

DPT300: three phase

multi-function transducers



Accurate
class 0.2, 0.5 & 1



USB
programming



Response time
~100-220 ms

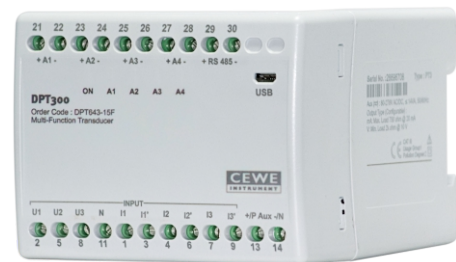


Modbus RTU

compact, long range
site configurable transducers

DPT300 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. DPT300 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 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

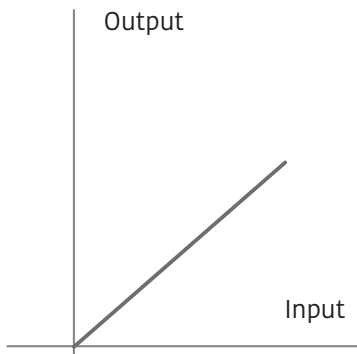
**available in accuracy class 0.5 and class 1.0

Power factor accuracy ± 0.2 degree at nominal input range

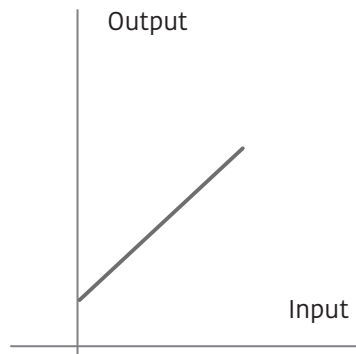
DPT300: three phase

Output cuves

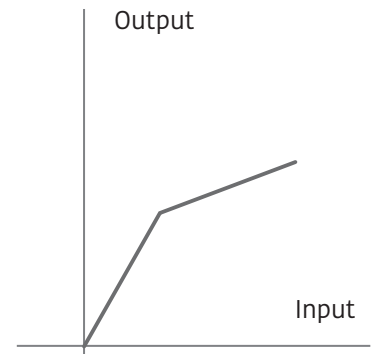
Curve A
Linear



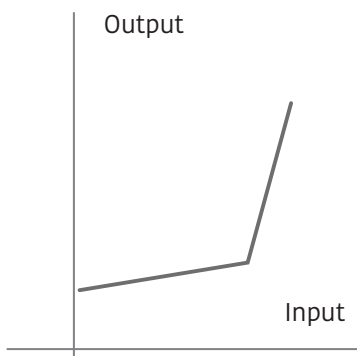
Curve B
Linear with live zero



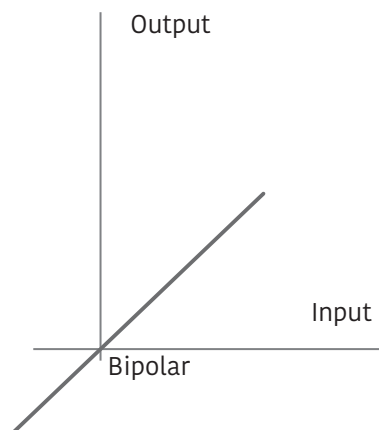
Curve F
Compressed upper region



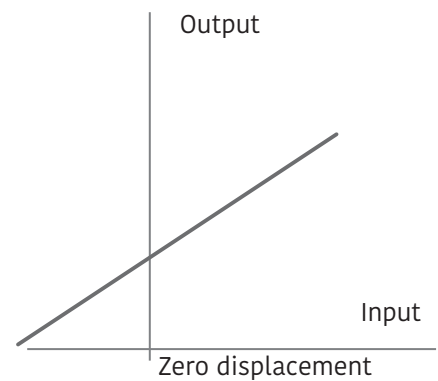
Curve F
Compressed lower region



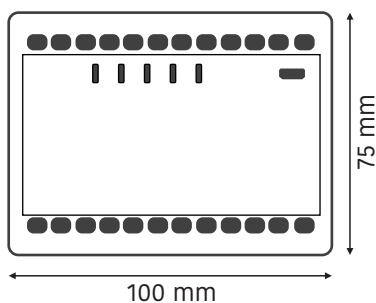
Curve C
Bipolar



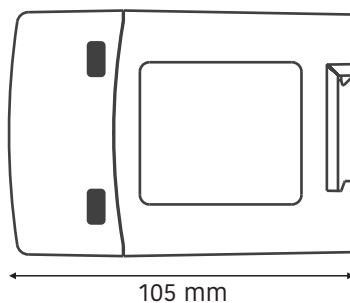
Curve D
bipolar with live zero



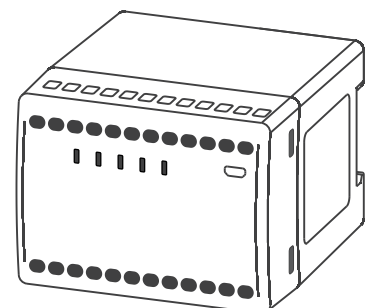
Mechanical dimensions



Front view



Side view



Isometric view



Technical specifications

Site-configurable measurement functions (measurands)

AC voltage

Nominal input (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% U_n (500 V max.)
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 1.5 U_n

AC current

Nominal input (I_n)	1A to 5A
Maximum input current	0 to 150% I_n
Scale factor	0.6 to 1.5
Burden	≤ 0.2 VA per phase
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	0-130% 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 ($\pm 5\%$)
