



## DESCRIPTION

A signal conditioning unit for platinum resistance thermometers, the PT60, is a plug-in unit to the Validyne MC1 module case. Using a four-wire configuration and constant current techniques, the PT60 will accurately indicate the resistance of the temperature sensors even when located thousands of feet away and all four lead resistances are different. No lead resistance compensation is required.

Factory adjustment is made for operation with any standard PRT probe resistance between 50 and 1000 ohms. However, adjustment to another probe resistance can be made in the field. Unless otherwise ordered, units are adjusted for a 200-ohm probe when shipped.

Two outputs are provided. One output may be adjusted to produce  $\pm 10$  Vdc for a  $\pm 1000^\circ\text{F}$  span about any temperature point between  $0^\circ\text{F}$  and  $+500^\circ\text{F}$ . Additionally, the sensitivity may be reduced to 10 Vdc for a  $1000^\circ\text{F}$  span. The other output is fixed at 0 to 10 Vdc for 0 to  $1000^\circ\text{F}$  and is calibrated to the standard "strain free platinum curve" for that temperature range.

The PT60 may be calibrated to match a specific probe by connecting a precision decade resistance box in place of the probe and setting in the resistances from the probe calibration curve. Zero and span controls are then adjusted for the desired output.

A calibrate switch allows two selected calibration resistors to be substituted for the probe, thus establishing two reference points for subsequently verifying the operation and calibration of the PT60. These resistors are easily installed internally.

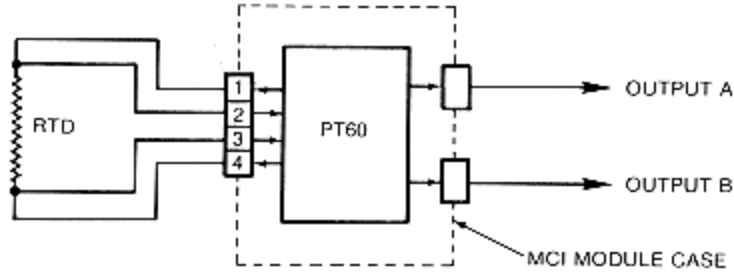
## Features

- Four-wire Constant Current Configuration
- PRT Linearization
- $\pm 10$  Vdc Output
- Dual outputs
- Two-Point Calibration

