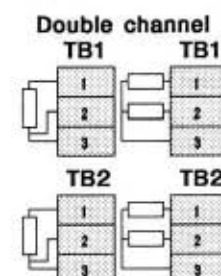
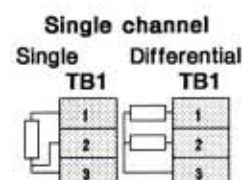


AMT220 series, resistance temperature sensor

INPUT WIRING

These units will accept input from any 2, 3 or 4 wire resistance temperature sensor. Third wire compensation is standard to overcome lead resistance variation. Normal minimum span 10 ohms, lower ranges available to special order. Differential operation may be specified using 2 X 2 wire sensors. Open circuit response is normally upscale but may be specified downscale. Input and third wire drives are constant current, for improved linearity. Output proportional to resistance, or temperature when option 'G' is specified.



Models available

INPUT	Single output	Double output	Transmitter single trip	Transmitter double trip	Double channel
Single	AMT220	AMT221	AMT222	AMT226	AMT228
Differential	AMT223	AMT224	AMT225	AMT227	AMT229

Warranty and service

All Amelec products are guaranteed for ten years against faulty components or manufacture but not against misuse.

To claim under this warranty, equipment should be returned, carriage paid by the customer, to Amelec Instruments, Cochran Close, Crownhill, Milton Keynes, MK8 0AJ, together with details of the fault.

Attempted repairs or component replacement during the warranty period may render the warranty null and void, unless authorised by Amelec.

Amelec will undertake any repairs and will also supply replacement printed circuit board assemblies on an exchange price basis. Please contact the Technical Sales Department for further details.

Where the reported fault is a site problem, Amelec will make their own technical staff available to offer assistance. This service will be charged to the customer at the rate currently in force.

Ordering

When ordering, please give the following details:-

1. Model number
2. Supply voltage and frequency
3. Mounting - Surface, Panel, Single end access or Rack
4. Input span, output span, offset and source
5. Open circuit response - If not specified, default is upscale for thermocouple, millivolt and resistance input units, downscale for process
6. Relay status and mode - If not specified, default is normally energised and single trips are set to Hi, double trips to Hi/Lo. LEDs are lit when relays are energised
7. Any options required
8. Information appropriate to any options ordered

ATA110 series, thermocouple and millivolt

INPUT WIRING

These units will accept input from any BS4937 and ISA B,E,J,K,S,R,T or Pallaplat thermocouple; or millivolt source.

Thermocouple input units have automatic cold junction compensation.

Normal minimum span 4mV, lower ranges available to special order.

Source resistance up to 1000ohms for specified performance.

Open circuit response may be specified as upscale or downscale.

Input impedance 1Mohm, shunted by burnout drive.

Trip level proportional to input voltage, or temperature when option 'G' is specified.

Single channel

TB1	
Input +	1
Input -	2
Screen	3

Double channel

TB1	
Input 1 +	1
Input 1 -	2
Screen	3

TB2	
Input 2 +	1
Input 2 -	2
Screen	3

Models available

INPUT	Single channel		Double channel	
	Single trip	Double trip	Single trips	Double trips
Thermocouple	ATA 111	ATA 112	ATA 113	ATA 118★
Millivolts	ATA 115	ATA 116	ATA 117	ATA 119★

★ These models also available as single input - quadruple trip

Warranty and service

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Ordering

When ordering, please give the following details:-

1. Model number
2. Supply voltage and frequency
3. Mounting - Surface, Panel, Single end access or Rack
4. Input span, output span, offset and source
5. Open circuit response - If not specified, default is upscale for thermocouple, millivolt and resistance input units, downscale for process
6. Relay status and mode - If not specified, default is normally energised and single trips are set to Hi, double trips to Hi/Lo. LEDs are lit when relays are energised
7. Any options required
8. Information appropriate to any options ordered

Mounting and wiring

All the units in the range are supplied in an Anodised or Achromed extruded aluminium enclosure which may be surface or panel mounting, single end access or 7 way 19" rack. Alternatively, some 2-wire transmitters are supplied in a diecast or plastic IP65 enclosure.