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) $U_n \times I_n$ 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	0-130 % 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 ($\pm 5\%$)
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	$\pm 0.2\%$

Auxiliary Supply

High auxiliary

Nominal voltage range	80-276 V AC/DC ($\pm 10\%$)
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 ($\pm 10\%$)
Maximum burden	≤ 6 W with two outputs at 750 Ω each ≤ 8 W with four outputs at 750 Ω each

DPT300: three phase



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°C to $+55^{\circ}\text{C}$
Storage temperature	-25°C to $+70^{\circ}\text{C}$
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	$\leq 4 \text{ mm}^2$

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 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

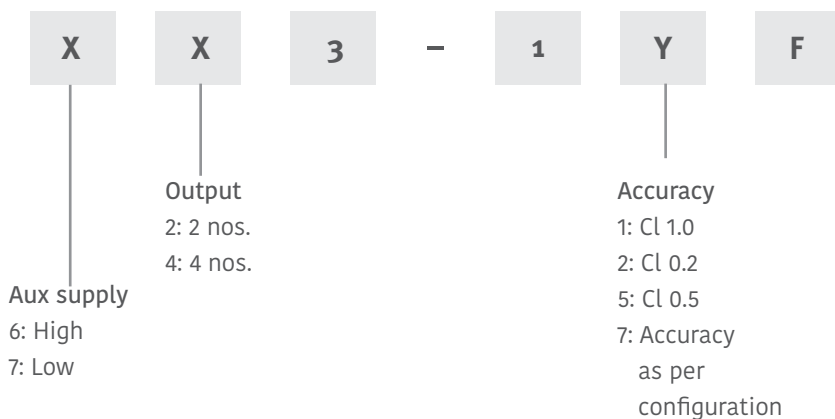
Configview
For on-site configuration of measurement inputs, measurands, output curve and online parameter reading. It can be freely downloaded from www.cewesecure.se

Ordering key

DPT XX3-1YF

Example

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



Australia
sales_australia@securemeters.com
www.securemeters.com/au

Dubai
sales_middleeast@securemeters.com
www.securemeters.com/me

Europe
sales_europe@securemeters.com
www.securemeters.com/eu

India, SE Asia, Africa
sales_india@securemeters.com
www.securemeters.com/in

UK
sales_uk@securemeters.com
www.securemeters.com/uk

www.cewesecure.se

DPT300: three phase

single-function transducers



Accurate
class 0.2, 0.5 & 1



USB
programming



Response time
~100-220 ms

compact, long range
site configurable transducers

DPT300 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. DPT300 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

