AMELEC
SIGNAL CONDITIONING

Series ABM 720
Resistance Thermometer

The 720 series accepts inputs from all 2, 3, or 4 wire BSS 1904, ISA and PTB specification Resistance Thermometer elements.

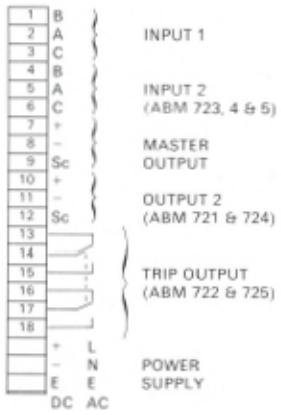
Temperature difference input using two wire RTD can be provided on some models.

Output linearised with temperature option G.

Two isolated outputs can be provided for computer and complex control systems.

Down scale drive on open circuit input can be provided as option.

CALIBRATION ACCURACY	±0.1% Span
INPUT SPAN	10Ω to 1000Ω customised
SOURCE RESISTANCE	100Ω maximum/line for specified performance
OPEN CIRCUIT RESPONSE	UP SCALE DRIVE
OUTPUT SIGNALS	0 to 10, 4 to 20, 1 to 5mA DC 0 to 1, 0 to 10, 2 to 10, 1 to 5V DC
POWER SUPPLY	AC-110V, 220V, 240 ±20% 50/60Hz DC 24V ±2.5V
ISOLATION	1000V RMS Input/Output and Power Supply
AMBIENT TEMPERATURE	−20 to 60°C Working



TERMINAL DIAGRAM

MODEL ABM 720

Output any standard signal

MODEL ABM 721

Provides two outputs each of any standard signal buffered from each other and both isolated from input

MODEL ABM 722

Combined Transmitter and Trip Alarm
Converter output any standard signal
Trip Alarm output is DPDT Relay 250V 2A 100VA AC Resistive. Fitted with LED relay status indicator.

MODEL ABM 723

as ABM 720 but temperature difference input

MODEL ABM 724

as ABM 721 but temperature difference input

MODEL ABM 725

as ABM 722 but temperature difference input

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OPTIONAL EXTRAS

Description		Suffix Code
Input Injection Jack		J
Output Test Point		P
Linearised output	ABM 710–TYPE K	G1
	ABM 710–TYPE J	G2
	ABM 710–TYPE R/S	G3
	ABM 720–RTD	G5

ORDERING INFORMATION

To order Signal Transmitters please give the following details:

1. Model No.
2. Power Supply–Voltage and Frequency
3. Input Range and source
4. Setting of open circuit drive–normally set to drive up scale
5. Setting of Relay Function for trip–normally set to de-energise on trip
6. Any extras to code
7. Output signal required

Order code example:

ABM 712	110V 50Hz Power Supply
	Panel Mounting
	0–400°C CA Thermocouple BS 4937
	Open Circuit drive up scale
	Relay de-energised trip
	Output 4–20mA DC

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AMELEC
SIGNAL CONDITIONING

INPUT DATA

Source and Signal see individual specification.

Controls Zero ±25% and Span ±50% accessible by screwdriver 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 SUPPLIES	110V ±20% 50/60Hz 220V ±20% 50/60Hz 240V ±20% 50/60Hz DC Models 24V ±2.5V DC

Consumption typically 3 Watts.

INPUT IMPEDANCE	Typically >1MΩ for voltage. 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 TEMPERATURE	Working −20 to +60°C Storage −40 to +70°C
HUMIDITY	5 to 95% RH
VIBRATION	1g–15Hz to 150Hz has no effect

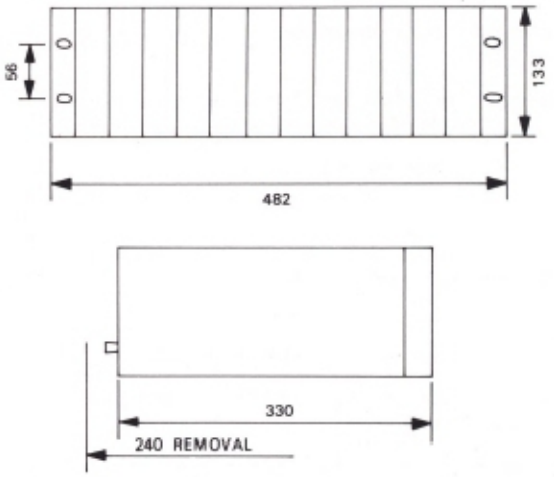
ELECTRICAL STANDARDS

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.



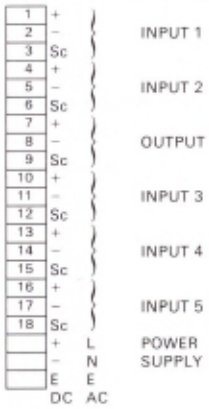
WEIGHT	Typical 1.5kg
POSITION	Any position

TERMINATIONS

TERMINATION For conductors up to 2.5mm²

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

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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%/%.

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.

ABC-ARITHMETIC UNITS

SERIES MODE REJECTION <0.2% error for 50Hz at 50% Span

COMMON MODE REJECTION <0.2% error for 250V RMS

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