

PT3: three phase

single-function transducers



Accurate
class 0.2, 0.5 & 1



USB
programming



Response time
~100-220 ms



Modbus RTU

Compact, long range
site configurable transducers

PT3 is a range of compact, configurable single measured transducers designed to meet the demanding needs of supply utilities and industrial applications. It offers accurate true RMS measurements for high efficiency with quick response time. It is equipped with up to four load-independent, galvanically-isolated analogue outputs that can be configured for desired input range and output curves. PT3 transducers comply with IEC 60688.

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



Measurement functions (Measurands)	Output range	No. of outputs	Accuracy class
Current, active power, frequency, reactive power, power factor, apparent power	0-1 mA*, 0-2 mA**, 0-5 mA**, 0-10 mA, 0-20 mA, 4-20 mA, -20 -(+20) mA, -10-(+10) mA, -5-(+5) mA**, -2-(+2) mA**, -1-(+1) mA*, 0-5 V, 0-10 V, -10-(+10) V, -5-(+5) V	2 or 4	0.2, 0.5, 1.0
Voltage	0-1 mA*, 0-2 mA**, 0-5 mA**, 0-10 mA, 0-20 mA, 4-20 mA, 0-5 V, 0-10 V	2 or 4	0.2, 0.5, 1.0

*available in accuracy class 1.0

**available in accuracy class 0.5 and class 1.0

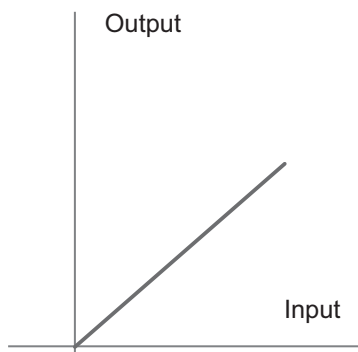
Power factor accuracy ± 0.2 degree at nominal input range

PT3: three phase

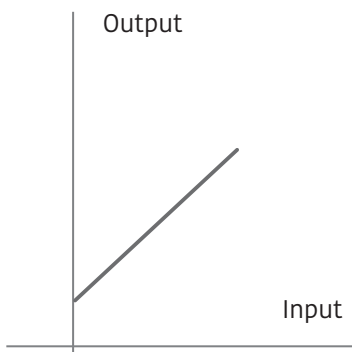
single-function transducers

Output curves

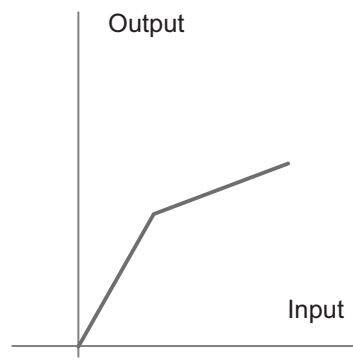
Curve A
Linear



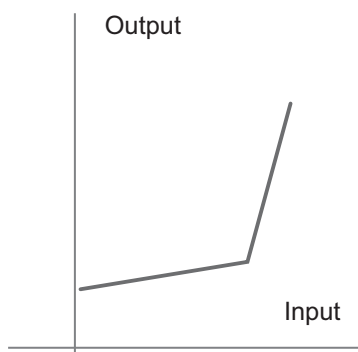
Curve B
Linear with live zero



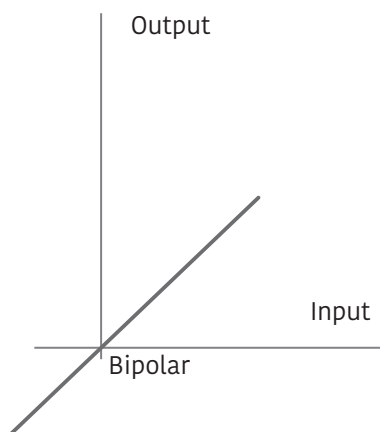
Curve F
Compressed upper region



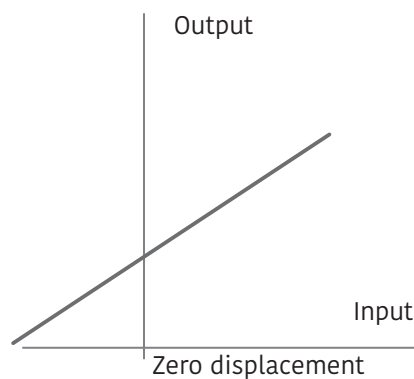
Curve F
Compressed lower region



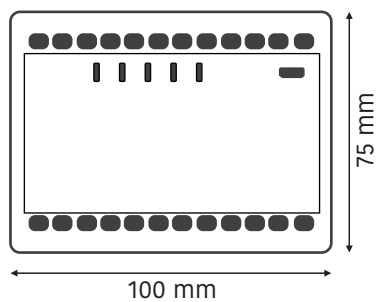
Curve C
Bipolar



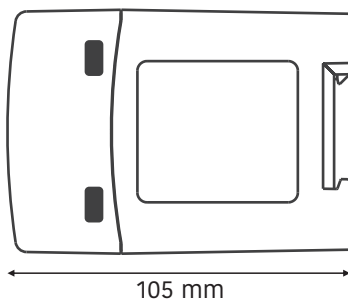
Curve D
bipolar with live zero



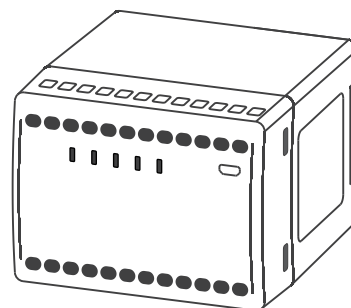
Mechanical dimensions



Front view



Side view



Isometric view

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Technical specifications

Variants

AC voltage

Nominal input (U_n)	3 x 100 to 415 V L-L (3-phase 3-wire system) 3 x 57.5 to 240V L-N (3-phase 4-wire system)
Measuring range	0 to 130 % of V_n (500 V max.)
Measurement frequency	50/60 Hz (± 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 1.5 U_n

