

DESCRIPTION

AE Transducers convert various electrical power line parameters viz. Voltage, Current, Frequency, Power Factor, Active power, Reactive power, Apparent power into DC current or voltage output. The output of transducer is independent of load impedance. These are used in various electrical, thermal, chemical & other power plants to monitor processed data either locally or from remote using various devices such as indicating meters, data loggers, recorders, SCADA systems.

These transducers can also be used as external units in conjunction with analog or digital indicators.

FEATURES

- ◆ Open & short circuit protected.
- ◆ Current and Voltage output are independent of load impedance.
- ◆ Suitable for panel as well as DIN – RAIL mounting.

ELECTRICAL SPECIFICATIONS

- ◆ TYPE : DC or AC : 1Ph / 3Ph -1EL / 3Ph - 2EL - 3W / 3Ph - 3EL - 4W
- ◆ INPUT PARAMETER : DC: Voltage, Current
AC: Voltage, Current, Watt, Var, VA, Frequency, Power Factor

INPUT PARAMETER RANGE TM

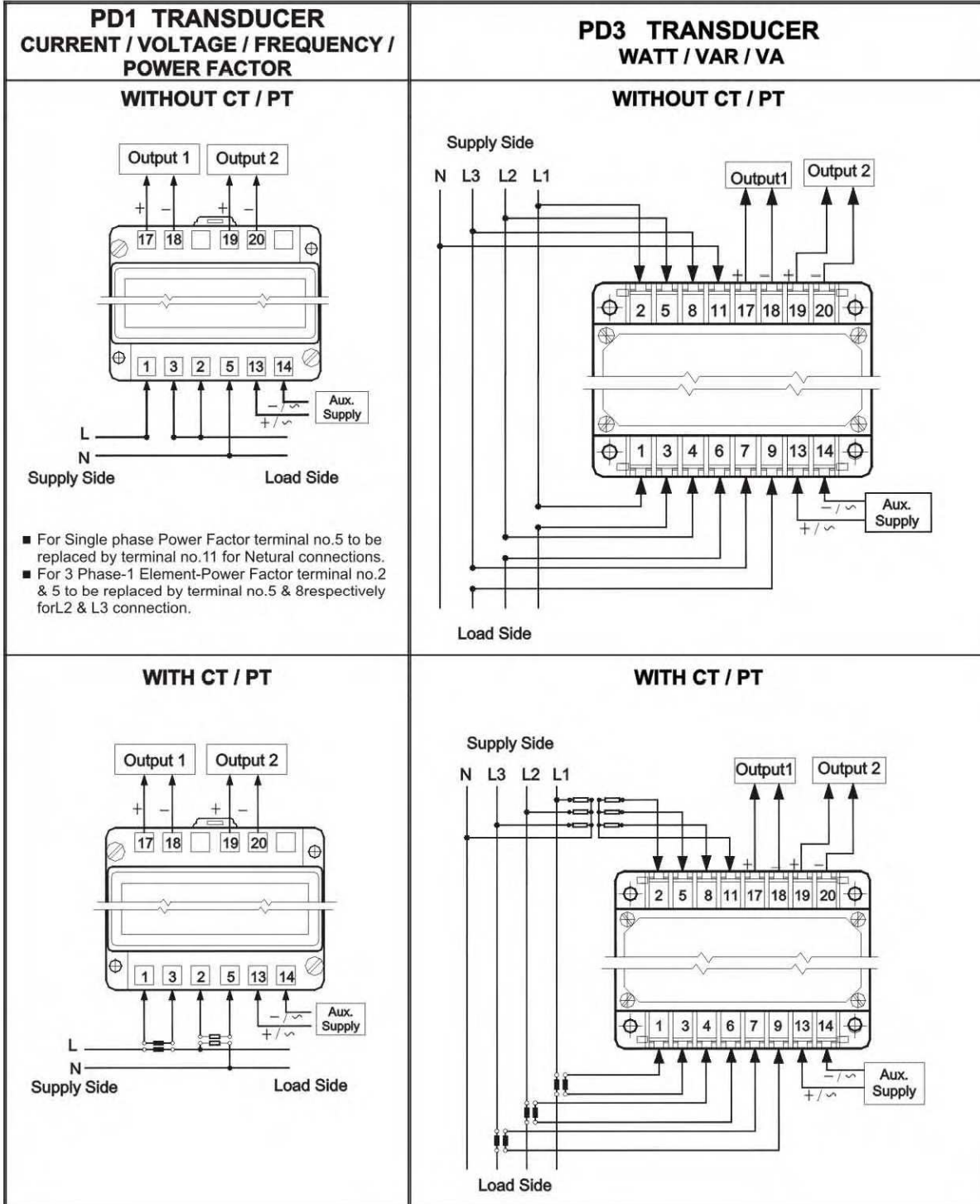
- ◆ VOLTAGE : DC : 500V, AC : 500V
- ◆ CURRENT : DC : 5A (for higher ranges: 50 – 300mV ext. Shunt), AC : 1A / 5A.
- ◆ FREQUENCY : 50 / 60Hz ± 5 Hz., 400Hz ± 20 Hz.(Any other Frequency on request).
- ◆ POWER FACTOR: 0.5 (Lag) – Unity – 0.5 (Lead)
- ◆ POWER : Please specify.
- ◆ OUTPUT RANGE : Single Output / Dual Output

