



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.

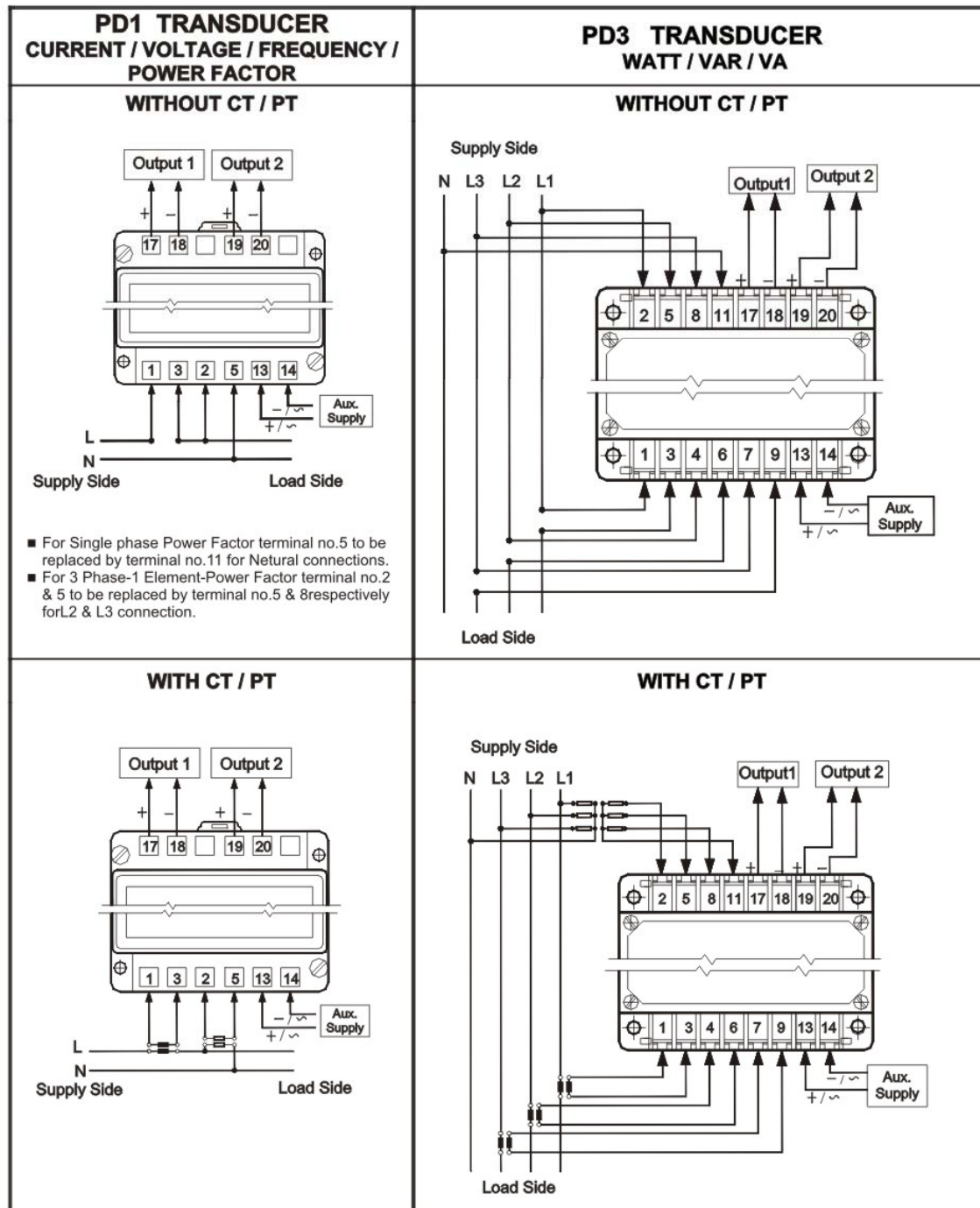
ELECTRICAL SPECIFICATIONS

- ◆ 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 RANGETM
 - ◆ VOLTAGE : DC : 500V, AC : 500V
 - ◆ CURRENT : DC : 5A (for higher ranges: 50 – 300mV ext. Shunt) , AC : 1A / 5A.
 - ◆ FREQUENCY : 50 / 60Hz ±5Hz., 400Hz ± 20Hz.(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 | 10kΩ | 2kΩ | 1kΩ | 500Ω | 500Ω | 1kΩ |
| | ◆ VOLTAGE | 0 – 1V | 0 – 5V | 0 – 10V | 1 – 5V | 2 – 10V | 10 - 0 - 10V |
| | MIN. LOAD | 500Ω | 2.5kΩ | 5kΩ | 2.5kΩ | 5kΩ | 5kΩ |

