

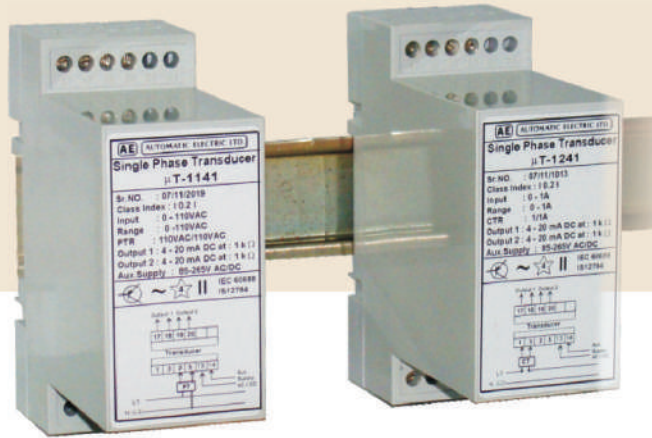


# New uT series

Instrument  
Division

## Single Phase Transducer

Data sheet No.: 1PH uT/10/11



### DESCRIPTION

AE Transducers converts various electrical parameters viz. VOLTAGE(V), CURRENT(I), FREQUENCY(F), POWER FACTOR(PF), ACTIVE POWER (P), REACTIVE POWER (VAR) & APPERENT POWER (VA) into DC Current or DC Voltage output. The transducer gives galvanically isolated and load independent output. 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 unit in conjunction in analog or digital indicators.

### FEATURES

- ▶ 0.2 accuracy class
- ▶ Open & short circuit protection.
- ▶ Two galvanically isolated Outputs.
- ▶ Standard DC Current & voltage output are independent of load impedance.
- ▶ Small dimensions & Suitable for DIN-RAIL as well as Wall mounting.
- ▶ Continuous conversion of RMS current or voltage without constant component

### APPLICABLE STANDARDS

IS 12784	Electrical measuring Transducer for converting a.c. electrical quantities into DC electrical quantity - specifications. Transducer for general applications.
IEC 60 688	Electrical measuring transducers for converting a.c. electrical quantities to analogue or digital signals.

### ELECTRICAL SPECIFICATIONS

- ▶ TYPE : uT series
- ▶ INPUT PARAMETER : AC: Voltage, Current & Frequency, Power Factor and Phase Angle.
- ▶ INPUT PARAMETER RANGES
  - VOLTAGE : AC: 0 - 600V.
  - CURRENT : AC: 1A/5A, 0-10A.
  - FERQUENCY : 50 / 60 Hz,  $\pm 10\%$ .
  - POWER FACTOR : 0.5 lag - unity - 0.5 lead.
- ▶ OUTPUT RANGES : Single output / Dual output  
Voltage O/P load capacity : 20mA  
Current O/P Burden Voltage : 20V

CURRENT	0-1mA	0-5mA	0-10mA	0-20mA	4-20mA
MAX. LOAD RESISTANCE	15 K $\Omega$	4 K $\Omega$	2 K $\Omega$	1K $\Omega$	1K $\Omega$
VOLTAGE	0-1V	0-5V	0-10V		
MIN. LOAD RESISTANCE	50 $\Omega$	250 $\Omega$	500 $\Omega$		



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- ▶ ACCURACY :  $\pm 0.2\%$  of full scale for Voltage, Current and power factor  
 $\pm 0.5\%$  of full scale for Active Reactive and Apparent Power.  
 $\pm 0.2\%$  of center frequency.
- ▶ AUX. SUPPLY : 85 – 265 V AC/DC,
- ▶ VA BURDEN : For Voltage  $\leq 0.1$ , For Current  $\leq 0.2$ , For AUX Supply  $\leq 3$ .
- ▶ RIPPLE : Max 0.5% of span

### INPUT OVERLOAD CAPACITY

Measured Quantity	No. of applications	Duration of one application	Interval between Two successive applications
$2 \times I_N$	Continues	-----	-----
$10 \times I_N$	5	15 sec.	5 minute
$40 \times I_N$	1	1 sec.	-----
$1.5 \times U_N$	Continues	-----	-----
$2 \times U_N$	10	10 sec.	10 sec.
$4 \times U_N$	1	2 sec.	-----

- ▶ RESPONSE TIME : 300 msec.
- ▶ DIAELECTRIC TEST : 4 kV RMS for 1 minute.
- ▶ IMPULSE VOLTAGE : 5 kV 1.2/50  $\mu$ sec.
- ▶ INSULATION RESI. : Greater than 20M ohm at 500V DC.
- ▶ O/P ISOLATION : 500V RMS (2kV optional).

### INSTALLATION DATA

- ▶ MECHANICAL DESIGN : 110 X 44 X 93(h) mm
- ▶ MATERIAL OF HOUSING : Top Cover : ABS, Base : Polycarbonate
- ▶ MOUNTING : DIN Rail Mounting (Optional Wall mounting).
- ▶ ELECTRICAL CONNECTIONS : 6 + 6 Fixed 6mm pitch
- ▶ WEIGHT : 200 gm
- ▶ CROSS SECTION OF WIRE : 2.5 sq.mm.

### ENVIRONMENTAL CONDITIONS

- ▶ OPERATING TEMP :  $0^\circ\text{C}$  to  $+55^\circ\text{C}$ .
- ▶ STORAGE TEMP. :  $-20^\circ\text{C}$  to  $+70^\circ\text{C}$ .
- ▶ HUMIDITY : Up to 95% RH non condensing

### MECHANICAL SPECIFICATIONS:-

- ▶ Size : 140 X 44 X 80mm
- ▶ Terminals : total 12 Nos. Max.
- ▶ Terminal Type : Cage Clamp
- ▶ Mounting Options : 35 mm DIN Rail / Wall Mount with 2 Screws

### Ordering Information for $\mu$ -T Series Transducer.

Product Type Marking for uTxxx

No. of Phases (X)	Input Type (X)	Output Type (X)	Auxilliary Supply (X)
1- Single Phase	1- VAC input	1- Single Voltage o/p	1- External Auxilliary Suppy
	2- IAC input	2- Dual Voltage o/p	
		3- Single Current o/p	
		4- Dual Current o/p	

For output specification refer output ranges (electrical specification table)

