

PT1: single phase

single-function transducers



Accurate
class 0.2, 0.5 & 1



USB
programming



Response time
~100-220 ms



Compact size

Compact, long range site configurable transducers

PT1 is a range of compact, configurable single 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 desired input range and output curves.

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



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

*available in accuracy class 1.0

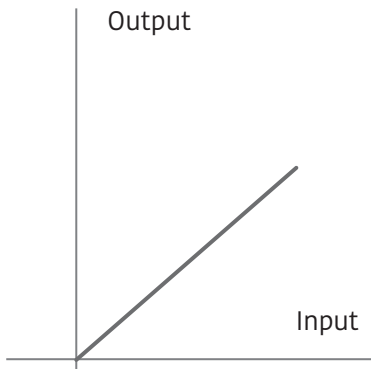
#Available with DC Voltage function only

PT1: single phase

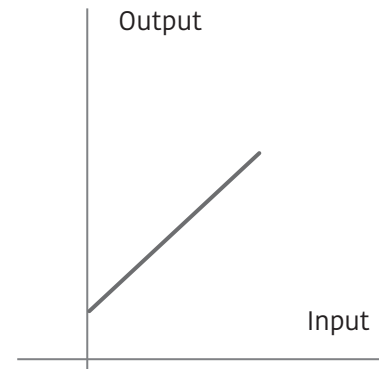
single-function transducers

Output curves

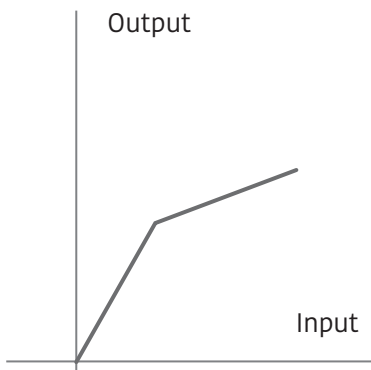
Curve A
Linear



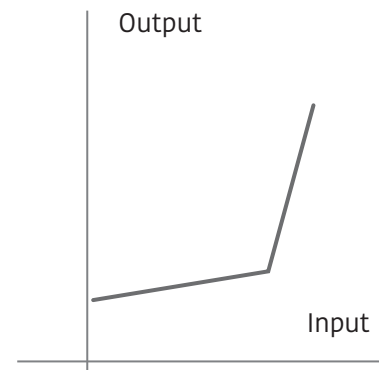
Curve B
Linear with live zero



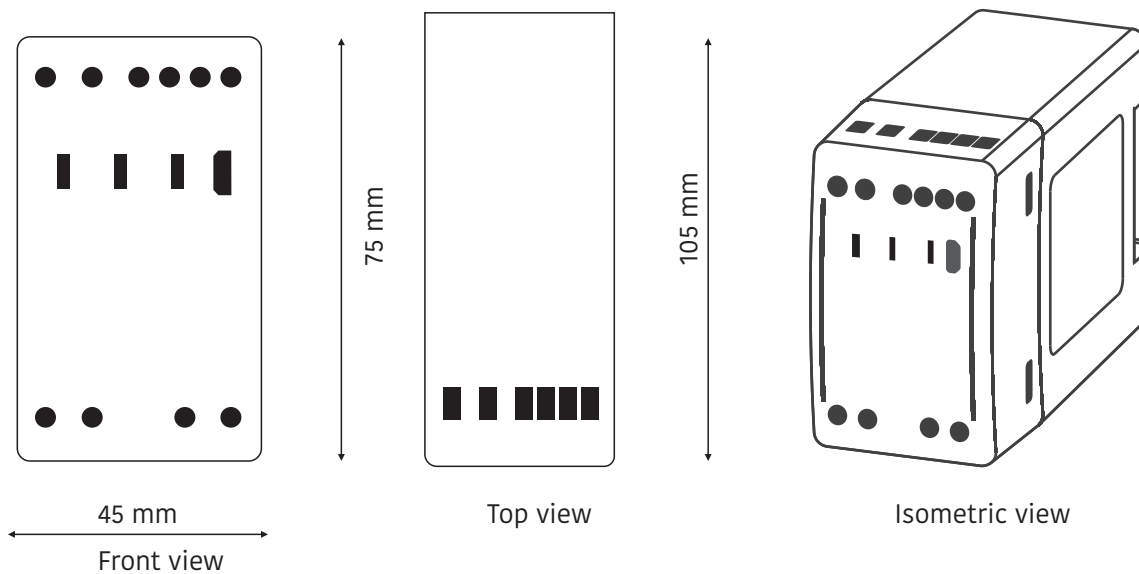
Curve F
Compressed upper region



Curve F
Compressed lower region



Mechanical dimensions



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Technical specifications

Variants

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 |
| For self-powered variant (AC/DC Voltage) | |
| Measurement range | 80 to 276 V AC/DC |
| Measurement range | 0 to 110% U_n |
| Burden | ≤ 6 VA, 3W with one output at 750 Ω ≤ 7 VA, 3.5W with two outputs at 750 Ω each |

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 |

DC current

| | |
|-------------------------|--|
| Measurement input range | -20-0-(+20) mA directly, or -300-0-(+300) mV through shunt |
|-------------------------|--|

