

## ATS - PANEL MOUNTED TRANSDUCERS

### AC WATT & VAR

#### FEATURES

- designed to International Standards
- proven reliability – over 27 years of experience
- high accuracy and stability
- IEC688 specification compliant
- 2kV isolation
- fire retardant, DIN rail and panel mount housing
- ac and dc auxiliary supplies
- simplified connection details on label
- extensive input and output combinations
- non-standard inputs and outputs available
- removable cover for quick inspection
- technical and after-sales support

#### APPLICATION

Measuring transducers, as the name implies, measure and convert the input signal (single, two, two and a half or three wattmeter method) into a proportional output signal.

In the Measurlogic system, the output is a standardized dc signal (0-5mA or 4-20mA) from a high impedance source and galvanically isolated from the input. (See specifications overleaf).

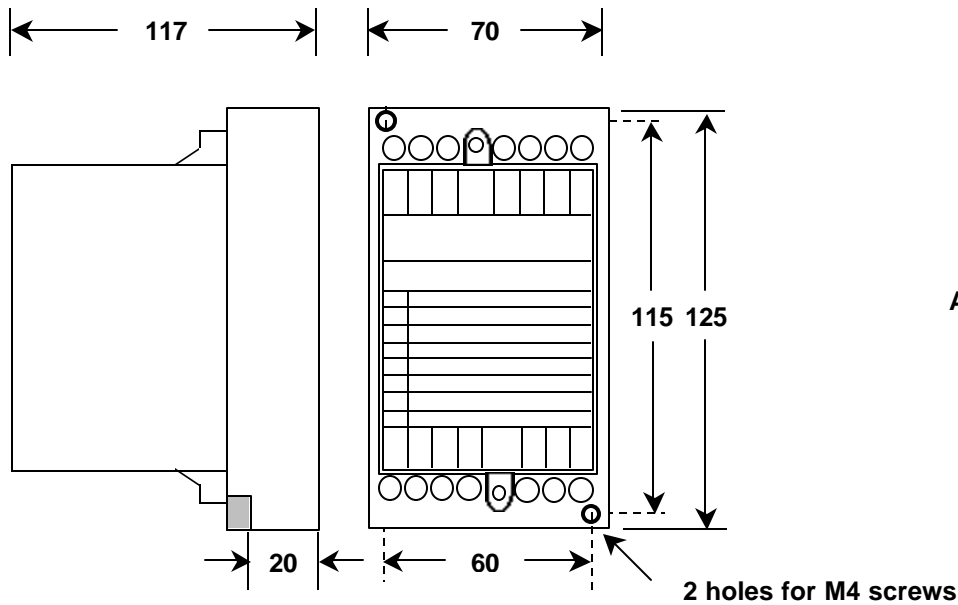
These features are of particular consequence in Watt and Var measurements where the multi-wire power measuring circuit is converted to a two wire output telephone type circuit with substantial saving in cabling costs and instrument transformer rating where remote or multi readout measurements are made.

#### ORDERING INFORMATION

(Specific combinations to be confirmed on ordering. Other input/output values available.)

Model : K  -  /  -  -  -

Transducer Type ( group 2 )		Input Data (for current) ( group 3 )	Input Data (for voltage) ( group 3 )		Output Data ( group 4 )		Class Accuracy ( group 5 )		Auxiliary Supply (group 6)			
Watt	Var											
P1	Q1	1 element 1Ø	A1	1A	V150	150V	A5M	5mA	C5	0,5	3	18-70Vac/dc
P2	Q2	1 element 3Ø	A5	5A	V300	300V	A20M	20mA			4	90-260Vac/dc
P3	Q3	2 element 3Ø			V600	600V	V10	10V			5	115/230Vac
P4	Q4	2½ element 3Ø					A4M	4-20mA				
P5	Q5	3 element 3Ø, 4W					V4	1-5V				



Transducer Model	KP1..5	KQ1..5
Measurand	Active power	Reactive power
Calibration Factor	As required	As required
Input Voltage	150, 300 or 600V (other on request)	150, 300 or 600V (other on request)
Voltage Overload	1,2x continuously, 2x for 10 seconds	1,2x continuously, 2x for 10 seconds
Voltage Path Consumption	<0,5mA	<0,5mA
Input Current	1 or 5A	1 or 5A
Current Overload	1,2x continuously, 10x for 3 seconds	1,2x continuously, 10x for 3 seconds
Current Path Consumption	<0,2VA	<0,2VA
Input Frequency	50/60Hz	50/60Hz
Output	4 – 20mA, (other on request)	4 – 20mA, (other on request)
Output Limit Cutoff	<2x In, or 18V	<2x In, or 18V
Output Ripple	2% ptp	2% ptp
Burden Influence	<0,1%	<0,1%
Response Time T80	200ms	200ms
Permissible Ambient	-10... +60°C	-10... +60°C
Temp. Influence	<0,2%/10°C	<0,2%/10°C
Accuracy Class	0,5	0,5
Auxiliary supply	115/230 ±20%, 50/60Hz or 18-70V ac/dc or 90-260V ac/dc	115/230 ±20%, 50/60Hz or 18-70V ac/dc or 90-260V ac/dc
Insulation	2kV, 50Hz, 1 minute	2kV, 50Hz, 1 minute
Impulse withstand	5kV peak, 1/50us wave, 0.5J	5kV peak, 1/50us wave, 0.5J
Housing	Surface or DIN Rail mounted hard plastic base with protected screws for 2,5mm <sup>2</sup> (12 AWG) conductors, and fire retardant removable cover.	
Mass	0,6 – 0,8 kg (1.32 – 1.76 lb)	0,6 – 0,8 kg (1.32 – 1.76 lb)

