Utility Transducer

Electric Power

Picture shown may not reflect configuration.

Utility Transducer
EMCP 4.4

The utility transducer for the EMCP 4.4 is a multi-function transducer that offers high accuracy measurement of three phase voltage, current, frequency, watts, VAr, VA, energy, and power factor. The transducer comes installed in a wall-mountable enclosure for ease of on-site connection, providing utility sensing functions for the EMCP 4.4 when used in a single genset to single utility paralleling configuration.

Features

Benefits
- High accuracy of <0.2%
- THD measurement and power quality data
- True RMS measurement
- Analogue outputs
- Modbus interface options
- Fully programmable VT and CT ratios
- Wall-mountable enclosure meets UL 508A

Accuracy
Transducer utilizes true RMS measurement techniques, providing <0.2% accuracy. An exceptional tolerance to high harmonic frequencies is achieved from the robust frequency detection method, which can lock the fundamental frequency onto any phase.

System Input
Designed for low, medium, and high voltage switchgear, distribution and control systems. The utility transducer offers programmable VT and CT ratio capability. Direct connection up to 480V AC with 5A CT inputs is standard.

Analogue Outputs
Analogue outputs share a common return which is galvanically isolated from non-analogue output terminals.

Enclosure
Wall-mountable enclosure comes equipped with fusing and terminal board connections for ready field installation near the point of utility connection. Requires on-site supply of utility current and potential secondaries.

RS485 Modbus RTU
RS485 communication port for direct connection to SCADA systems with Modbus RTU protocol.

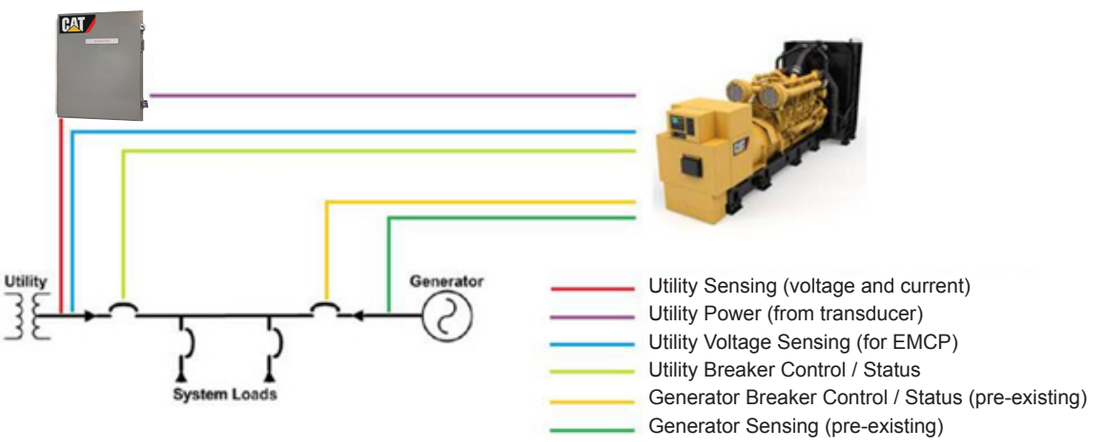
Transducer	
Enclosure style	DIN-rail
Compliant with	UL E200300 and IEC 1010/BSEN 6101-1
Materials	Polycarbonate
Terminals	Shrouded screw clamp with additional metal base plate
Operating temperature	-20°C to +60°C
Storage temperature	-30°C to +80°C
Relative humidity	0-90% non-condensing
Shock	30G in 3 planes
Vibration	10 – 50 Hz, 0.15 mm amplitude
Auxilliary Power Requirements	
DC power supply	12 – 48 VCD
	(10.2 – 60V, DC absolute
DC supply burden	6 VA

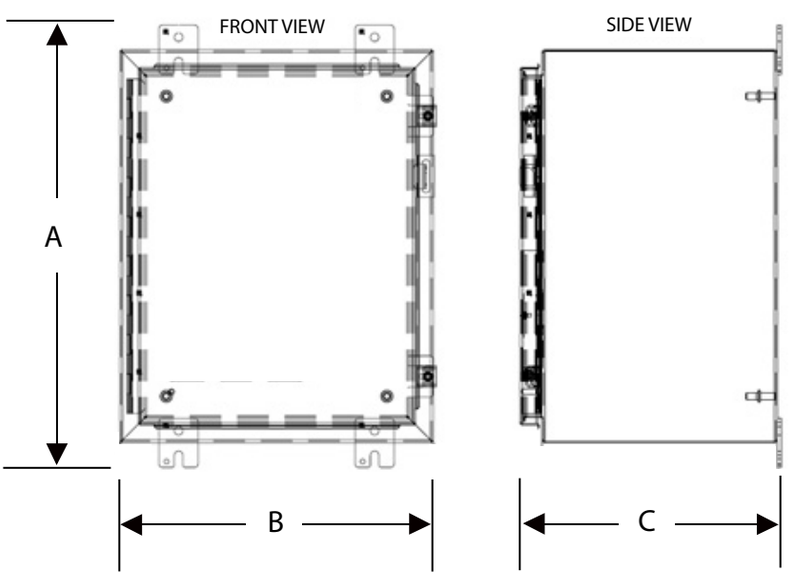
Utility Transducer
Electric Power

Input	
Nominal input voltage	100V – 480V L-L
Max. continuous input voltage	120% nominal
Max. short duration input voltage	2 x for 1 second, repeated 10 times at to second intervals
System VT ratios (primary)	Any value up to 400 kV
Nominal input voltage burden	<0.2 VA
Nominal input current	5A
System CT primary values	9999 max
Max. continuous input current	120% nominal
Nominal input current burden	<0.6 VA
Output	
RS485 communications	Two-wire half duplex
Baud rate	2400, 4800, 9600, 19200
Analog output	2 outputs
Measuring ranges	
Voltage	80% – 120 of nominal
Current	5% – 120 of nominal
Frequency	45 – 66 Hz
Reference conditions	
Ambient temperature	23°C ±1°C
Input frequency	50 or 60 Hz ±2%
Input waveform	Sinusoidal (distortion factor <0.005)
Auxiliary supply voltage	Nominal ±1%
Auxiliary supply frequency	Nominal ±1%
Accuracy	
Voltage	0.17% of range
Current	0.17% of range
Frequency	0.15% of mid frequency
Power	0.2% of range
Power factor	1% of unity
Reactive power (VAr)	±0.5% of range
Apparent power (VA)	±0.2% of range

Utility Transducer
Electric Power

Wiring Overview





Dimensions

A	572 mm	22.5 in
B	406 mm	16.0 in
C	339 mm	13.4 in

www.cat.com/electricpower

LEHE1754-00 (12/18)