

PT1: single phase

multi-function transducers



Accurate
class 0.2, 0.5 & 1



USB
programming



Response time
~100-220 ms



Compact size

Compact, configurable multiple measurand transducers

PT1 is a range of compact, configurable multiple measurand transducers designed to meet the demanding needs of supply utilities and industrial applications. It offers accurate true-RMS measurements for high efficiency and quick response time. It is equipped with two load-independent, galvanically-isolated analogue outputs that can be configured for different measurands, input range and output curves.

- Best in class response time
- Long range, site-configurable inputs, outputs and measurands
- Load-independent accuracy on all outputs
- 2-in-1 programmable transducers
- Diagnostic LEDs
- Compact footprint



Measurement functions (Measurands)	Output type	Output range	No. of outputs	Accuracy class
Voltage, current, frequency, active power	Option for mA or V	0-20 mA, 4-20 mA, 0-10 mA, 0-5 mA* 0-2 mA*, 0-1 mA*, 0-5 V, 0-10 V	2	0.2, 0.5, 1.0

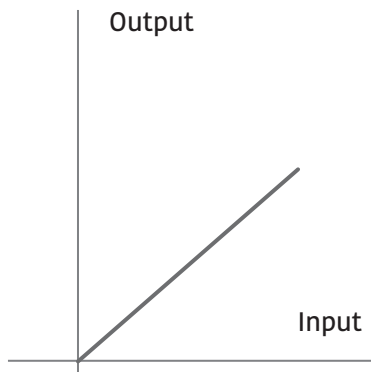
*available in accuracy class 1.0 only

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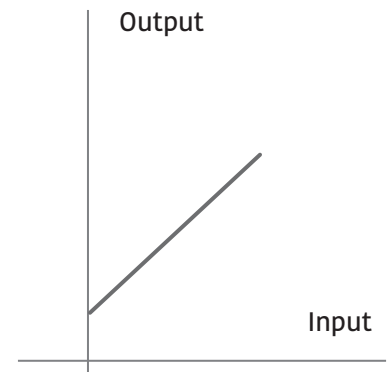
multi-function transducers

Output cuves

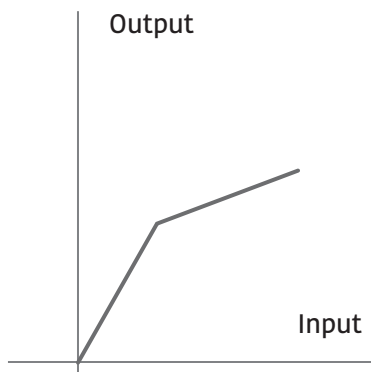
Curve A
Linear



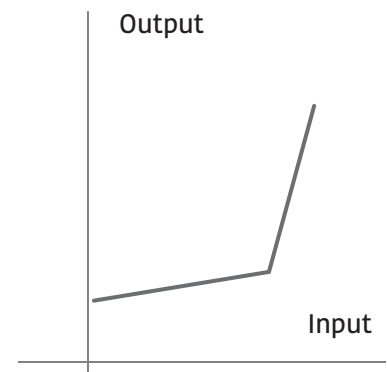
Curve B
Linear with live zero



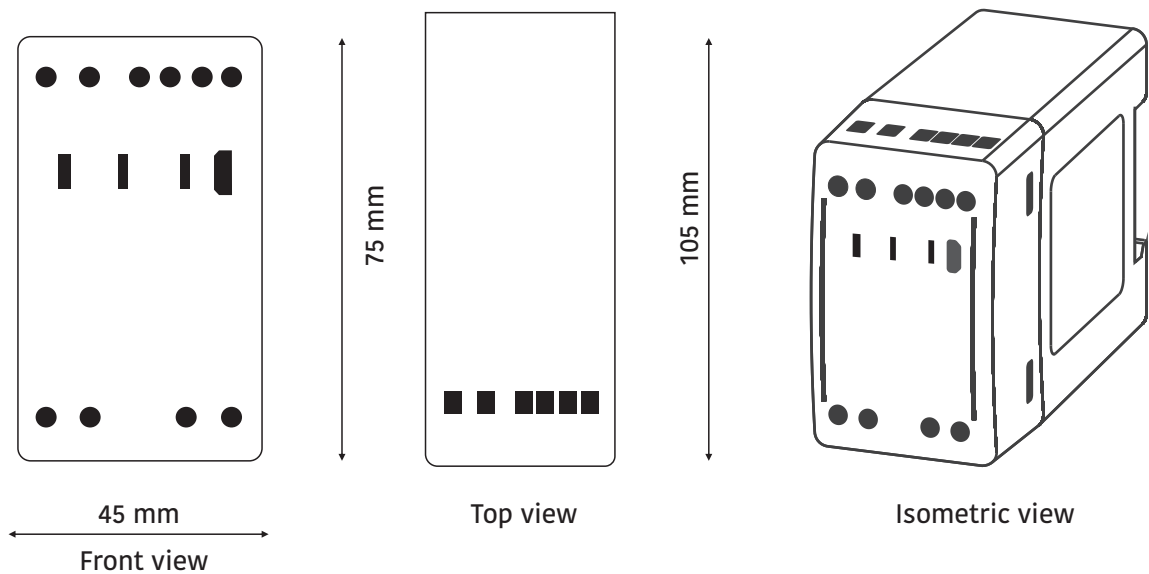
Curve F
Compressed upper region



Curve F
Compressed lower region



Mechanical dimensions



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Technical specifications

Site-configurable measurement functions (measurands)