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 | 80-276 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 | 24-80 V DC ($\pm 10\%$) |
| Maximum burden | ≤ 3 W with one output, ≤ 4 W with two outputs |
| Self-powered (only for voltage transducers) | |
| Nominal voltage range | 80-276 V AC/DC |
| Maximum burden | ≤ 6 VA, 3W with one output at 750 Ω ≤ 7 VA, 3.5W with two outputs at 750 Ω each |

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Technical specifications

Analogue outputs

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

Temperature range

| | |
|------------------|------------------|
| Operating range | -5 °C to +55 °C |
| Functional 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 |
|-----------|---|

Communication ports

| | |
|-----------|--|
| Micro USB | For on-site configuration can be configured without auxiliary power |
|-----------|--|

Configuration software tool

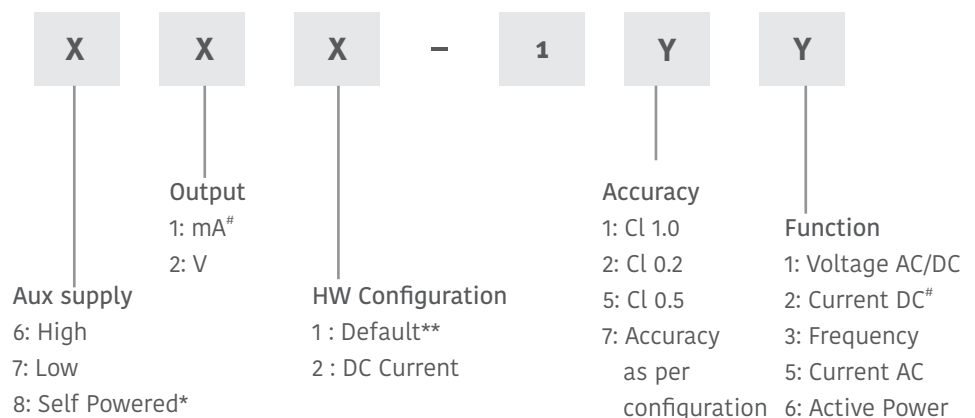
ConfigView
For on-site configuration of measurement inputs, measurands, output curve and online parameter reading. It can be freely downloaded from www.securemeters.com

Ordering key

PT XXX-1YY

Example

PT 611-126
where high auxiliary (6),
mA output (1), accuracy class 0.2,
function (6)



*Self powered is voltage transducer only.
** Default means AC/DC voltage, AC current
#Current DC available only in
HW configuration: DC Current, output: mA

Specifications are subject to change without prior notice

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