

Series ABT 610

Thermocouple and emf

The 610 series accepts inputs from all BSS 4937 and ISA JKRT and pallaplat thermocouples.

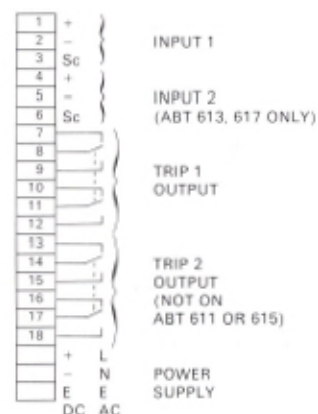
Single and Dual trip levels available, with fixed or variable deadband.

Normal Minimum Span 5mV, lower ranges available.

Double channel model with two separate alarm channels each with single trip level.

All thermocouple input models have automatic cold junction compensation.

INPUT SPAN	Minimum 5mV normal maximum 200mV customised
SOURCE RESISTANCE	1000Ω Maximum for Specified Performance
ZERO SUPPRESSION	400% Span
INPUT IMPEDANCE	> 1MΩ
OPEN CIRCUIT RESPONSE	UP OR DOWN DRIVE SELECTION
DEADBAND	1.0% Span Minimum
OUTPUT RELAY	DPDT 250V 2A 100VA LED Indication of relay state
POWER SUPPLY	AC-110V, 220V, 240V $\pm 20\%$ 50/60Hz DC 24V $\pm 2.5V$
TRIP ADJUSTMENT	15 turn blind potentiometer
TRIP REPEATABILITY	$\pm 0.2\%$ Span
ISOLATION	1000V RMS Input/Output and Power Supply
AMBIENT TEMPERATURE	-20 to +60°C Working



TERMINAL DIAGRAM

MODEL ABT 611

Thermocouple Input
Single Input Single Trip Level

MODEL ABT 615

emf input version of ABT 611

MODEL ABT 612

Thermocouple Input
Single Input Dual Trip Levels

MODEL ABT 616

emf input version of ABT 612

MODEL ABT 613

Thermocouple Input
Double Channel Single Trip Level
Two inputs each with
single trip level

MODEL ABT 617

emf input version of ABT 613

INPUT DATA

Source and Signal see individual specification.

Controls Zero $\pm 25\%$ and Span $\pm 50\%$ accessible by screw-driver from front by 15 turn potentiometers.

Trip Point Adjustment.

Infinitely variable by 15 turn potentiometers.

Trip Point Repeatability $< 0.2\%$ Span.

Deadband on Trip 1.0% Span.

POWER 110V $\pm 20\%$ 50/60Hz

SUPPLIES 220V $\pm 20\%$ 50/60Hz

240V $\pm 20\%$ 50/60Hz

DC Models

24V $\pm 2.5V$ DC

Consumption typically 3 Watts.

INPUT Typically $> 1M\Omega$ for voltage.

IMPEDANCE 400mV for current

OUTPUT DATA

Relay Specification DPDT for each trip point. Contacts rated at 250V 2AMP 100VA AC. Resistive load.

Relay Function Selected by internal link. Normally set to de-energise relay on operation of trip.

Relay Status Indicated by 150,000 hour rated LED for each trip. Coloured red.

SIGNALS 0 to 10mA into 2400Ω maximum
4 to 20mA into 1200Ω maximum
1 to 5mA into 4800Ω maximum
Overrange limit to 40V DC open circuit output.

POWER ON Indicator

CONDITIONS

ISOLATION 1000V RMS Input to Output and Power Supply by opto-electric devices.

AMBIENT Working -20 to $+60^\circ\text{C}$

TEMPERATURE Storage -40 to $+70^\circ\text{C}$

HUMIDITY 5 to 95% RH

VIBRATION 1g-15Hz to 150Hz has no effect

ELECTRICAL STANDARDS

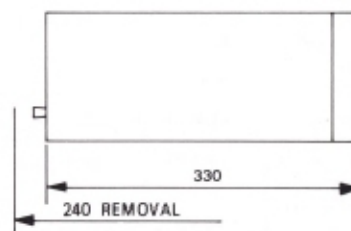
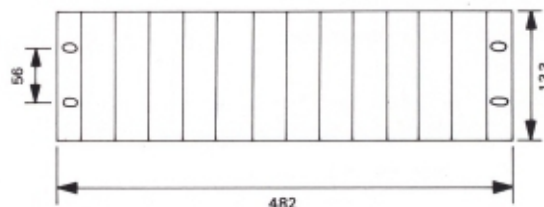
INSULATION 1000V. 2000V for 20μ Second.

FUSING Power supply fused.
Spare fuse on PC Board.

MOUNTING

INTERNATIONAL 19" RACK

Up to 12 Amelec AB units can be housed in one 19" rack section. The rack section to Amelec design is made of precision extruded aluminium and fits into any 19" International rack. It is recommended the wiring or cabling be carried out in plastic trunking.



WEIGHT Typical 1.5kg

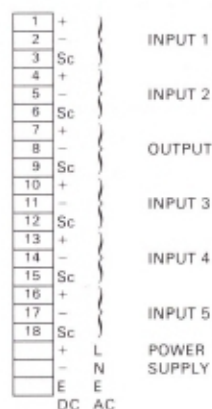
POSITION Any position

TERMINATIONS

TERMINATION For conductors up to 2.5mm^2

MODELS ABT and ABM See individual specification.

MODEL ABC See below.



NOTE:-
INPUTS 2, 3, 4, 5
APPLY TO
ABC 813
ABC 814
ABC 815 ONLY

PERFORMANCE

ABT-TRIP AMPLIFIERS

Response Time < 200 milliseconds.
Series Mode Rejection < 0.1% error 50Hz input at 5% span amplitude.
Common Mode Rejection < 0.1% error for 250V RMS.
Temperature effect on Trip Point < 0.01%/°C or 7µV/°C whichever is greater.
Supply Voltage on Trip Point < 0.01%/°.

ABC-ARITHMETIC UNITS

SERIES MODE < 0.2% error for 50Hz at 50%
REJECTION Span
COMMON < 0.2% error for 250V RMS
MODE
REJECTION

ABM-TRANSMITTERS

Calibration Accuracy ±0.1% Span.
Output Ripple < 0.3% RMS of FSD.
Stability Over 24 hours ±0.05% Span. Over 1 year ±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 < ±0.02%/°C.
Temperature Effect on Span < ±0.01% Span/°C or < ±0.02°C Span/°C whichever is greater.
Temperature Effect on Suppression/Elevation < ±0.02% of supp./elev. per °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 < 0.01%/°.
Output Overrange Maximum output 40V DC under any condition.
For Thermocouple units, Cold Junction Compensation Variations are:
CC, IC, CA 1.5µV/°C Deviation from
PPR 0.7µV/°C 20°C
Maximum error for 0 to 70°C Variation CJ
= 40µV for CC, IC, CA, = 18µV for PPR.