

MP1000 and MP2000 Series

Single and Dual Channel LVDT Readout/Controller

The Schaevitz® microprocessor-based LVDT indicator and set-point controller is designed for industrial and process control applications utilizing any LVDT/RVDT-based measurement device. In addition to displaying real-time readings of LVDTs and gage heads, these single and dual-channel instruments display MIN, MAX and TIR values. A dual channel model is also capable of A+B and A-B functions.

A 16-bit analog-to-digital converter provides high speed performance and resolution. An RS-232 output will communicate data to any standard PLC or computer serial port.

MP Series readout/controllers are packaged in a 1/4 DIN case with a back-lit, super-twist LCD display. (Units are splash-proof when mounted with a gasket.)

New Features

- Simultaneous dual channel display**
- Opto-isolated setpoint outputs**
- Digitally scaled analog output**
- Digitally controlled analog zero suppression**
- CE approval pending**
- Programmable digital filtering**

Applications

- LVDT-based weighing systems**
- RS-232 data collection for SPC**
- Roller gap control**
- Concentricity gages**
- Tank level control**
- Part classification**

MP Series Accessories

- Relay option board**
- Lab stand/bench mount**
- Rack adaptor holds up to four MP Series Readout/Controllers (see page 121)**



Setpoint Control

Four user-programmable digital setpoints are used to monitor any parameter. Any combination of high or low setpoints may be selected. A high and low hysteresis value from 0 to 200 display counts can be programmed for the setpoints. Decimal points are programmable via the set-up menu.

Auto-Calibration

A front panel pushbutton auto-zeros (tares) over the \pm full scale range. Auto-calibration eliminates calculation of slope or gain factors. Calibration and setup parameters are stored in nonvolatile memory for retention on power down or interruption.

Readings

A two-line alphanumeric display provides user-friendly word prompts for easy pushbutton system setup and monitoring of in-process measurement parameters.

- Current value
- Min/max
- A+B (sum of two channels)
- A-B (difference of two channels)
- TIR (Total Indicated Runout)

Outputs

A real-time scaled analog output, proportional to the digital readout is provided for each LVDT channel. An RS-232 output is provided for data transfer to a computer at 600 to 19.2K baud.

General Specifications

LVDT Excitation

Voltage 1 and 3 V rms ($\pm 10\%$)
(switch selectable)
Current Up to 30 mA rms per LVDT
Frequency 2.5, 3.3, 5 and 10 kHz ($\pm 5\%$)
(switch selectable)

Input Sensitivity 0.6 or 1.2 V rms for full scale
readout (switch selectable)

Input Impedance 100k ohms

Linearity $< \pm 0.02\%$ of full scale

Digital Display 5 digit (± 99.999) 5 mm (0.2")
super-twist LCD with LED
backlight

Analog-to-Digital Converter 16-bit charge balance

Conversion Rate 180 conversions per second
per channel (max)

Digital Output Serial RS-232, full duplex 600
to 19.2K Baud (switch
selectable)

Setpoints 4 user-programmable, high or low

Hysteresis User-settable from 0 to 200
display counts

Outputs Opto-isolated open collector
logic outputs, 5 VDC, 50mA per
setpoint (Relay outputs optional)

Response Typically within 20 mS

Operating Temperature 0° to 55°C

Power Requirements 100 to 250 VAC, 50-60 Hz

How To Order

Order by model number.

Model Number	# Channels
MP1000	Single input
MP2000	Dual input

Input/Output Connections

Pin	Description	Pin	Description
1	Setpoint #4	16	Setpoint #2
2	DSR In	17	Setpoint #1
3	TxD Out	18	SP Return
4	DTR Output	19	Remote Reset
5	RxD	20	Output Channel B
6	Reboot	21	Output Channel A
7	Sync Input	22	Case Shield
8	Sync Output	23	Vcc (5VDC)
14	Remote Zero	24	Digital Ground
15	Setpoint #3	25	Analog Ground

Each 2 channel unit provided with:

- 2 transducer connectors (J1 and J2)
- Power supply and cord
- 25-pin subminiature D mating connector
- Comprehensive operation/programming manual