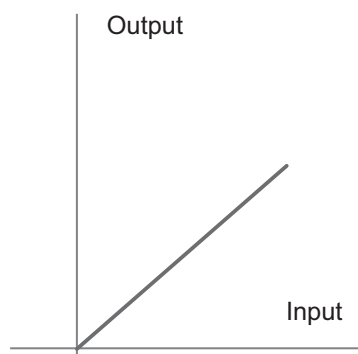
**available in accuracy class 0.5 and class 1.0

Power factor accuracy ± 0.2 degree at nominal input range

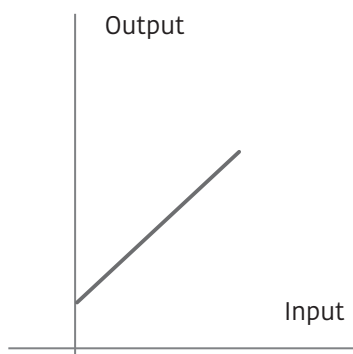
DPT300: three phase

Output curves

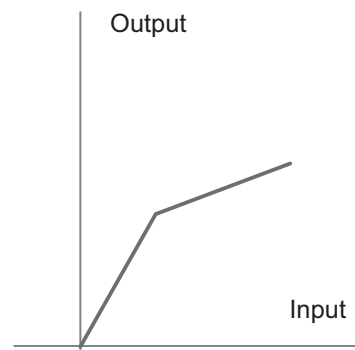
Curve A
Linear



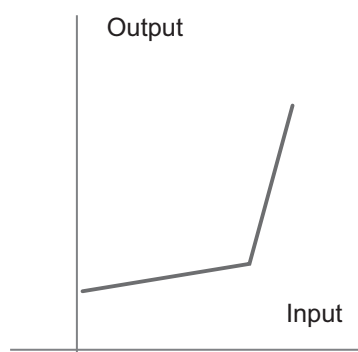
Curve B
Linear with live zero



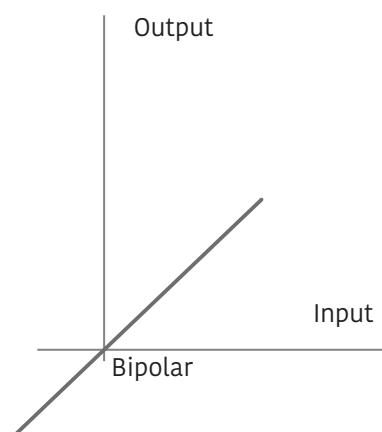
Curve F
Compressed upper region



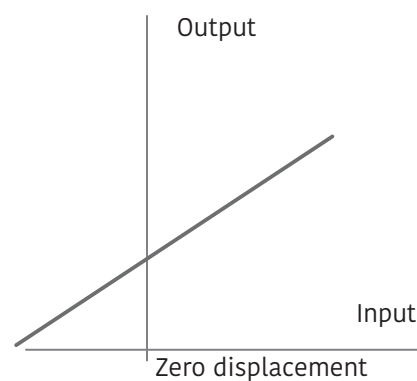
Curve F
Compressed lower region



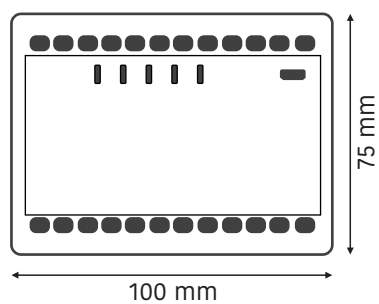
Curve C
Bipolar



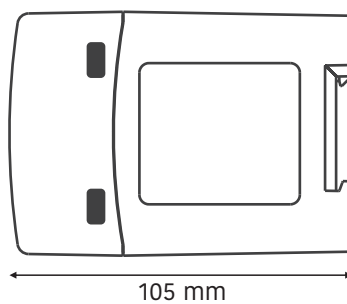
Curve D
bipolar with live zero



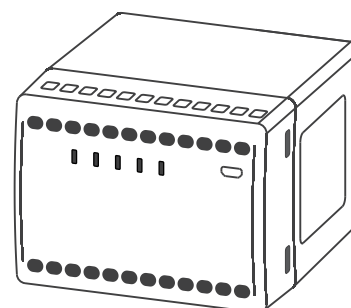
Mechanical dimensions



Front view



Side view



Isometric view



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 U_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