RANGE :	◆ CURRENT	0-1mA	0-5mA	0-10mA	0-20mA	4-20mA	10 - 0 - 10mA
		MAX. LOAD	10k Ω	2k Ω	1k Ω	500 Ω	500 Ω
MIN. LOAD	◆ VOLTAGE	0 – 1V	0 – 5V	0 – 10V	1 – 5V	2 – 10V	10 - 0 - 10V
		500 Ω	2.5k Ω	5k Ω	2.5k Ω	5k Ω	5k Ω

- ◆ ACCURACY : $\pm 0.5\%$ of full scale for Voltage, Current, Watt, Var, VA, Power Factor
 $\pm 0.2\%$ of centre frequency for Frequency Transducer.
- ◆ AUX. SUPPLY : 63.5V, 110V, 220V, 230V, 240V, 380V, 415V, 440V AC (for $\pm 10\%$ V, 50 / 60Hz).
24V, 48V, 110V, 220V DC (for $\pm 10\%$ V).
- ◆ VA BURDEN : For VOLTAGE ≤ 2 , For CURRENT ≤ 0.5 , For AUX. SUPPLY ≤ 4
- ◆ RIPPLE : Maximum 0.5% of the span.
- ◆ OVERLOAD CAPACITY
 - ◆ VOLTAGE cont. : 120% of nominal
short time (10 sec) : 150% of nominal
 - ◆ CURRENT cont. : 120% of nominal
short time (3 sec) : 10 times of nominal
- ◆ RESPONSE TIME : 300 m. sec.
- ◆ OPEN CKT. VOLTAGE : 22V max.
- ◆ IMPULSE VOLTAGE : 5kV, 1.2 / 50 μ sec. (0.5j)
- ◆ INSUL^N RESISTANCE : Greater than 20M ohms at 500V DC
- ◆ DIELECTRIC TEST : 2kV RMS for 1 minute. (4kV on request)
- ◆ OPERATING TEMP. : 0°C to 55°C.
- ◆ STORAGE TEMP. : -20°C to 70°C
- ◆ HUMIDITY : Up to 95% RH
- ◆ CONFORMS TO : I.S.12784 / I.E.C. 688.