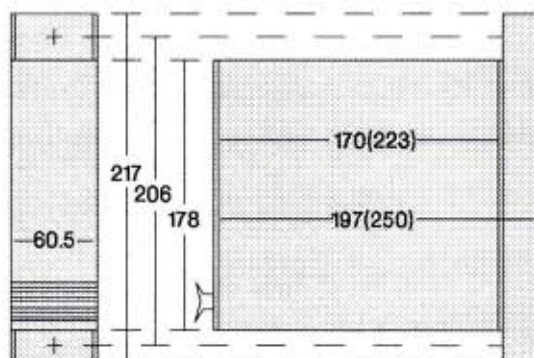
When a unit is fitted into an enclosure, the edge connector at the rear of the main printed circuit board mates with a socket which is wired to the terminal blocks. The unit is retained in the enclosure by two M3 screws which pass through countersunk holes in the front panel and into tapped holes at the front of the enclosure.

The 'U' channel terminal cover is supplied in two sizes to suit different mounting requirements. For surface mounting units, the 217mm length is supplied and includes the fixing holes. For panel, single end access or rack mounting, the 178mm length is supplied but only when options 'K' or 'EXI' are specified. When supplied, they must be replaced after wiring.

Units may be mounted at any orientation although they would normally be mounted with the front panel vertical. Surface or single end access units should not be mounted closer than 61mm horizontally or 218mm vertically. Panel units should not be mounted closer than 70mm horizontally or 234mm vertically and racks should not be mounted closer than 485mm horizontally or 189mm vertically. All types would normally be mounted further apart than this to ease wiring. At least 180mm must be left at the front of all enclosures to allow for unit withdrawal.

In the following drawings, all dimensions are in mm. Figures in brackets show the added depth of the 'K' enclosures to house the RFI protection components.

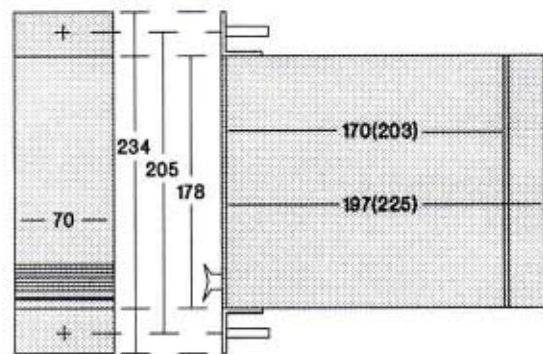
Surface mounting



Before wiring, the unit must be withdrawn from the case, which may then be removed from the 'U' channel by undoing the M4 screw at the top rear of the case, hinging the case downwards and unhooking it from the fixed peg at the lower rear of the case. This exposes the terminal blocks for wiring.

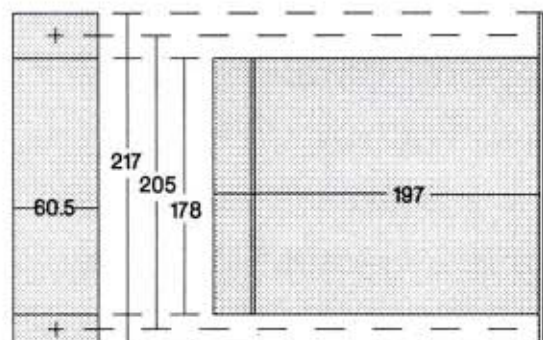
Slots are provided in the terminal plate which allow cables to be passed along the 'U' channel, through the slots and into the terminal blocks. After wiring, the enclosure may be reassembled by reversing these instructions.

Panel mounting



A 65mm wide by 190mm high aperture must be cut in the front panel with 6mm fixing holes above and below. The brackets and front panel are wider than the aperture to obscure any cut edges.

