

## **Series ATW-520 Resistance Thermometer**

The 520 series accepts inputs from all 3 wire B SS 1904, ISA and PTB specification Resistance Thermometer elements.

Factory calibration available.

Power ON-LED indicator—Rack Mounting only.

CALIBRATION ACCURACY	±0.1% Span
INPUT SPAN	10Ω to 800Ω
ZERO SUPPRESSION	0 to 90% Span
SOURCE RESISTANCE	100Ω maximum/line for specified performance
OPEN CIRCUIT RESPONSE	UP SCALE DRIVE
OUTPUT SIGNAL	4 to 20mA DC
POWER SUPPLY	12 to 50V DC Unregulated
ISOLATION	250V RMS Input/Output/Ground
AMBIENT TEMPERATURE	-20 to +85°C Working

### **MODEL ATW 521**

19" Rack Mounting. 4U high compatible with AMT Series

### **MODEL ATW 522**

IP65 Free Standing Enclosure.

### **MODEL ATU 523**

19" Rack Mounting. 3U high compatible with ABT Series

## Inputs Data

Source Details see individual specifications.

Open Circuit Response Standard is upscale drive, can be set to down scale drive by removal of internal link where specified as available.

Input Impedance  $>1M\Omega$  at amplifier input circuit. Reduced when downscale drive fitted.

Power Supplies 12 to 50V DC unregulated.

Consumption 0.1W.

Controls—Zero and Span accessible by screwdriver from front by 15 turn potentiometers.

## Output Data

Signals 4 to 20mA.

Output load is supply volts minus 12 divided by 20mA.

Power ON—LED Indicator. (Rack model only).

## Conditions

Isolation—Galvanic isolator is used giving 250V RMS Input to Output and ground isolation.

Ambient Temperature—Working  $-20^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ .  
Storage  $-40^{\circ}\text{C}$  to  $90^{\circ}\text{C}$ .

Humidity 5 to 95% R.H.

Vibration 1g at 15Hz to 150Hz has no effect.

## Electrical Standards

Location ZONE 0, 1 or 2 as certified.

BASEEFA Cert. No. See individual specifications.

Insulation 1000V. 2000V for 20 $\mu$  second.

## Termination and Mounting

Terminals For conductors up to 4.0mm<sup>2</sup>.

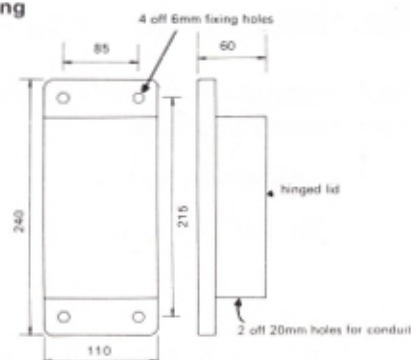
Weight 0.5kg approximately.

Position Any position.

Types of Mounting For Wall or Rack. Precision extruded aluminium rack.

## Types of Mounting

### 1 Free Standing



All dimensions in mm

### 2 International 19" Rack

**MODELS 511, 516 and 521** are for rack mounting in the A range of 4U high racks as shown on page 36.

**MODELS 513, 518 and 523** are for rack mounting in the AB range of 3U high racks as shown on page 55.

## Performance—Temperature Converters

Calibration Accuracy  $\pm 0.1\%$  Span.

Output Ripple  $< 0.3\%$  RMS of FSD.

Stability Over 24 hours  $\pm 0.05\%$  Span. Over 1 year  $\pm 0.1\%$  Span.

Response Time  $< 400$  milliseconds for within 1% of final value for change of input from 10 to 90% FSD.

Temperature Effect on Zero  $< \pm 0.02\%/^{\circ}\text{C}$ .

Temperature Effect on Span  $< \pm 0.01\%$  Span/ $^{\circ}\text{C}$  or  $< \pm 0.01^{\circ}\text{C}/^{\circ}\text{C}$  whichever is greater.

Temperature Effect on Suppression/Elevation  $< \pm 0.02\%$  of supp./elev. per  $^{\circ}\text{C}$ .

Series Mode Rejection  $< 0.1\%$  error 50Hz input at 50% span amplitude.

Common Mode Rejection  $< 0.1\%$  error for 250V RMS.

Supply Volts Effect  $< 0.2\mu\text{A}$  per V.

Load Resistance Effect  $< 0.002\%/100\Omega$

R.F. Rejection All normal industrial interference and R.F. up to 460MHz has no effect outside performance given above.

### Input Overrange Protection

Fault Input Without Damage 100V

For Thermocouple units, Cold Junction Compensation Variations are:

CC, IC, CA	1.5 $\mu\text{V}/^{\circ}\text{C}$	Deviation from
PPR	0.7 $\mu\text{V}/^{\circ}\text{C}$	20 $^{\circ}\text{C}$

Maximum error for 0 to 70 $^{\circ}\text{C}$  Variation CJ  
= 40 $\mu\text{V}$  for CC, IC, CA = 18 $\mu\text{V}$  for PPR.