DPT300: three phase



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
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Configuration software- Configview

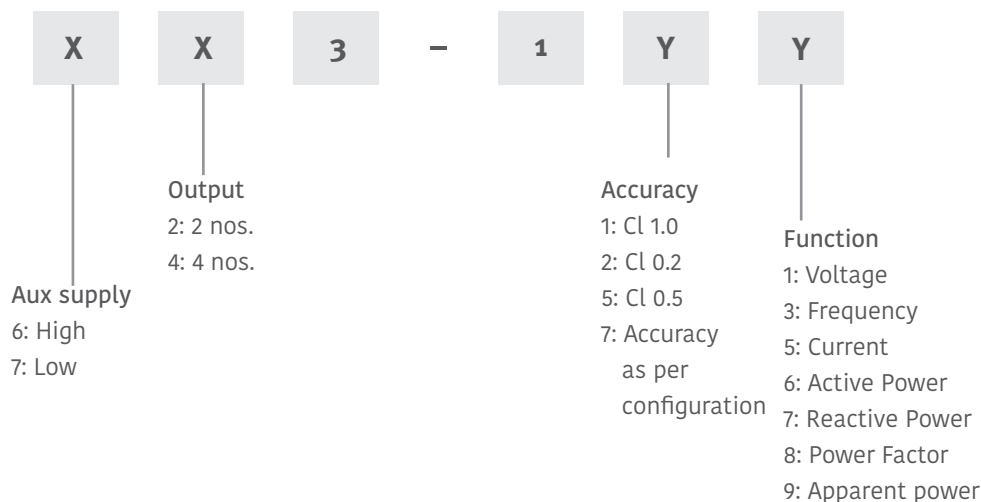
ConfigView
For on-site configuration of measurement inputs, measurands, output curve and online parameter reading. It can be freely downloaded from www.cewesecure.se

Ordering key

DPT XX3-1YY

Example

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



Specifications are subject to change without prior notice

Australia
sales_australia@securemeters.com
www.securemeters.com/au

Dubai
sales_middleeast@securemeters.com
www.securemeters.com/me

Europe
sales_europe@securemeters.com
www.securemeters.com/eu

India, SE Asia, Africa
sales_india@securemeters.com
www.securemeters.com/in

UK
sales_uk@securemeters.com
www.securemeters.com/uk

www.cewesecure.se

DPT100: 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

DPT100 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



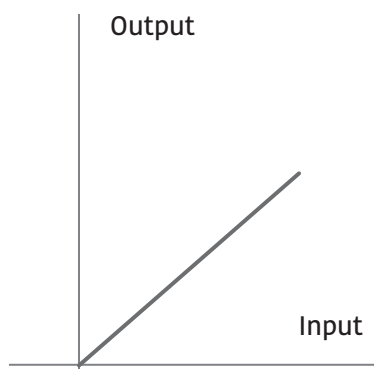
Measurement functions (Measurands)	Output type	Output range	No. of outputs	Accuracy class
Voltage, current, frequency, active power	Option for mA or V	0-20 mA, 4-20 mA, 0-10 mA, 0-5 mA* 0-2 mA*, 0-1 mA*, 0-5 V, 0-10 V	2	0.2, 0.5, 1.0

