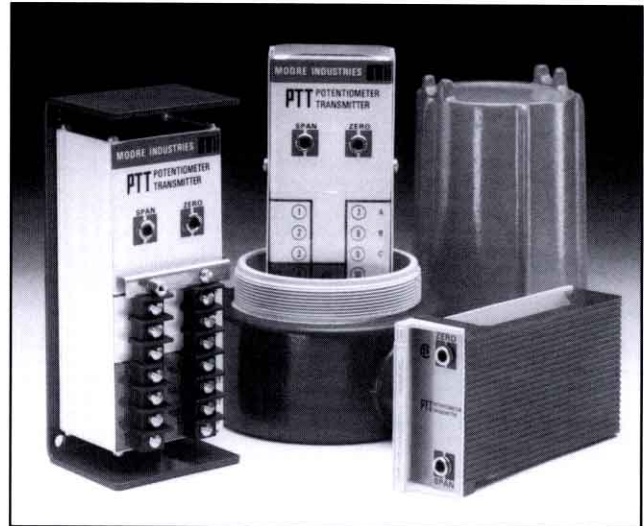
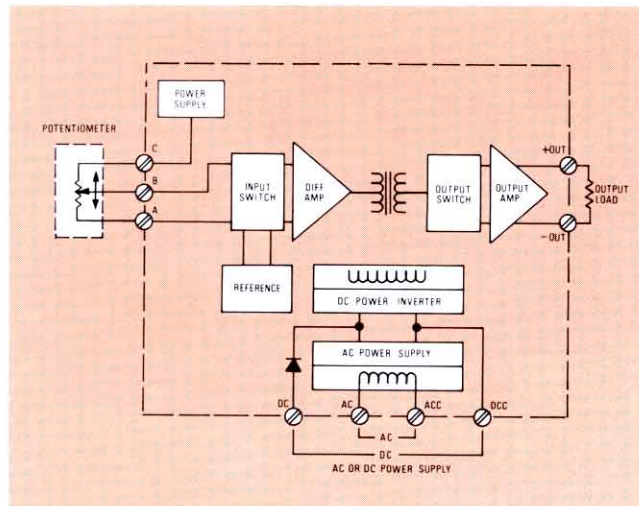


Description

Moore Industries PTT 4-Wire Potentiometer Transmitter measures resistance variation in any type of transducer with a potentiometer pick-off. It is used to measure pressure, level, or the position of a component, such as a valve, in a process control loop. The PTT typically converts potentiometer position into a 4-20mA current signal, a 1-5Vdc voltage signal, or other ranges of current or voltage output signals that are suitable for driving computers, alarms, controllers and associated recording equipment in control loops.

In addition to the standard transmitter enclosure, which is used for surface and panel mounting, the PTT is available in a variety of different housing enclosures. A compact plug-in card (PC) configuration is available for high density rack mounting, eliminating the need for mounting blocks and a mounting rail. A panel mount (PM) housing is also available that allows for one or two units to be flush-mounted using a 3-1/2" by 7-1/8" panel space. The PM housing is useful for mounting either meters, counters, or pushbuttons right on the front face of the control panel. The PTT may also be ordered in an explosion-proof, cast aluminum (EX) enclosure, an oil-tight (OT) metal enclosure, or a water-tight (WT) metal enclosure, all of which meet NEMA requirements as specified in the Specifications section on the back page of this data sheet.

Simplified Circuit Diagram for PTT



The PTT is used to measure pressure, level, or the position of a component, such as a valve, in a process control loop.

Features

- **Wide range of inputs.** The PTT can accommodate input signals from 100 to 10,000 ohms.
- **Total isolation and high noise rejection.** Complete input/output and power isolation is standard, thereby minimizing problems of noise pick-up on long transducer leads. Common mode rejection exceeds 120 dB (1,000,000 : 1) with a limit of 500V rms at 60 Hz.
- **Manual loading station.** The PTT is also ideal for use as a manual-loading station which might be used to help maintain the manually-set output pressure setting needed to operate a control valve.
- **High resistance compatibility.** Input impedance exceeding 10 megohms makes the PTT compatible with high resistance potentiometers, up to 10,000 ohms, without sacrificing linearity.
- **RFI/EMI protection available.** RF-option filter assembly prevents radio frequency interference from entering the PTT unit and is available with most housings (see Specifications).