## CONNECTIONS

TRANSDUCER TYPE	TERMINALS													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Watt / 1 Var, SINGLE PH	$I_1$	$V_1$	$I_1$		$V_2$					0	115	230	O-	O+
1 Watt / 1 Var, THREE PH	$I_1$	$V_1$	$I_1$		$V_2$			$V_3$		0	115	230	O-	O+
2 Watt / 2 Var, THREE PH	$I_1$	$V_1$	$I_1$		$V_2$		$I_3$	$V_3$	$I_3$	0	115	230	O-	O+
2½ Watt / 2½ Var, 3 PH	$I_1$	$V_1$	$I_1$	$I_2$	$V_2$	$I_2$	$I_3$	$V_3$	$I_3$	0	115	230	O-	O+
3 Watt / 3 Var, THREE PH	$I_1$	$V_1$	$I_1$	$I_2$	$V_2$	$I_2$	$I_3$	$V_3$	$I_3$	N	0	115/ 230	O-	O+

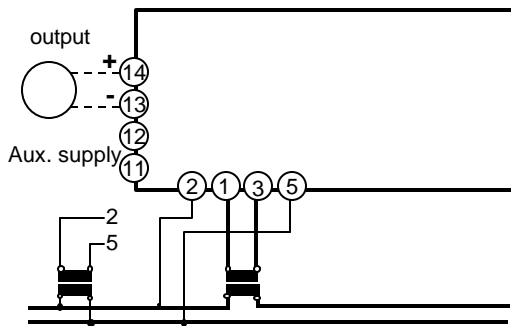
Also available with a SMPS 18-70Vac/dc and 90-260Vac/dc with terminal connections 11(-ve) & 12(+ve)

## TERMINAL DESIGNATION

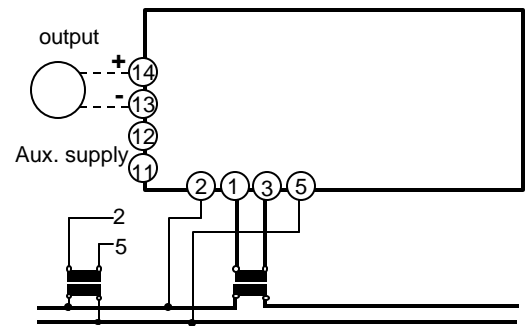
$V_1$	INPUT VOLTAGE RED	$I_1$	INPUT CURRENT RED
$V_2$	INPUT VOLTAGE YELLOW	$I_2$	INPUT CURRENT YELLOW
$V_3$	INPUT VOLTAGE BLUE	$I_3$	INPUT CURRENT BLUE
N	INPUT NEUTRAL	115	AUXILIARY SUPPLY 115V
O+	OUTPUT POSITIVE	230	AUXILIARY SUPPLY 230V
O-	OUTPUT NEGATIVE	0	AUXILIARY SUPPLY NEUTRAL

## CONNECTION DIAGRAMS

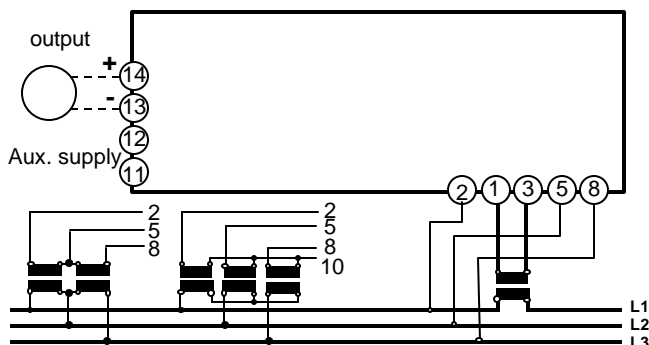
**Watts:** Type KP1  
Single phase.



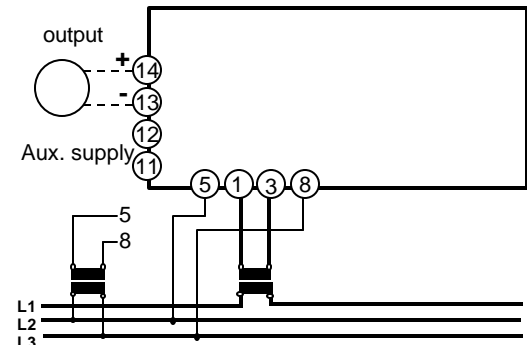
**Var:** Type KQ1  
Single phase.



