
Environmental and Physical

Supply: +24 V nominal, +22 to +28 V range. 100mA @ 24 V supply, with 350 Ω load cell, 10 V excitation and 20mA output load current.

Mounting: DIN rail.

Class of protection: IP 20.

Operating temperature range: 0 - 40°C.

Dimensions: 100W x 108H x 22.5D.

Weight: 140 g.

Approvals: CE Mark: EN50081.1 emission. EN61000-6-2 immunity. C tick: AS4251.1 emission.

Performance

Input impedance: >10 MΩ

CMRR: >100 dB @ gain = 200

Noise: <5 µVp-p 1 to 1000Hz RTI, 350 Ω input

Temp stability: <200 µV/°C RTO, 0 to 40°C.

Drift: <5mV RTO 30min to 24 hour.

Linearity: <±0.05 % FS at DC

Input protection: ±40 V.

Output protection: Short circuit current limited.

Operating Details

Ordering Information

Signal Conditioner G123-818-001.

Special configurations can be provided.

Consult your Moog sales office to discuss details.

Internet Data

For a detailed Application Manual and the latest version of this Data Sheet please refer to the Moog website www.moog.com/dinmodules