

# 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 function (Measurand)	Output type	Output range	No of output	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

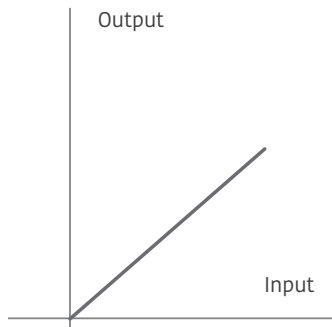
\*available in accuracy class 1.0

#Available with DC Voltage function only

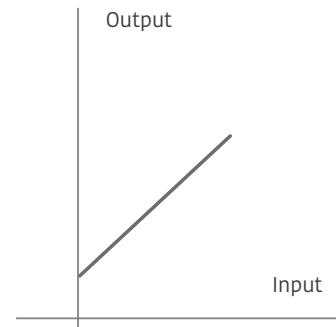
# PT1: single phase

## Output curves

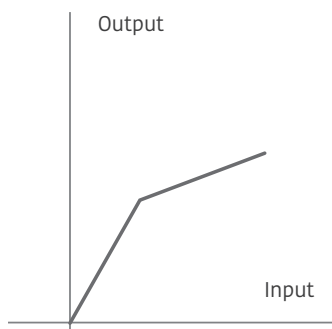
Curve A  
Linear



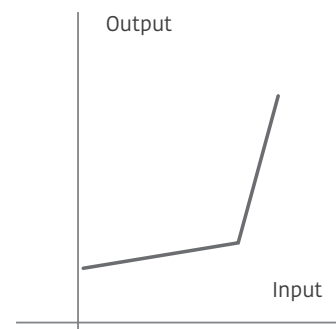
Curve B  
Linear with live zero



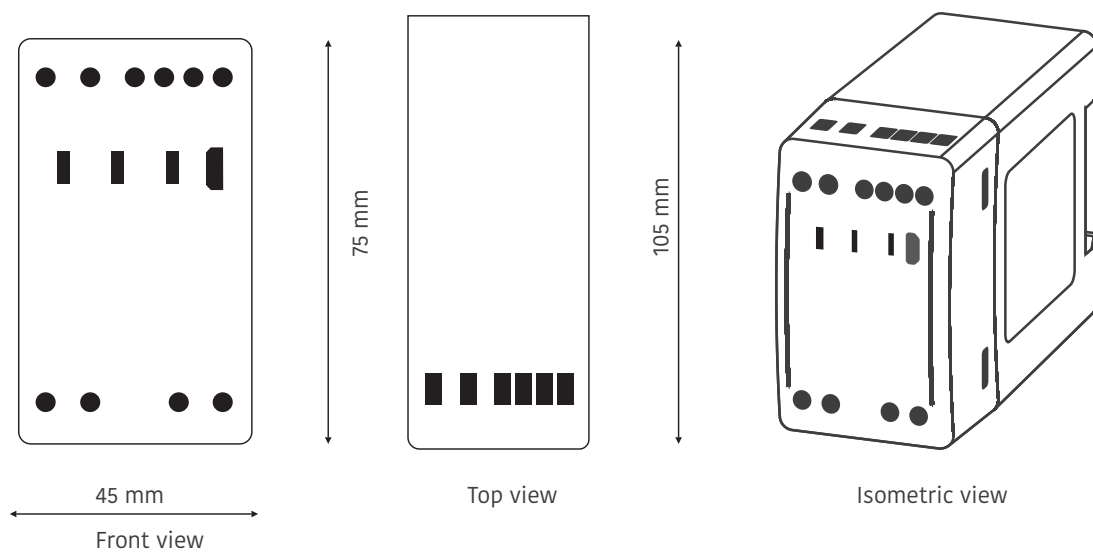
Curve F  
Compressed upper region



Curve F  
Compressed lower region



## Mechanical dimensions





## Technical specifications

### Variants

#### AC/DC voltage

Nominal input (Un)	57.7 to 415 V
Measuring range	0 to 130 % Un (up to 500 V)
Measurement frequency	50/60 Hz (±5%)
Burden	≤0.2 VA
Maximum overload voltage	1.3 x Un continuously (500 V max.) 2 x Un for 1 s, with up to 10 repetitions at 10 s intervals
Scale factor	0.8 to 1.3 Un
For self-powered variant (AC/DC Voltage)	
Measurement range	80 to 276 V AC/DC
Measurement range	0 to 110% Un
Burden	≤6VA, 3W with one output at 750 Ω ≤7VA, 3.5W with two outputs at 750 Ω each

#### AC current

Nominal input (In)	1 A to 5 A
Measuring current range	0 to 150% In
Scale factor	0.6 to 1.5 of In
Burden	≤0.2 VA
Maximum overload current	2 x In continuously 20 x In 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
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#### Frequency

Nominal input voltage (Un)	57.7 to 415 V
Measurement range	45 Hz to 55 Hz or 55 Hz to 65 Hz
Accuracy	±0.2%

#### Active Power

Nominal input voltage (Un)	57.7 to 415 V
Input voltage range	0 to 130 % Un (up to 500 V)
Nominal input current (In)	1 A to 5 A
Input current range	0 to 150% In
Measurement frequency	50/60 Hz (±5%)
Scale factor	0.5 to 1.5 of Un x In (at unity power factor)

#### High auxiliary

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

#### Low auxiliary

Nominal voltage range	24-80 V DC (±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	≤6VA, 3W with one output at 750 Ω ≤7VA, 3.5W with two outputs at 750 Ω each



## 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 <sup>2</sup>

### 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

### 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](http://www.securemeters.com)

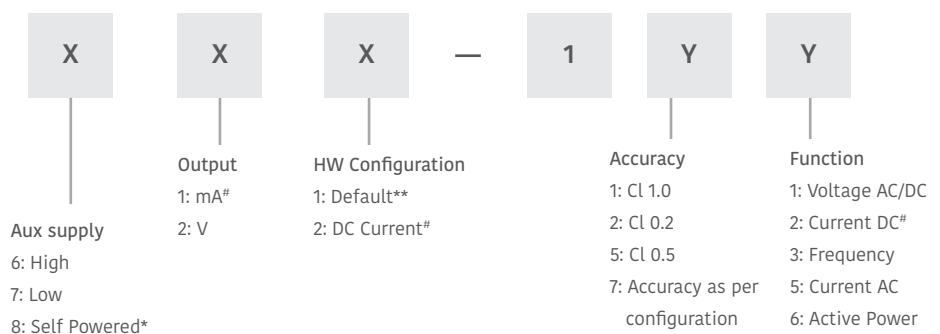
## Ordering key

### PT1 XXX-1YY

#### Example

PT1 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

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