AMELEC
SIGNAL CONDITIONING

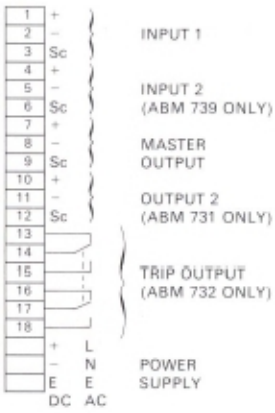
Series ABM 730
Process Signals & DC

The 730 series accepts inputs from any mA or Volts DC source and may be used for all standard DC process control signals.

A loop isolator and a deviation transmitter is included in this series.

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

CALIBRATED ACCURACY	±0.1% Span
INPUT SPAN	Minimum 400mV, maximum 200V DC 0 to 10, 4 to 20, 1 to 5mA DC
INPUT IMPEDANCE (Voltage) (Current)	>1MΩ 400mV
OPEN CIRCUIT RESPONSE	DOWN SCALE DRIVE
OUTPUT SIGNALS	0 to 10, 4 to 20, 1 to 5mA DC 0 to 1, 0 to 10, 1 to 5, 2 to 10V DC
POWER SUPPLY	AC-110V, 220V, 240V ±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 730

Output any standard signal

MODEL ABM 731

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

MODEL ABM 732

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

MODEL ABM 737

As model ABM 730 but with power supply to drive any two wire transmitter as its input. Can be used as a loop isolator

MODEL ABM 739 – *Deviation*

Two inputs are compared and the output represents the difference between the two inputs
Output can be any standard signal
Inputs can be of different signal ranges

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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

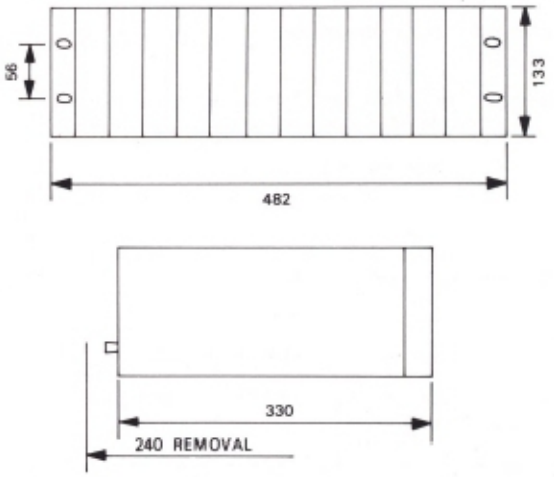
ELECTRICAL STANDARDS

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.



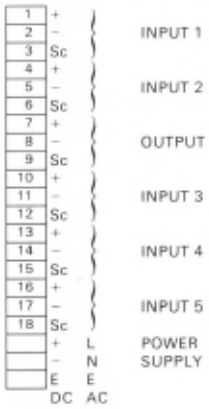
WEIGHT	Typical 1.5kg
POSITION	Any position

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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