

DPT100: single phase

single-function transducers

compact, long range
site configurable transducers



Accurate
class 0.2, 0.5 & 1



USB
programming



Response time
range is 100-220 ms



Compact size

DPT100 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

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

*available in accuracy class 1.0 only

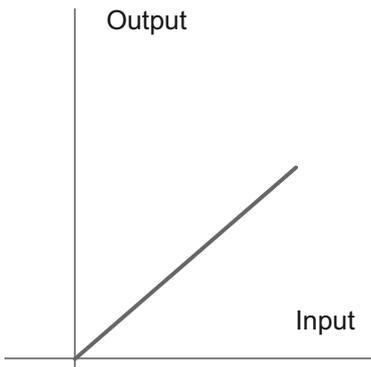
Frequency accuracy - ± 0.1 Hz

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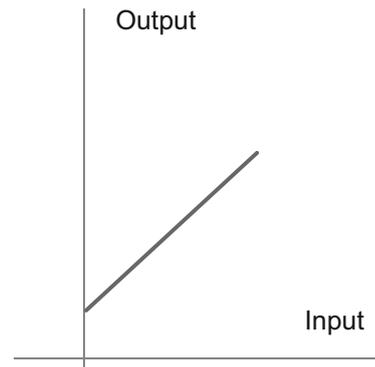
DPT100 single-function transducers

