

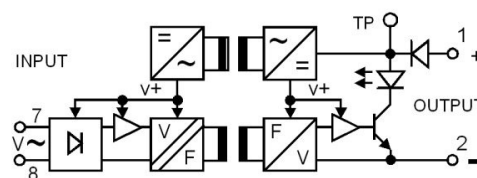
# ac Voltage Transducer v2 AVT248

## DESCRIPTION

The AVT248 is a loop powered, isolating transducer that accepts standard ac voltages from 100V to 300Vac in four selectable ranges. The AVT248 is ideal for field enclosures or as a space saver in larger control cabinets. Standard output is 4 - 20mA with a minimum supply voltage of 8V. This enables the AVT248 to be used in 12V battery supply systems or in automotive applications. Other factory set output configurations are 10 - 50mA loop powered and 0 - 10mA, 0 - 20mA or voltage output in 3-wire connection. Double surge protection is standard with all Series 200 loop powered transmitters to prevent failure due to spikes induced by DC switched inductive loads. The input circuit features an averaging rectifier to accept sinusoidal waveforms having frequencies in the range 10 to 1000Hz. The input output isolation is greater than 2kV rms. Zero suppression (OFFS) is adjusted internally via an optional 15-turn potentiometer. Final non-interacting ZERO and SPAN adjustments are accessible from the front of the module. A front mounted L.E.D. and a test socket verify module function and assist in calibration checks without disconnection of output wires.



## Block Diagram



## General Specifications

Size:	Size: 23.5W x 71.5H x 109D (mm)
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS.
Connection:	Screw terminals.
Weight:	0.106 kg.
Protection class:	IP40.
Calibration accuracy:	<0.2% from 10% up to 100% of range.
Linearity:	<0.2% from 2% up to 100% of range.
Accuracy class as per AS-1384-1973:	Class 0.2.
Frequency dependence:	0.2% for 30 to 500Hz swing. 0.5% for 20Hz to 1kHz swing.
Ambient operating temperature range:	-10...+65°C.
Temperature drift error:	<0.2% within operating range.
Supply voltage:	8 - 40V continuous (50V 30 seconds).
Load for 4 - 20mA output:	$RL_{max} = \frac{SupplyVoltage - 8V}{0.02A} \Omega$
Load change effect:	0.1% up to RL max.
Response time:	0.5 sec to T90 (typically) additional filtering optional.
Internal offset adjustment: (Zero suppression)	-25%.
Front Zero adjust:	+20% / -10%.
Front Span adjust:	±25%.
Input range:	100 / 150 / 200 / 300Vac. (10 - 1000Hz Sine) For other wave forms use SI239 with rms input.
Input impedance:	250K ohm.
Overload continuous:	500% of rated input (up to 100V); 200% of rated input (above 100V).
Input/output isolation:	> 2kV rms.
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

### TYPE NO. DESIGNATION

#### Output:

1 = 4 - 20mA.	} 2-wire.	*) 6 = 0 - 1V.	} 3-wire.		
2 = 10 - 50mA.				} 3-wire.	*) 7 = 0 - 5V, min supply 10.5Vdc
*) 3 = 0 - 1mA.	} 3-wire.	*) 8 = 0 - 10V, min supply 15.5Vdc	} 0V Ref		
*) 4 = 0 - 10mA.				} 0V Ref	*) 9 = Other (Specify).
*) 5 = 0 - 20mA.					

#### Input:

1 = 4-range Input. (See table 1, specify required input).

#### Action:

1 = Direct. 2 = Reverse.

#### Options:

0 = None.

\*) 1 = Customised response time (Specify).

\*) 2 = Output ramp (external capacitor).

\*) 9 = Other (Specify).

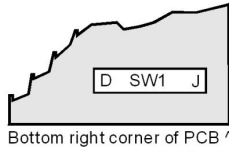
#### 4 Range Input

SW1	D	E	F	G	H
0-300V		X	X	X	
0-200V	X				
0-150V	X		X		
0-100V	X	X			

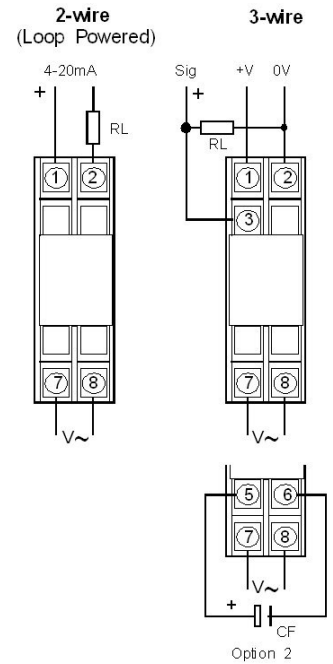
'X' = Link

#### Response Time

SW1	I	J
5mS		
50mS	X	
500mS		X

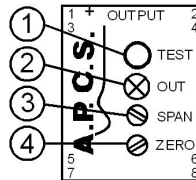


#### Connection Diagrams

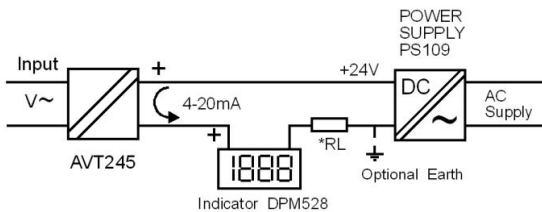


#### Front Control Explanation

- 1) Test socket - output signal access with reference to terminal (1) loop integrity is maintained when digital multimeter Rin < 30 Ω is used.
- 2) Loop indicator - dim at 4mA, bright at 20mA.
- 3) SPAN (full scale) adjust 15 turn.
- 4) ZERO (start scale) adjust 15 turn.



#### Wiring Example



\*Note: RL is input load of PLC or other process instrument.

\*) Price Extra..

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