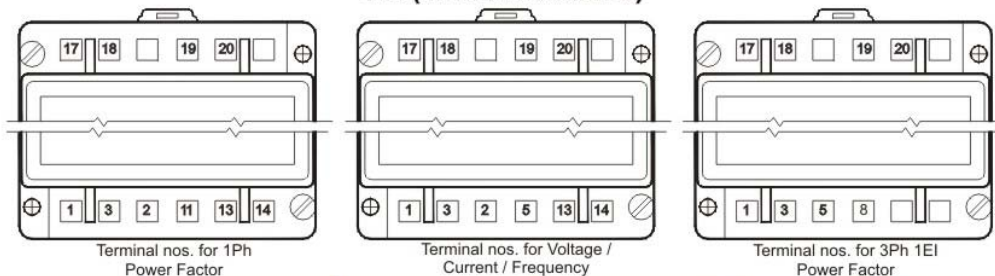
- ◆ ACCURACY : ± 0.5% of full scale for Voltage, Current, Watt, Var, VA, Power Factor
± 0.2% of centre frequency for Frequency Transducer.
- ◆ AUX. SUPPLY : 63.5V, 110V, 220V, 230V, 240V, 380V, 415V, 440V AC (for ±10%V, 50 / 60Hz).
24V, 48V, 110V, 220V DC (for ± 10%V).
- ◆ VA BURDEN : For VOLTAGE ≤ 2, 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 μsec. (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



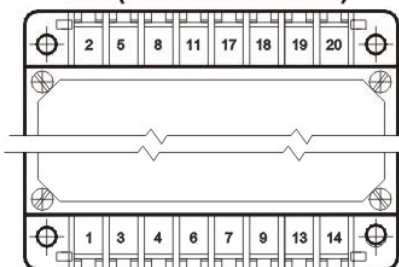
TERMINAL CONNECTIONS

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 | |
| | 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 | | | |

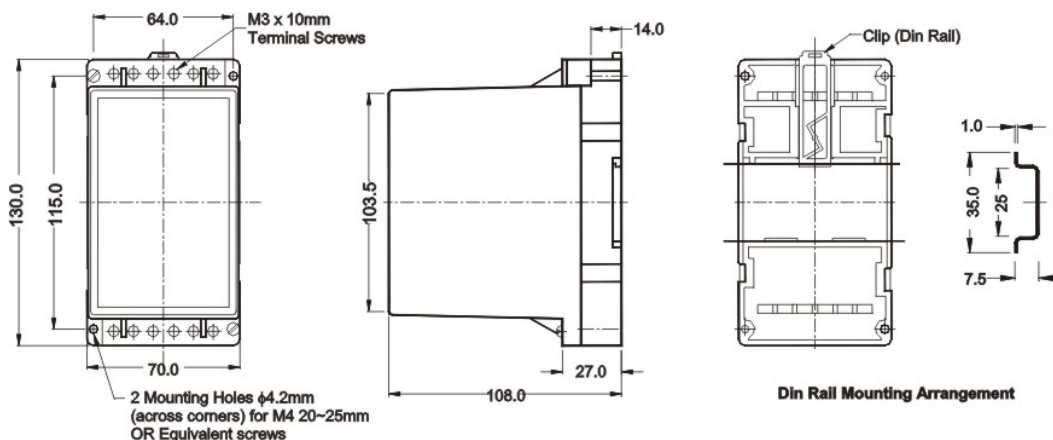
Power Line Transducers

| TRANSDUCERS MODEL PD1 | ACCURACY | TRANSDUCERS MODEL PD3 | ACCURACY |
|---|--|-----------------------------|--|
| DC / AC | | POWER | |
| VOLTAGE / CURRENT | ±0.5% with single / dual output | 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 |

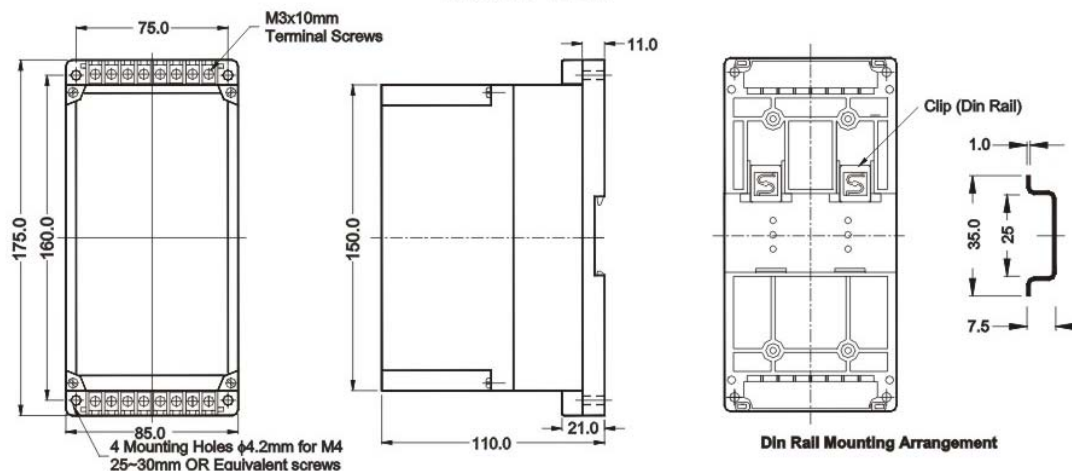
- Note :**
- TRUE RMS sensing Voltage & Current Transducers are available on request - Crest Factor up to 3.
 - Transducers with specification other than mentioned above can be supplied subject to technical feasibility.
 - In dual output Transducers, the output are available in two types-with & without 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

- Type
- Input Parameter
- Corresponding Input Range
- Output Range
- Aux. Supply
- CTR (if any)
- PTR (if any)