AC current

Nominal input (I_n)	1A to 5A
Measuring current range	0 to 150 % I_n
Scale factor	0.6 to 1.5 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

Active power /reactive power/ apparent power

Nominal input voltage (U_n)	3 x 100 to 415 V L-L (3-phase 3-wire system) 3 x 57.5 to 240V L-N (3 -phase 4-wire system)
Input voltage range	0 to 130 % U_n (up to 500 V)
Nominal input current (I_n)	1A to 5A
Input current range	0 to 150 % I_n
Measurement frequency	50/60 Hz (± 5 %)
Scale factor	0.5 to 1.5 of $U_n \times I_n$ primary (active power, at unity power factor) 0.3 to 1 $U_n \times I_n$ primary (reactive power, at reactive power factor > 0.8 or unity) $U_n \times I_n$ primary (apparent power)

Active power factor / load power factor

Nominal input voltage (U_n)	3 x 100 to 415 V L-L (3 phase 3 wire system) 3 x 57.5 to 240V L-N (3 phase 4 wire system)
Input voltage range	0 to 130 % U_n (up to 500 V)
Nominal input current (I_n)	1A to 5A
Input current range	0 to 150 % I_n
Measurement frequency	50/60 Hz (± 5 %)
Measurement range	-1...0...1
Resolution (phase angle)	± 0.2 degree (at nominal range)

Frequency

Nominal input voltage (U_n)	3 x 100 to 415 V L-L (3 phase 3 wire system) 3 x 57.5 to 240V L-N (3 phase 4 wire system)
Nominal input current (I_n)	1A to 5A
Measurement range	45Hz to 55Hz or 55Hz to 65Hz
Accuracy	± 0.2 %

Auxiliary supply

High auxiliary

Nominal voltage range	80-276 V AC/DC (± 10 %)
Frequency	50/60 Hz
Maximum burden	≤ 11 VA, 6 W with two outputs at 750 Ω each ≤ 12 VA, 7 W with four outputs at 750 Ω each

Low auxiliary

Nominal voltage range	24-80 V DC (± 10 %)
Maximum burden	≤ 6 W with two outputs at 750 Ω each ≤ 8 W with four outputs at 750 Ω each

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Technical specifications

Analogue outputs

Type	Current & Voltage (bipolar)
Maximum load resistance	$\leq 750 \Omega$ for 20 mA, $\geq 2 \text{ k} \Omega$ for 10 V (for each output)
Response time	5 cycles measurement ($\leq 100\text{-}250 \text{ ms}$)
Ripple	$< 0.4 \%$ peak to peak

Temperature range

Operating temperature	$-5 \text{ }^\circ\text{C}$ to $+55 \text{ }^\circ\text{C}$
Storage temperature	$-25 \text{ }^\circ\text{C}$ to $+70 \text{ }^\circ\text{C}$
Usage group	1

Physical

Dimension (W x H x D)	100 x 75 x 105 (mm)
Weight	0.7 kg (approx.)
Material	Fire-retardant polycarbonate (PC-FR, UL 94 V-0)
Mounting	DIN (EN 50022)
Connector type	Screw terminals
Conductor size for terminals	$\leq 4 \text{ mm}^2$

Environmental

Protection class	II (double insulation) EN 61010-1
Pollution degree	2
Installation category	CAT III for $\leq 300\text{V AC}$ and CAT II for $\leq 600\text{V AC}$
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 configuration Can be configured without auxiliary power
RS-485	Modbus RTU enabled (suitable for integration with SCADA/PLC)
Baud rate	1200-38400 baud

Configuration software- Configview

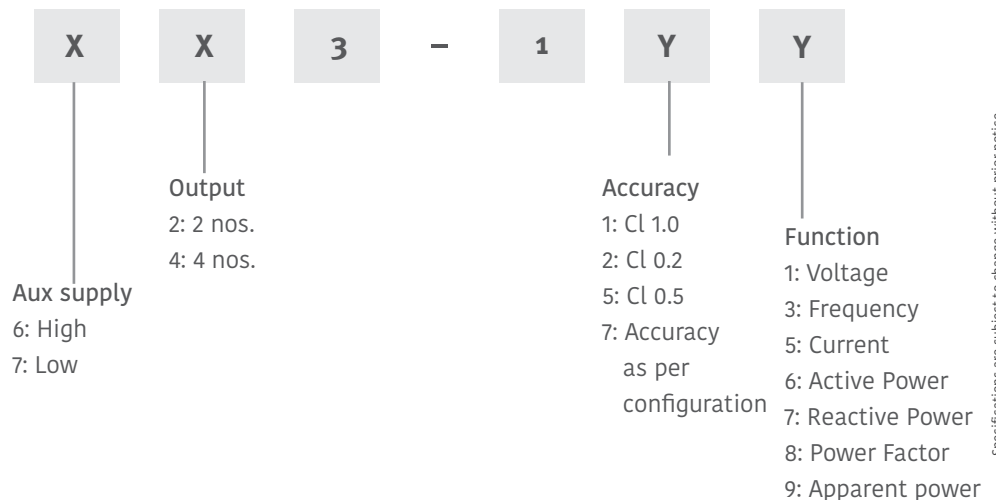
ConfigView
For on-site configuration of measurement inputs, measurands, output curve and online parameter reading. It can be freely downloaded from www.securemeters.com

Ordering key

PT XX3-1YY

Example

PT 623-126
where high auxiliary (6),
output nos. (2), accuracy class (2)
function active power(6)



Specifications are subject to change without prior notice

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