*available in accuracy class 1.0 only

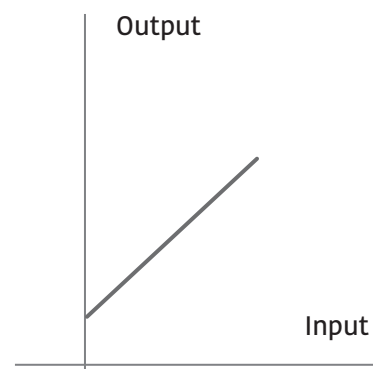
DPT100: single phase

Output cuves

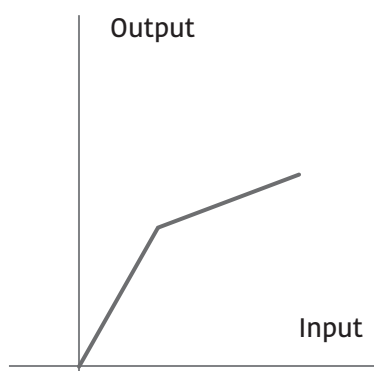
Curve A
Linear



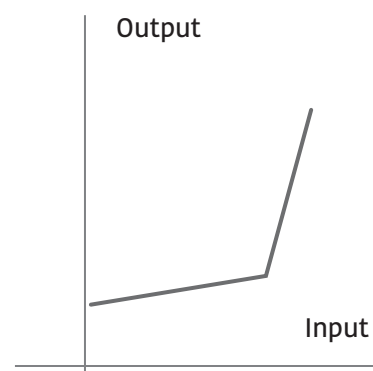
Curve B
Linear with live zero



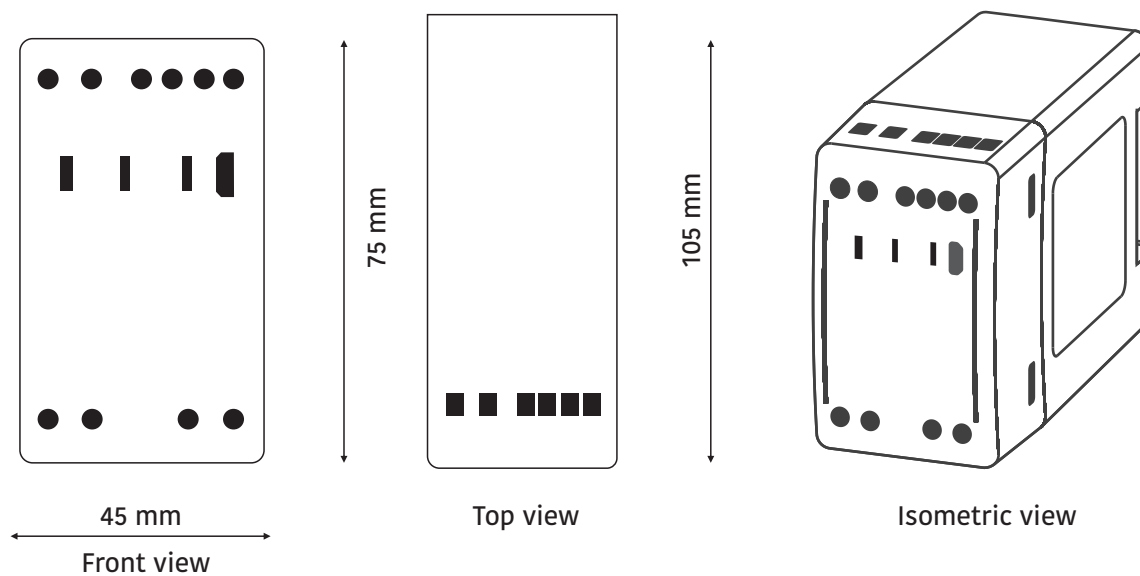
Curve F
Compressed upper region



Curve F
Compressed lower region



Mechanical dimensions





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

DPT100: single phase



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.cewesecure.se

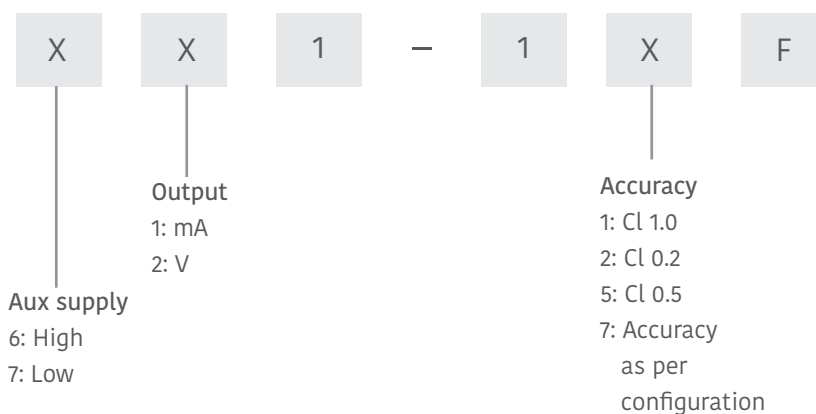
Ordering key

DPT XX1-1XF

Example

DPT 611-12F

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



Specifications are subject to change without prior notice

Australia
sales_australia@securemeters.com
www.securemeters.com/au

Dubai
sales_middleeast@securemeters.com
www.securemeters.com/me

Europe
sales_europe@securemeters.com
www.securemeters.com/eu

India, SE Asia, Africa
sales_india@securemeters.com
www.securemeters.com/in

UK
sales_uk@securemeters.com
www.securemeters.com/uk

www.cewesecure.se

DPT100: resistance transducer

compact, configurable resistance transducers



Accurate
class 0.2,
0.5 & 1



USB
programming



Response time
~100-220 ms



Compact size

DPT100 is a compact, configurable resistance transducer designed to meet the demanding needs of supply utilities and industrial applications. It provides accurate measurement of resistance values with high efficiency and quick response time. DPT100 is equipped with two load-independent, galvanically-isolated analogue outputs that can be configured for resistance range and output curves.

- Best-in-class response time
- Site-configurable inputs and outputs
- Load-independent accuracy on all outputs
- Diagnostic LEDs
- Compact footprint



Measurement function (Measurand)	Output type	Output range	No of output	Accuracy class
Resistance	mA	0-10 mA, 0-20 mA, 4-20 mA 0-1 mA**, 0-2 mA*, 0-5 mA*	2	0.2, 0.5, 1.0