Output curves

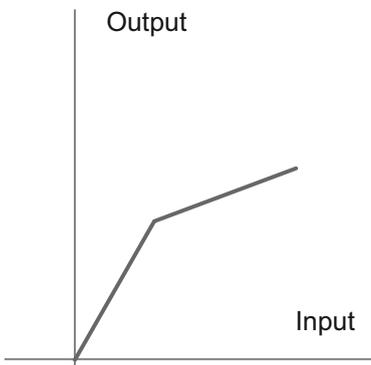
Curve A
Linear



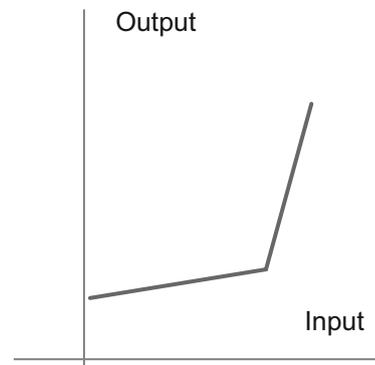
Curve B
Linear with live zero



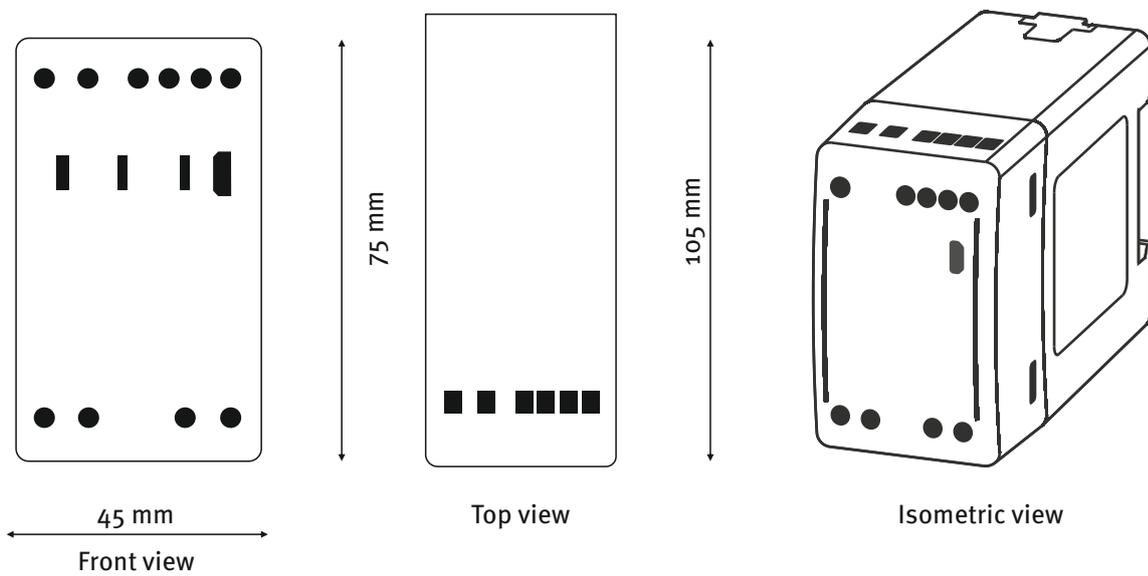
Curve C
Compressed upper region



Curve D
Compressed lower region



Mechanical dimensions



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Technical specifications

Variant-wise technical specifications

AC/DC voltage

Nominal input (U_n)	57.7 to 415 V
Measuring range	0 to 130 % U_n (up to 500 V)
Scale factor	0.8 to 1.3 of 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

For self-powered variant

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)	1/5 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	0-20 mA directly, or 0-300 mV through shunt
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Frequency

Nominal input voltage (U_n)	57.7 to 415 V
Input range	0 to 130% U_n (up to 500 V)
Measurement range	45 Hz to 55 Hz, or 55 Hz to 65 Hz
Accuracy	± 0.1 Hz

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)	1/5 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	80-240 V ($\pm 20\%$)
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, uni-polar
Maximum load resistance	$\leq 750 \Omega$ for 20 mA, $\geq 2 \text{ k}\Omega$ for 10 (for each output)
Response time	5 cycles measurement ($\leq 100\text{-}220 \text{ ms}$)
Ripple	$< 0.4 \%$ peak to peak

Temperature range

Operating range	$-5 \text{ }^\circ\text{C}$ to $+55 \text{ }^\circ\text{C}$
Functional range	$-20 \text{ }^\circ\text{C}$ to $+70 \text{ }^\circ\text{C}$

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	$\leq 4 \text{ mm}^2$

Environmental

Protection class	II (double insulation) EN 61010-1
Pollution degree	2
Installation category	CAT III
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

USB	for on-site configuration
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Configuration software tool

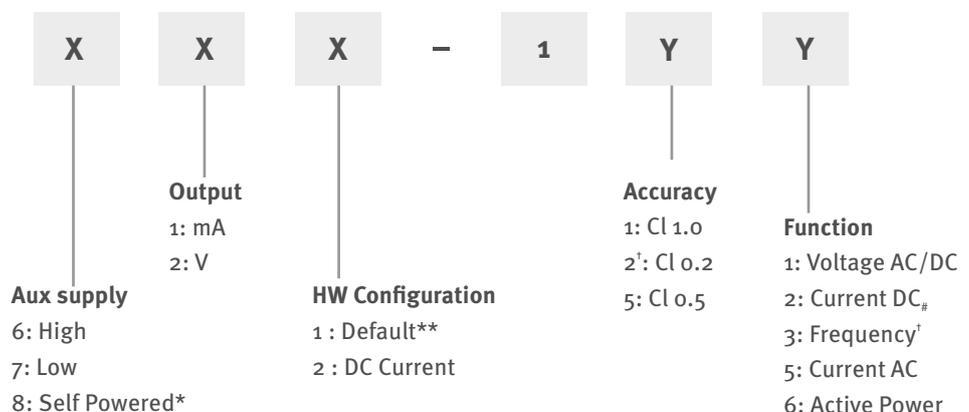
ConfigView	For on-site configuration of measurement inputs, measurands, output curve and online parameter reading. It can be freely downloaded from www.ceweinstruments.se
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Ordering key

DPT XXX-1YY

Example

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



*Self powered is voltage transducer only.

#Current DC available only in DC Current.

** Default means AC/DC voltage, AC current

[†] default digit for frequency accuracy i.e. $\pm 0.1 \text{ Hz}$