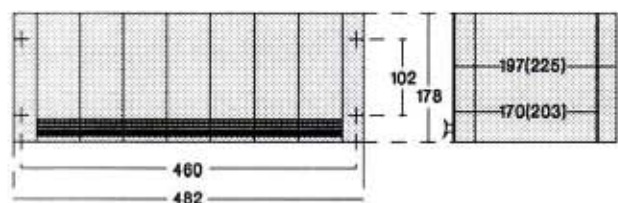
Single end access



This enclosure is not recommended for use with option 'K'

In this arrangement the terminal blocks are mounted on the front panel, although the enclosure is surface mounted. Since the terminals are on the removable part of the unit, allowance must be made, when wiring, to allow for unit withdrawal without disturbing the wiring to adjacent units or the main loom.

19" Rack mounting



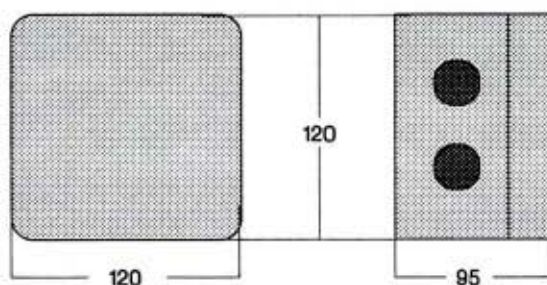
Up to seven units may be mounted in a 19" rack, although other widths may be supplied to suit special requirements.

The rack is normally supplied with fixing brackets to suit panel mounting (as shown above) but may also be supplied for single end access if required.

A 179mm high by 440mm wide aperture must be cut in the panel with fixing holes on 102mm by 460mm centres.

Mounting and wiring

IP65 mounting (2-wire only)



This mounting is available in fibre filled plastic; or diecast aluminium when RFI protection is required. Fixing holes should be drilled on 102mm by 92mm centres.

Access to the fixing screws is obtained by removal of the enclosure lid, although they do not intrude into the actual interior. Two tapped holes are provided which will accept 20mm conduit fittings. When correctly fitted, this will allow pressurised air purged operation.

WIRING

Input, output and supply connections are made via leaf type terminal blocks which are mounted on the front of single end access enclosures and at the rear on all other 'A' series types. These terminal blocks will accept cables up to 2.5mm². The IP65 enclosure uses a barrier strip which accepts 4mm spades or eyelets.

On most enclosures, other than panel mount, the terminals are separated into two groups by an earthed barrier which is part of the terminal mounting plate.

This barrier, together with the 'U' section terminal cover, ensures that input cables must enter from the top of the unit and supply/output cables from below. This helps meet the requirements of 'N' protection for intrinsically safe installations.

Input wiring

This is given in the individual specification sheets for the various instrument types.

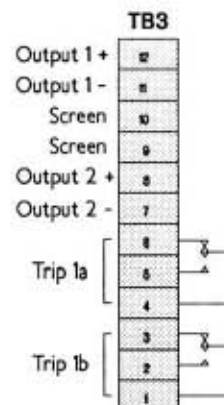
Input access

This is almost invariably from the left, except where shown otherwise. This convention has been followed on input wiring drawings.

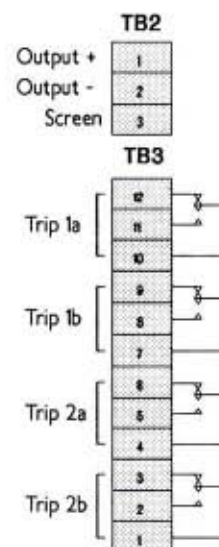
Output/relay wiring

The following two drawings show the combinations of outputs available with this range of instruments. The second output and trip connections shown in the first drawing are only available if specified at time of order.

Single output. Double output.
Single output/single trip. Double channel



Single output/double trip

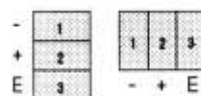


Output access

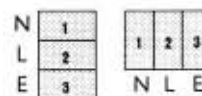
For panel, single end access or rack mounting units, output wiring access is from the right. For surface mounting units, wiring access is from the left, as shown above.

Supply wiring

DC Supply



AC Supply



Supply access

For panel, single end access or rack mounting units, output wiring access is from below. For surface mounting units, wiring access is from the left.