PT3: three phase
multi-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 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 up to four load-independent, galvanically-isolated analogue outputs that can be configured for desired measurands, input range and different curves. PT3 transducers comply with IEC 60688.

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

Measurement function (Measurand)	Output range	No of output	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

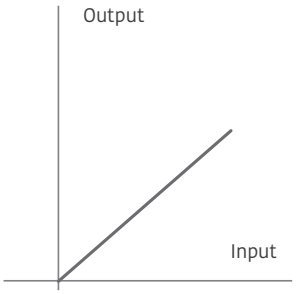
*available in accuracy class 1.0
**available in accuracy class 0.5 and class 1.0
Power factor accuracy ± 0.2 degree at nominal input range

SECURE energy together

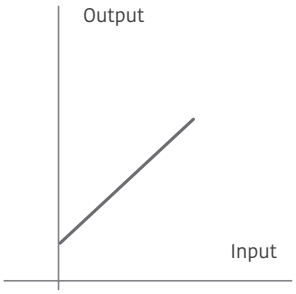
PT3: three phase

Output cuves

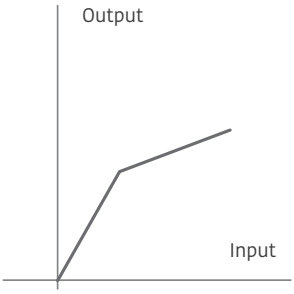
Curve A
Linear



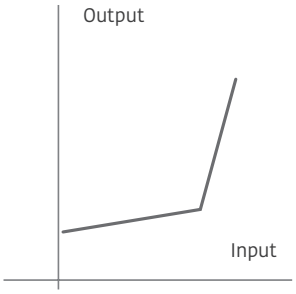
Curve B
Linear with live zero



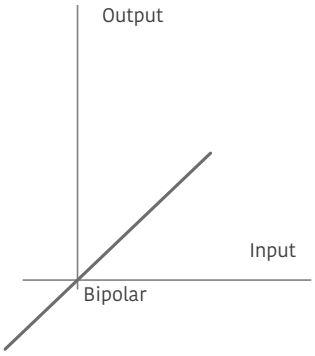
Curve F
Compressed upper region



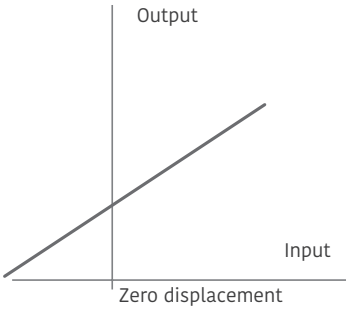
Curve F
Compressed lower region



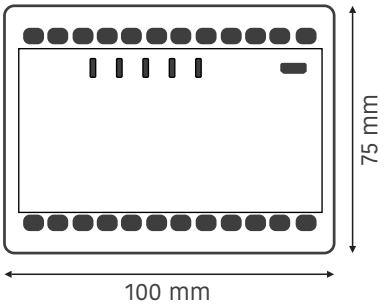
Curve C
Bipolar



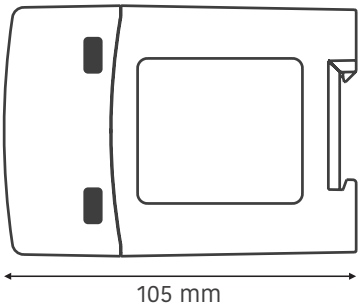
Curve D
bipolar with live zero



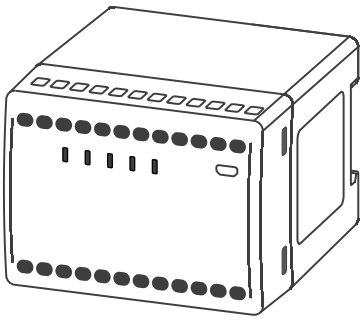
Mechanical dimensions



Front view



Side view



Isometric view

Technical specifications

Site-configurable measurement functions (measurands)

AC voltage	
Nominal input (Un)	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% Un (500 V max.)
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 1.5 Un
AC current	
Nominal input (In)	1A to 5A
Maximum input current	0 to 150% In
Scale factor	0.6 to 1.5
Burden	≤ 0.2 VA per phase
Maximum overload current	2 x In continuously 20 x In for 1 s, with up to 10 repetitions at 100 s intervals
Active power/reactive power/ apparent power	
Nominal input voltage (Un)	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	0-130% Un (up to 500 V)
Nominal input current (In)	1A to 5A
Input current range	0 to 150% In
Measurement frequency	50/60 Hz (± 5%)
Scale factor	0.5 to 1.5 (active power, at unity power factor) 0.3 to 1 (reactive power, at reactive power factor >0.8 or unity) Un x In primary (apparent power)
Active power factor / load power factor	
Nominal input voltage (Un)	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	0-130 % Un (up to 500 V)
Nominal input current (In)	1A to 5A
Input current range	0 to 150 % In
Measurement frequency	50/60 Hz (±5 %)
Measurement range	-1...0...1
Resolution (phase angle)	±0.2 degree (at nominal range)
Frequency	
Nominal input voltage (Un)	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 (In)	1A to 5A
Measurement range	45Hz to 55Hz or 55Hz to 65Hz
Accuracy	+ 0.2%
High auxiliary	
Nominal voltage range	80-276 V AC/DC (±10 %)
Frequency	50/60 Hz
Maximum burden	≤11VA, 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	≤750 Ω for 20 mA, ≥2 kΩ for 10 V (for each output)
Response time	5 cycles measurement (≤100-250 ms)
Ripple	<0.4 % peak to peak
Temperature range	
Operating temperature	-5°C to +55°C
Storage temperature	-25°C to +70°C
Usage group	1
Mechanical	
Dimension (W x H x D	100 x 75 x 105 mm
Weight	0.7 kg (approx.)
Material	Fire-retardant polycarbonate (PC-FR), UL94 V-0
Mounting	DIN (EN 50022)
Connector type	Screw terminals
Conductor size for terminals	≤4 mm2
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
Communication ports	
Micro USB B-Type	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 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

PT3 XX3-1YF

Example

PT3 643-12F
where high auxiliary (6),
output nos. (4), accuracy class (2)

X	X	3	—	1	Y	F

Aux supply
6: High
7: Low

Output
2: 2 nos.
4: 4 nos.

Accuracy
1: Cl 1.0
2: Cl 0.2
5: Cl 0.5
7: Accuracy as per configuration

Africa
africa@securemeters.com

Australia
sales_australia@securemeters.com

Europe
sales_eu@securemeters.com

India
sales_india@securemeters.com

South East Asia, South Asia
sales_sea@securemeters.com

UAE
sales_uae@securemeters.com

UK
sales_uk@securemeters.com

www.securemeters.com

Ver: 05/22/M