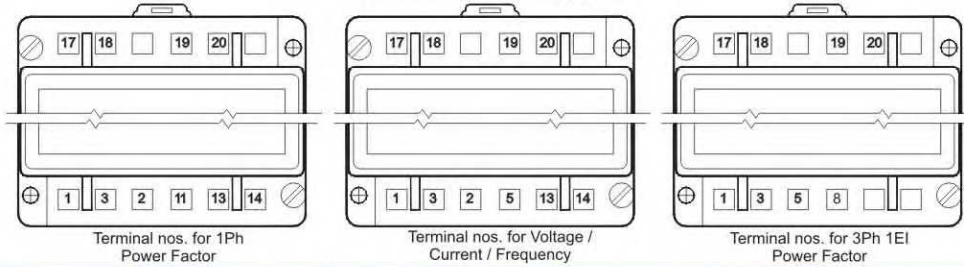


TYPICAL WIRING SYSTEM



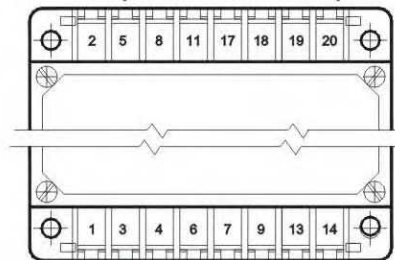
TERMINAL CONNECTIONS

PD1 (WITH 12 TERMINALS)



TRANSDUCER TYPE	OUTPUT TYPE	OUTPUT TERMINALS	INPUT TERMINALS		
			VOLTAGE	CURRENT	AUX.SUPPLY
DC CURRENT	SINGLE	17 – 18	NIL	mV / A +ve = 1 mV / A -ve = 3	13 – 14
	DUAL	17-18, 19 – 20			
DC VOLTAGE	SINGLE	17 – 18	V +ve = 2 V -ve = 5	NIL	13 – 14
	DUAL	17-18, 19 – 20			
AC CURRENT	SINGLE	17 – 18	NIL	1S = 1, 1L = 3	13 – 14
	DUAL	17-18, 19 – 20			
AC VOLTAGE	SINGLE	17 – 18	L1 = 2 N / (L2) = 5	NIL	13 – 14
	DUAL	17-18, 19 – 20			
FREQUENCY	SINGLE	17 – 18	L1 = 2 N / (L2) = 5	NIL	13 – 14
	DUAL	17-18, 19 – 20			
	ANALOG METER	17 – 18			
1PH POWER FACTOR	SINGLE	17 – 18	L = 2 N = 11	1S = 1, 1L = 3	13 – 14
	DUAL	17-18, 19 – 20			
3PH 1EL POWER FACTOR	SINGLE	17 – 18	L2 = 5 L3 = 8	1S = 1, 1L = 3	13 – 14
	DUAL	17-18, 19 – 20			

PD3 (WITH 16 TERMINALS)



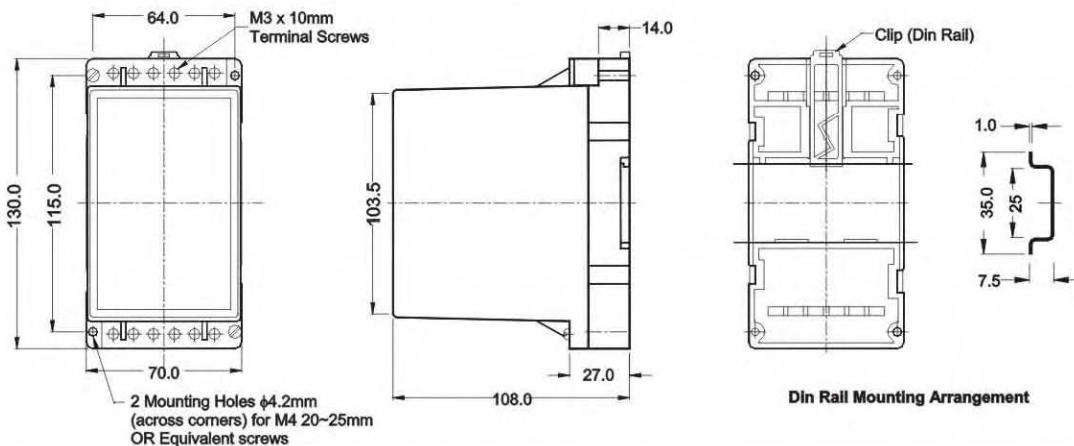
TRANSDUCER TYPE	OUTPUT TYPE	OUTPUT TERMINALS	INPUT TERMINALS		
			VOLTAGE	CURRENT	AUX.SUPPLY
3PH-3EL-4W WATT / VAR / VA	SINGLE	17 – 18	L1 = 2 L2 = 5 L3 = 8 N = 11	1S = 1, 1L = 3 2S = 4, 2L = 6 3S = 7, 3L = 9	13 – 14
	DUAL	17-18, 19-20			
	ANALOG METER	17 – 18			
	DIGITAL METER	17 – 18			
3PH-2EL-3W WATT / VAR / VA	SINGLE	17 – 18	L1 = 2 L2 = 5 L3 = 8	1S = 1, 1L = 3 3S = 7, 3L = 9	13 – 14
	DUAL	17-18, 19-20			
	ANALOG METER	17 – 18			
	DIGITAL METER	17 – 18			
1PH WATT / VA	SINGLE	17 – 18	L = 2 N = 11	1S = 1, 1L = 3	13 – 14
	DUAL	17-18, 19-20			
	ANALOG METER	17 – 18			
	DIGITAL METER	17 – 18			