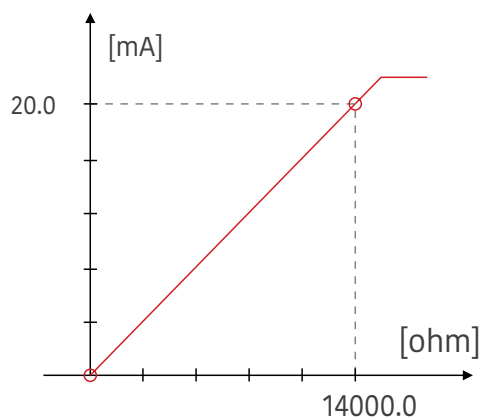
*available in accuracy class 0.5 and 1

**available in accuracy class 1

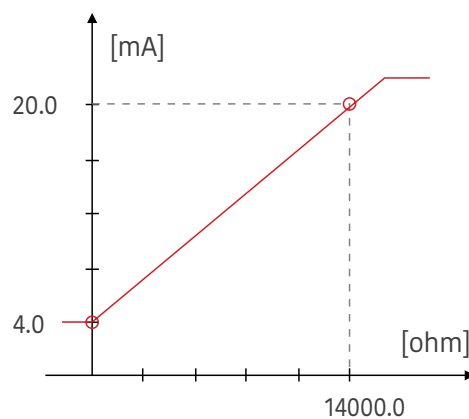
DPT100: resistance transducer

Output cuves

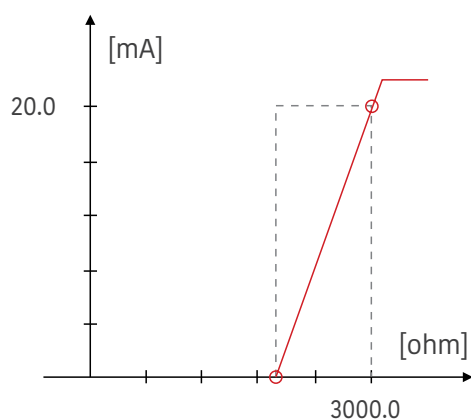
Curve A
linear



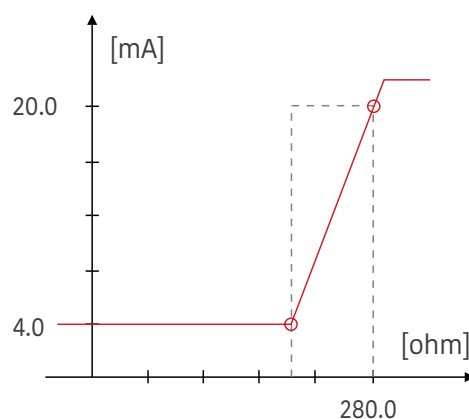
Curve B
linear with live zero



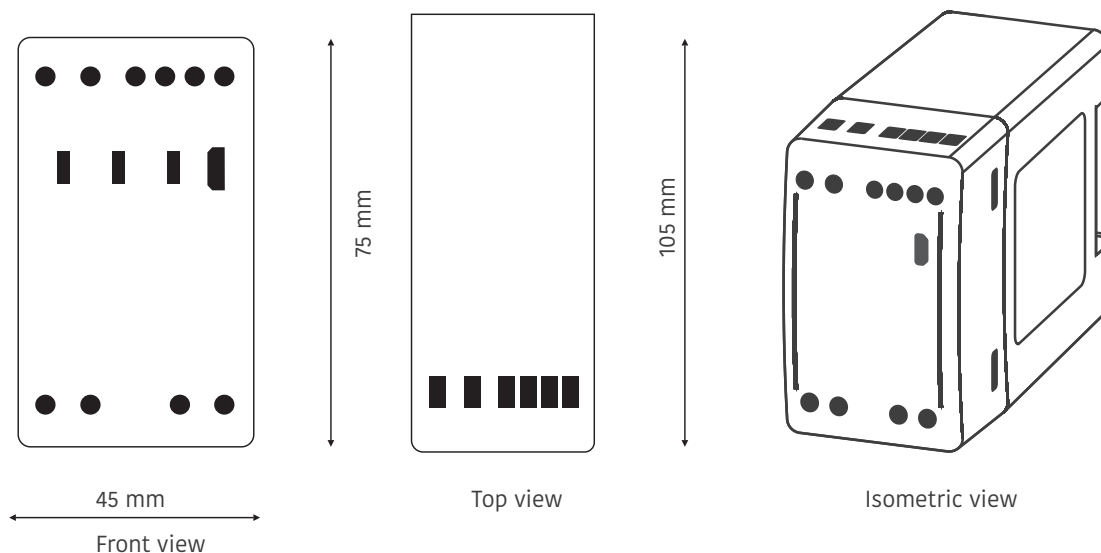
Curve F



Curve F



Mechanical dimensions





Technical specifications

Resistance sensor type

Measuring range 0-100 Ω ... 0-14 k Ω

High auxiliary

Nominal voltage range 80 to 276 V AC/DC ($\pm 10\%$) Frequency 50/60 Hz
Maximum burden ≤ 6 VA, 3 W with one output at 750 Ω
 ≤ 7 VA, 3.5 W 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
Maximum load resistance ≤ 750 Ω for 20 mA
Response time ≤ 100 -220 ms
Ripple < 0.4 % peak to peak

Temperature range

Operating range -5 $^{\circ}\text{C}$ to $+55$ $^{\circ}\text{C}$
Storage range -25 $^{\circ}\text{C}$ to $+70$ $^{\circ}\text{C}$
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 ≤ 4 mm²

Environmental

Protection class II (double insulation) EN 61010-1
Pollution degree 2
Installation category CAT III
Protection degree Housing: IP 40, front panel: IP 20

DPT100: resistance transducer



Technical specifications

Compliance	
Standards	IEC 61010-1, IEC 61010-2-30, IEC 61326-1, DIN 50022
Communication ports	
Micro USB	For on-site configuration Can be configured through USB port, without auxiliary supply
Configuration software tool	
	ConfigView For on-site configuration of measurement inputs, output curves and online parameter reading. It is free to download from www.cewesecure.se

Ordering key

DPT XX4-1Y0