PTT

Potentiometer Transmitter

Specifications

Characteristics

Front Panel Adjustments Adjustable with multiturn potentiometer
Zero: With minimum input, adjusts output to 0% ±10% of selected output span.
Span: With full scale input, output is adjustable to 100% of input span.

Performance **Calibration Capability:** ±0.1% of span (Linearity and Repeatability)
Ambient Temperature Range: -29°C to +82°C (-20°F to +180°F)
Ambient Temperature Effect: ±0.005%/°F over above range
Frequency Response: 5Hz (-3 dB point)
Input Impedance: 10 megohm minimum
Ripple: 10mV P/P at maximum span and maximum load resistance
Isolation: Input, output, & power input are transformer isolated with no dc connections between them. Ac and dc-powered units have this as standard. Common mode rejection exceeds 120 dB at 60Hz with a limit of 500V rms.
Load Effect: ±0.01% of span from 0 to maximum load resistance (current output).

Performance (Continued) **Line Voltage Effect:** Ac or dc: ±0.005%/1% line change

Output: Operational amplifier feedback current source; output limited to 150% of maximum output range value.

Certification CSA

Weight Approximately 2 lbs. (908 grams)

Ordering Specifications

Unit PTT

Input Potentiometer, standard 3-wire, 0-100 ohm through 0-10,000 ohm range. Higher ranges available on special order. For 2-wire (slide wire) input, see model RBT

Output Ranges **Current:**
1-5MA 1-5mA into 0-4800 ohm load
4-20MA 4-20mA into 0-1200 ohm load
10-50MA 10-50mA into 0-480 ohm load
Voltage:
1-5V 1-5Vdc standard into 20K ohms minimum

Power **24DC** 24Vdc, ±10%
45DC 45Vdc, ±10%
117AC 117Vac 50/60Hz ±10% - optional (not available with PC housing)
220AC 220Vac 50/60Hz ±10% - optional (not available with PC housing)
240AC 240Vac 50/60Hz ±10% - optional (not available with PC housing)
 (5 Watts nominal)

Options **-EO** Power selection of 117Vac or 24Vdc only (not available with PC housing)
-FU 400mA power fuse for PC housing only.
-HI High current (20mA) 1-5Vdc output only.
-RF RFI/EMI filtered terminals (not available with PC or PM housings or 220/240Vac power). Exceeds SAMA rating 30V/M-ABC = ±0.1%

Housings **AB** Angle Bracket mounting
EX Explosion-proof enclosure, Single Unit-Div. 1
GP General Purpose enclosure, Single Unit-NEMA 1
OT Oil tight enclosure, Single Unit-NEMA 12
PC Plug-in card
PM Panel Mount enclosure
UB Standard housing with U-back brackets for surface mounting
WT Water tight enclosure, Single Unit-NEMA 4

When ordering, specify:

Unit/Input*/Output/Power/Options [Housing]

Model number example:

PTT/1K-25-75/4-20MA/45DC/RF [STD]

*Specify total resistance of potentiometer, % of potentiometer for zero % output; and % of potentiometer for full scale output.

Ordering Information

The PTT provides potentiometer excitation and produces a standard process output that is linearly proportional to the position of the potentiometer wiper. In some applications, the displacement may be somewhat less than full potentiometer travel. If this compressed signal range requires more adjustment from the zero and span

potentiometer than is available, specify the zero and full scale potentiometer ratios and the total resistance of the element at the time of purchase.

Installation

Housing dimensions and terminal position identification can be found on the applicable housing sheet.



United States
 Tel: (818) 894-7111
 FAX: (818) 891-2816

Australia
 Tel: (02) 9525-9177
 FAX: (02) 9525-7296

Belgium
 Tel: 03/448.10.18
 FAX: 03/440.17.97

Netherlands
 Tel: (0)344-617971
 FAX: (0)344-615920

United Kingdom
 Tel: 01293 514488
 FAX: 01293 536852

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