AC/DC voltage

Nominal input (U_n)	57.7 to 415 V
Measuring range	0 to 130 % U_n (up to 500 V)
Measurement frequency	50/60 Hz ($\pm 5\%$)
Burden	≤ 0.2 VA
Maximum overload voltage	1.3 x U_n continuously (500 V max.) 2 x U_n for 1 s, with up to 10 repetitions at 10 s intervals
Scale factor	0.8 to 1.3 U_n

AC current

Nominal input (I_n)	1 A to 5 A
Measuring current range	0 to 150 % I_n
Scale factor	0.6 to 1.5 of I_n
Burden	≤ 0.2 VA
Maximum overload current	2 x I_n continuously 20 x I_n for 1 s, with up to 10 repetitions at 100 s intervals

Frequency

Nominal input voltage (U_n)	57.7 to 415 V
Measurement range	45 Hz to 55 Hz or 55 Hz to 65 Hz
Accuracy	$\pm 0.2\%$

Active Power

Nominal input voltage (U_n)	57.7 to 415 V
Input voltage range	0 to 130 % U_n (up to 500 V)
Nominal input current (I_n)	1 A to 5 A
Input current range	0 to 150 % I_n
Measurement frequency	50/60 Hz ($\pm 5\%$)
Scale factor	0.5 to 1.5 of $U_n \times I_n$ (at unity power factor)

Auxiliary Supply

High auxiliary

Nominal voltage range	80 to 276 V AC/DC ($\pm 10\%$)
Frequency	50/60 Hz
Maximum burden	≤ 6 VA, 3W with one output at 750 Ω ≤ 7 VA, 3.5W with two outputs at 750 Ω each

Low auxiliary

Nominal voltage range	24 to 80 V DC ($\pm 10\%$)
Maximum burden	≤ 3 W with one output at 750 Ω ≤ 4 W with two outputs 750 Ω each

Analogue outputs

Output type	mA or V
Maximum load resistance	≤ 750 Ω for 20 mA, ≥ 2 k Ω for 10 V (for each output)
Response time	5 cycles measurement (≤ 100 -220 ms)
Ripple	$< 0.4\%$ peak to peak

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Technical specifications

Temperature range

Operating range	-5 °C to +55 °C
Storage range	-25 °C to +70 °C
Usage group	1

Mechanical

Dimension (W x H x D)	45 x 75 x 105 mm
Weight	0.4 kg approx.
Material	Fire-retardant polycarbonate (PC-FR), UL94 V-0
Mounting	DIN (EN 50022)
Connector type	Screw terminals
Conductor size for terminals	≤4 mm ²

Environmental

Protection class	II (double insulation) EN 61010-1
Pollution degree	2
Installation category	CAT III for ≤ 300V AC and CAT II for ≤ 600V AC
Protection degree	Protection housing: IP 40, terminals: IP 20

Standards compliance

Standards	IEC 60688, IEC 61010-1, IEC 61010-2-30, IEC 61326-1, DIN 50022
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Communication ports

Micro USB	For on-site configuration (can be configured without auxiliary power)
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Configuration software tool

ConfigView
For on-site configuration of measurement inputs, measurands, output curve and online parameter reading. It can be freely downloaded from www.securemeters.com

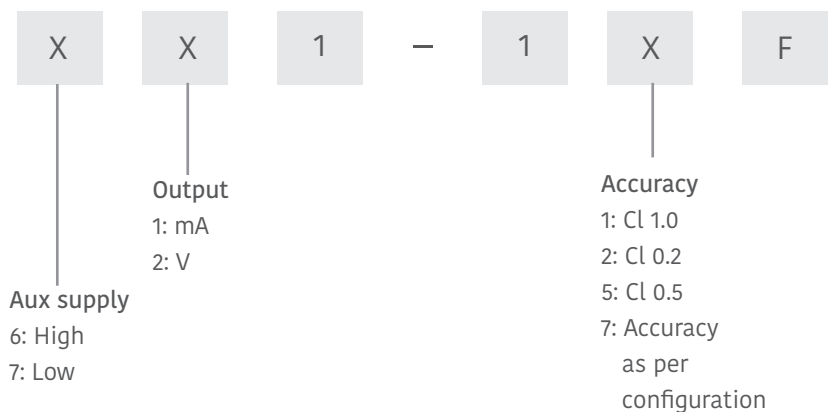
Ordering key

PT XX1-1XF

Example

PT 611-12F

where high auxiliary (6),
mA output (1), accuracy class 0.2



Specifications are subject to change without prior notice

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