TRANSDUCERS MODEL PD1	ACCURACY	TRANSDUCERS MODEL PD3	ACCURACY
DC / AC VOLTAGE / CURRENT	±0.5% with single / dual output	POWER 3PH-3ELE-4W WATT/ VAR / VA	±0.5% with single / dual output
FREQUENCY	±0.2% with single / dual output, ±1.0% of centre frequency when supplied along with analog meter	3PH-2ELE-3W WATT / VAR / VA	±0.5% / ±1.0% when supplied along with digital meter
POWER FACTOR 1PH / 3PH – 1ELE 3P-3E-4W on request	±0.5% with single / dual output	1PH WATT / VA	±1.0% / ±1.5% when supplied along with analog meter

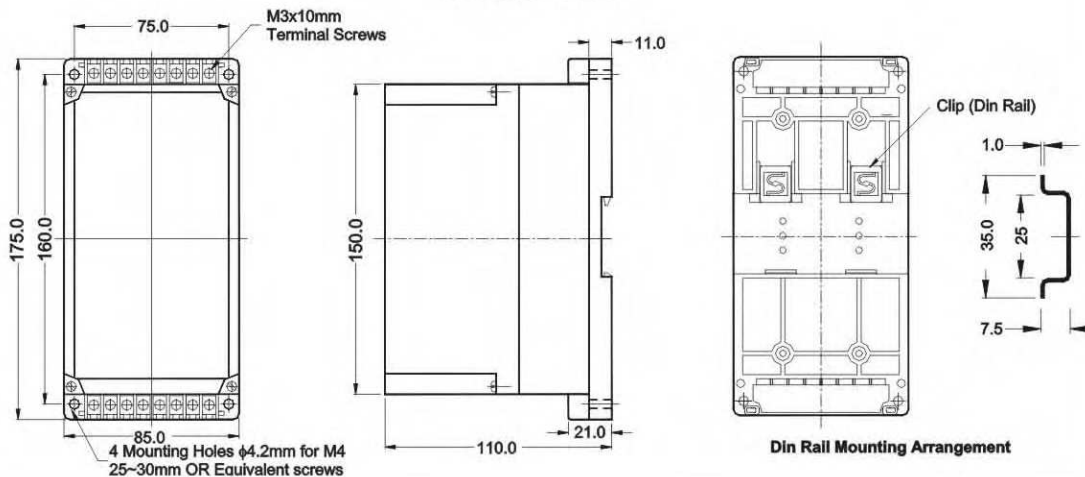
- Note :**
- TRUE RMS sensing Voltage & Current Transducers are available on request - Crest Factor up to 3.
 - Transducers with specification other than mentioned above can be supplied subject to technical feasibility.
 - In dual output Transducers, the output are available in two types-with & without isolation between these outputs
 - Self-powered AC Voltage, Current, Frequency, PF & Power Transducers are available on request.
 - Self – powered Voltage Transducer operates from 5% of input signal.
 - Self-powered Current Transducer operates from 2% of Input signal.
 - Self-powered Frequency, Power & Power Factor transducer operates on ±10% rated voltage.

MECHANICAL SPECIFICATIONS:

Model PD1



Model PD3



Ordering information

- 1) Type
- 2) Input Parameter
- 3) TM Corresponding Input Range
- 4) Output Range
- 5) Aux. Supply
- 6) CTR (if any)
- 7) PTR (if any)