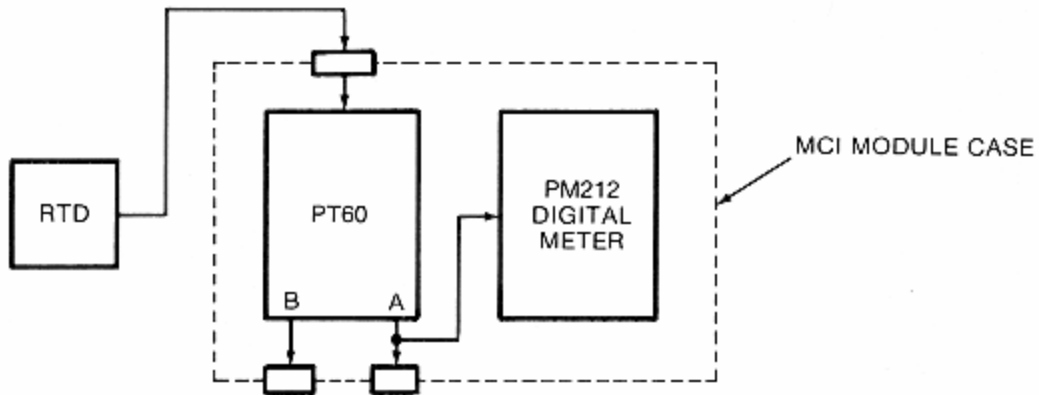
## Specifications

<b>Sensitivity:</b>	A: $\pm 10$ Vdc/ $\pm 100^\circ\text{F}$ span about any temperature point between $0^\circ\text{F}$ and $500^\circ\text{F}$ adjustable down to $\pm 10$ Vdc/ $\pm 500^\circ\text{F}$ span B: 10 Vdc/ $1000^\circ\text{F}$
<b>Probe Current:</b>	50-ohm probe, 8 mA; 100-ohm, 4 mA; 200-ohm, 2 mA; 400-ohm, 1 mA; 1000-ohm, 0.4 mA
<b>Noise Rejection:</b>	60 dB at 60 Hz
<b>Lead Effect:</b>	Less than 0.001 % FS per ohm change in any or all leads
<b>Output:</b>	
<b>Output A:</b>	$\pm 10$ Vdc at $\pm 5$ mA
<b>Output B:</b>	0 to 10 Vdc at 5 mA Output Impedance: Less than 10 ohms
<b>Linearity:</b>	$\pm 0.1\%$ of temperature span based on standard platinum curve
<b>Controls:</b>	
<b>Output A:</b>	Zero: 10-turn potentiometer for $0^\circ\text{F}$ to $500^\circ\text{F}$ . Span: 10-turn potentiometer, 10 V/ $100^\circ\text{F}$ to 10 V/ $500^\circ\text{F}$
<b>Output B:</b>	20-turn screwdriver adjust zero and span potentiometers for fine adjustment to a specific probe
<b>Calibrate Switch:</b>	Two resistance substitution calibration points
<b>Temperature:</b>	
<b>Range:</b>	$0^\circ\text{F}$ to $+160^\circ\text{F}$
<b>Zero Shift:</b>	0.01%/°F
<b>Span:</b>	Shift: 0.005%/°F
<b>Power Requirements:</b>	+15 Vdc from MC1 module case
<b>Ordering Information:</b>	Specify the PT60 and the standard probe resistance to be used with, as follows: PT60-1 for 50-ohm probe; -2 for 100-ohm; -3 for 200-ohm; -4 for 400-ohm and -5 for 1000-ohm. Unless otherwise specified, it will be shipped as PT60-3
<b>Option:</b>	Adjustment for other RT material on special order

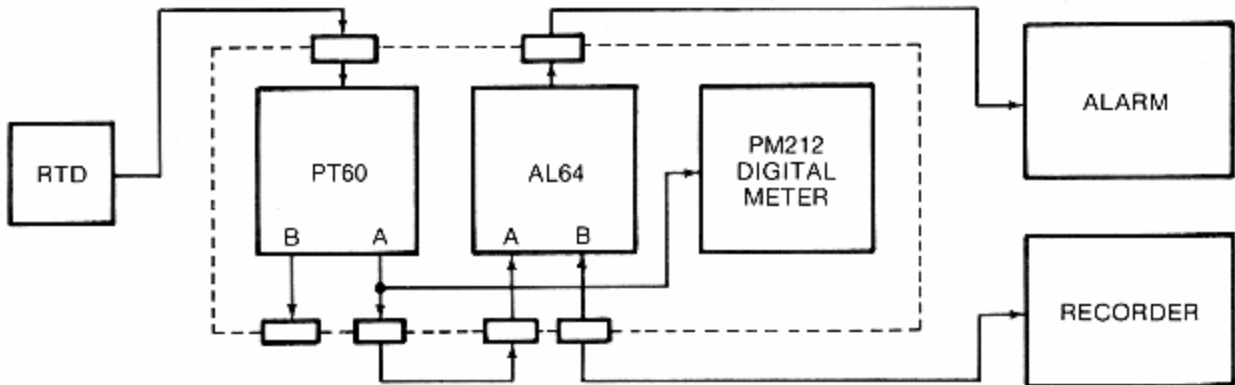
## TYPICAL APPLICATIONS



FOUR-WIRE RTD CONNECTION



TEMPERATURE MEASUREMENT SYSTEM



TEMPERATURE MEASUREMENT AND ALARM SYSTEM

## Accessories

P/N 7616-2 Plug-In Module Connection Extender



8626 Wilbur Avenue - Northridge, CA 91324-4498  
 (818) 886-2057 - FAX (818) 886-6512  
<http://www.validyne.com> - e-mail to [sales@validyne.com](mailto:sales@validyne.com)