**Watts:** Type KP2  
Single element, 3 phase, 3-wire, balanced load.  
Ph-Neutral voltage connection only required in 4-W systems.

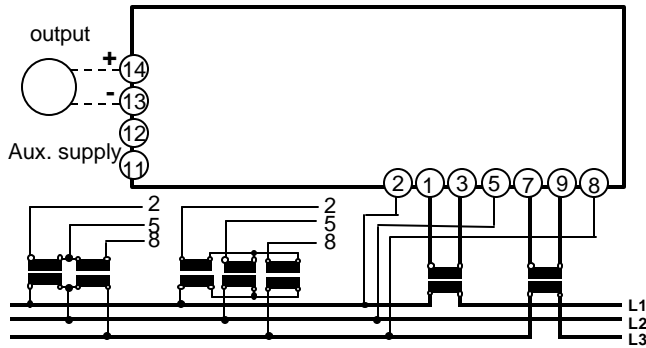


**Var:** Type KQ2  
Single element, 3 phase, 3-wire, balanced load.

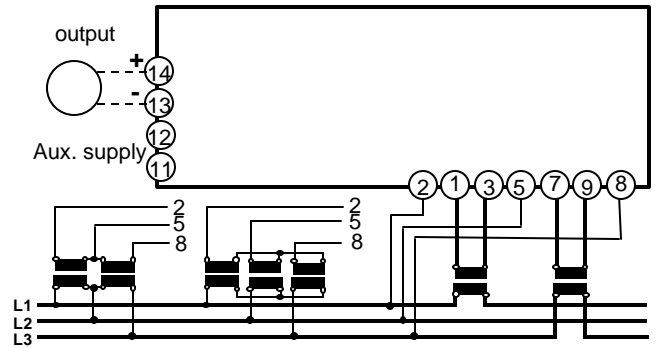


**CONNECTION DIAGRAMS (Cont)**

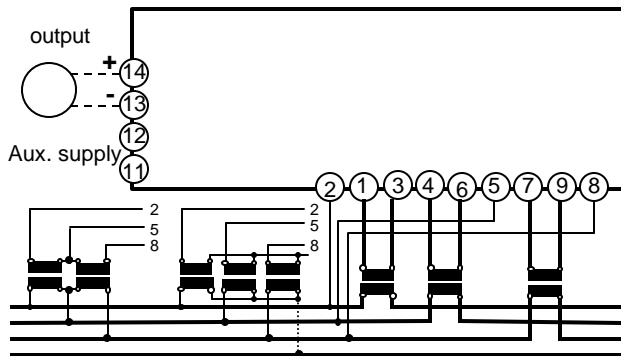
**Watts:** Type KP3  
Two element, 3 phase, 3-wire, unbalanced load.



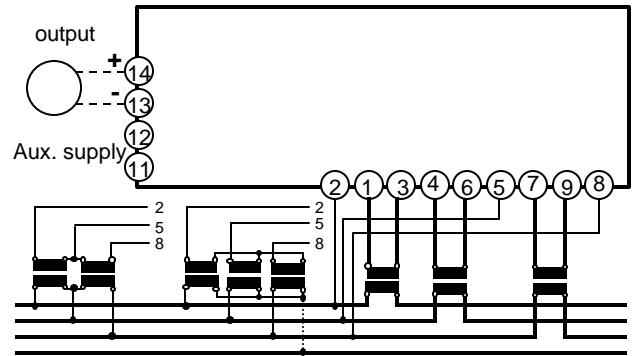
**Var:** Type KQ3  
Two element, 3 phase, 3-wire, unbalanced load.



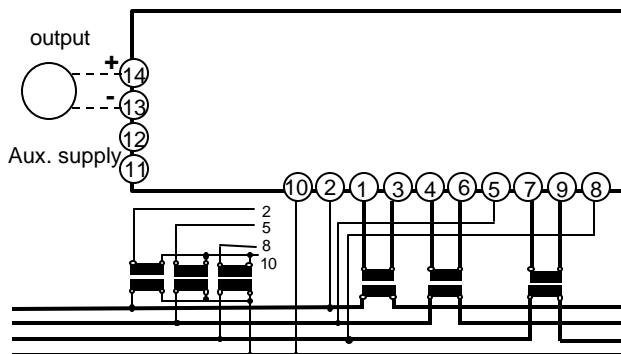
**Watts:** Type KP4  
2½ element, 3 phase, 3-wire, unbalanced load.  
Also for 4-wire systems with balanced voltages.



**Var:** Type KQ4  
2½ element, 3 phase, 3-wire, unbalanced load.  
Also for 4-wire systems with balanced voltages.



**Watts:** Type KP5  
3 element, 3 phase, 4-wire, unbalanced load.



**Var:** Type KQ5  
3 element, 3 phase, 4-wire, unbalanced load.

