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Find the *Moore Industries MVT/80-160MVFS/4-20MA/117AC* at our website: *Click HERE*

MOORE INDUSTRIES

MVT
Millivolt Transmitter

November 1995

Data Sheet 1.30

Description

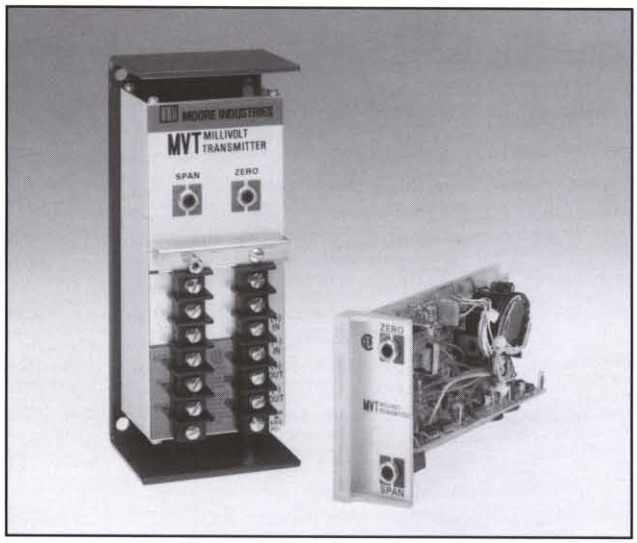
Perfect for applications where high accuracy is demanded, the 4-wire MVT Millivolt Transmitter converts a grounded or ungrounded millivolt input to a wide range of current or voltage outputs.

Typical applications include interfacing gas analyzer output, pH meter output, or dc current shunts with a panel meter, recording device, or a process computer. In the current shunt application, the MVT's input/output isolation permits non-hazardous monitoring of dc motor power.

The MVT is offered with a variety of options including RFI/EMI protection. See the back page for details.

Ordering Specifications

To order, use the bold face data from the Ordering Specifications section of the Specifications table (see back page). For assistance, refer to the model number example located at the bottom of the table.



Easy-to-install surface mount and high density *plug-in card housings make the MVT perfect for mounting in a control room or in a field-mounted enclosure.*

Features

- **Direct millivolt input.** Accepts a wide range of millivolt inputs directly from sensors, analyzers, and other millivolt sources.
- **Low output ripple/high common mode rejection.** Low output ripple and high common mode rejection allow precise interface with computer-based control systems.
- **Complete isolation/high input impedance.** Isolation between input, output, and power terminals, plus high input impedance, eliminate signal inaccuracies caused by ground loops.
- **RFI/EMI protection.** When ordered with the -RF option, the MVT is resistant to the harmful effects of radio frequency and electromagnetic interference.

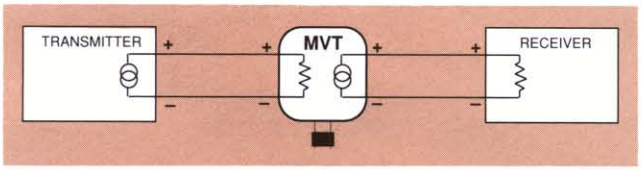


Figure 1. *MVT Loop Diagram*

Certifications

CSA General Location; Explosion-proof, Division I Groups C and D (in EX enclosure)

City of Los Angeles General Location

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MVT

Millivolt Transmitter

Specifications

Characteristics

Performance

Calibration Capability: ±0.1% of span (linearity and repeatability)
Frequency Response: 5Hz (3dB point)
Isolation: Input and output are transformer isolated with no dc connections between them
Common Mode Rejection: Exceeds 120dB at 60Hz with limit of 500Vrms
Current Output: Operational amplifier feedback current source; output limited to 150% of maximum output range value
Ripple: <10mV P/P at maximum span and maximum load resistance
Load effect: ±0.01% of span from 0 to maximum load resistance (current output)
Line Voltage Effect: ±0.005%/1% line voltage change (ac or dc)
Input Impedance: 10 megohm minimum (for current inputs using a shunt input resistor, consult the factory)

Ambient Temperature

Range: -29°C to +82°C (-20°F to +180°F)
Effect: ±0.01/°C (±.005%/°F) over above range

Adjustments

Type: External multiturn potentiometers
Span: Output fully adjustable over a pre-selected input range to 100% of selected output
Zero: For an input of ±25% of maximum input range, adjusts output to 0% of selected output span

Weight 900 grams (2 lbs.)

Ordering Specifications

Unit **MVT** Millivolt Transmitter

Input Current:
0-1MA
.75-2MVFS (-LSB option required)
2-5MVFS 0-2 thru 5mV (-LSA option required)
5-10MVFS 0-5 thru 10mV
5-15MVFS 0-5 thru 15mV
10-20MVFS 0-10 thru 20mV
20-40MVFS 0-20 thru 40mV
40-80MVFS 0-40 thru 80mV
80-160MVFS 0-80 thru 160mV
160-320MVFS 0-160 thru 320mV

Output Current:
1-5MA into 0-4800 ohms
4-20MA into 0-1200 ohms
10-50MA into 0-480 ohms
SC Field-selectable current output, any of above outputs (not available with EUR housing)
Voltage:
1-5V into 20 kilohms

Power
24DC, ±10%
45DC, ±10%
117AC, 50/60Hz, ±10%
220AC, 50/60Hz, ±10%
240AC, 50/60Hz, ±10%
(EUR housing available with 24DC only)

Options
-DD Downscale drive (drives transmitter output downscale in case of open input)
-EZ Elevated zero (specify millivolt input for 0% output)
-HI High current (20mA) drive capability on voltage outputs

Options (continued)
-LSA Low input span
-LSB Low input span
-RF RFI/EMI protection; Standard housing rates 50V/m - abc = 0.1% F.S. when tested according to SAMA Standard PMC 33.1
-RO Reversed input/output current or voltage relationship
-UD Up scale drive; output of product drives up scale in the event of open input (millivolt inputs only)

Housing*
UB Standard housing with U-back bracket for surface mounting
AB Standard housing with angle flanges for surface mounting or mounting in an enclosure
PC Plug-in card for mounting in an RMR or SMR rack
EUR Euro-style plug-in card for mounting in an RMR-EU rack
CP conduit plate for use with standard units
DCM DIN clip for mounting STD standard housing on G-type DIN standard rail
EX Housing mounted in 2-hub, solid cover, explosion-proof enclosure
GP General purpose metal enclosure
OT Oil-tight enclosure for single unit (NEMA 12)
PM Panel mount enclosure
WT Water-tight enclosure for single unit (NEMA 4)

*For dimensions and terminal designations, see the applicable housing sheet.

When orderring, specify: Unit / Input / Output / Power / Options [Housing]
Model number example: MVT / 80-160MVFS / 4-20MA / 117AC / [STD]

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