

DIN -rail Programmable Transducers

Our family of DIN-rail programmable transducers (DPT) measure a wide range of electrical parameters and generate equivalent analogue output signals suitable for interfacing with instrumentation and control systems.

DPTs are available with up to four analogue outputs, up to two digital outputs and Modbus communication functionality. All the outputs are galvanically isolated and can be programmed with easy-to-use ConfigView software. Any of the measured parameters can be assigned to the analogue outputs and can be read out via the optional Modbus connection.

ConfigView can also be used to configure the connection to the measured circuit for single-phase, three-phase three-wire, three-phase four-wire, balanced or unbalanced load.

DPTs comply with IEC 60688 and are available in accuracy classes 0.5 and 0.2. DPT support wide range of voltage, current and auxiliary supply.



Applications

- Instrumentation panels
- Control systems
- Electrical distribution panels
- Transmission systems and generators
- SCADA systems

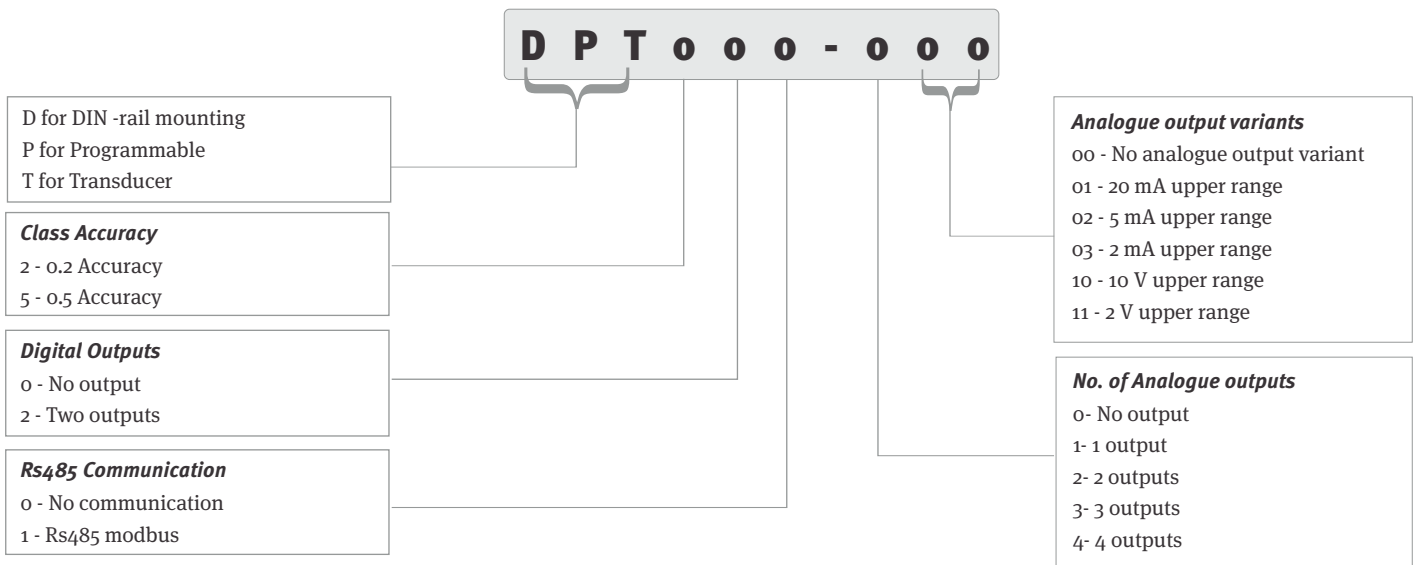
Benefits

- Each DPT covers the entire range of common electrical parameters
- DPT decal (rating plate) configurable and printable through software
- Better response time
- THD measurement
- Offered product suitable for stocking at Distributor/OEMs end
- User friendly Configuration & Reading through Configview software
- Easy to install and configure

Features

- Fully programmable inputs & outputs
- Accuracy class 0.5 or 0.2
- True root mean squared (RMS) measurement
- Up to 4 analogue outputs (voltage or current signals)
- Up to 2 digital outputs only for energy parameters
- Optional Modbus communications via RS-485 port
- DIN-rail mounting
- USB Mini port for local programming

Product Ordering Configuration



Note: This ordering key represents the overall portfolio of DPT. Please confirm the availability of desired item number with our sales representative.

ConfigView Software Functions

Configuration

All parameters associated with transducer functionality can be programmed, such as connection type, transformer ratios, curves for analogue outputs, modbus id and baud rate.

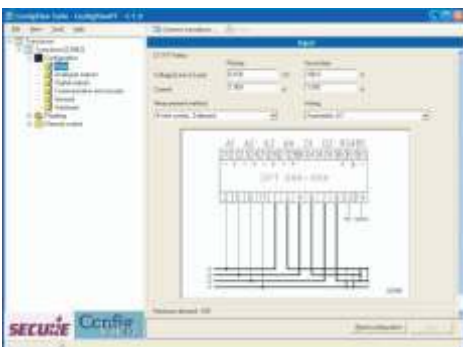
Reading

The continuously updated measured parameters can be read out and stored in a time-stamped file. The DPT configuration can also be read out.

Remote Control

Analogue outputs can be set to a particular value and digital outputs can be set on or off using a remote control function.

Note: USB cable and software to be ordered separately.



Measured quantities

Quantity	By phase	Total	Unit
Active power	Yes	Yes	W
Reactive power	Yes	Yes	var
Apparent power	Yes	Yes	VA
Active power factor P/S	Yes	Yes	
Reactive power factor Q/S	Yes	Yes	
LF factor SgnQ (1 - [PF])	Yes	Yes	
Frequency	Not applicable	Yes	Hz
Current	Yes	Yes	A
Phase voltage	Yes	Yes	V
Phase to phase voltage	Yes	Yes	V
Current with sign	Yes	Yes	A
Phase angle	Yes	Yes	Rad
Phase angle voltage (phase to neutral)	Yes	Not applicable	Rad
Phase angle voltage (phase to phase)	Yes	Not applicable	Rad
Phase angle current	Yes	Not applicable	Rad
THD current	Yes	Not applicable	%
THD voltage	Yes	Not applicable	%
Average current	Yes	Yes	A
MD* current	Yes	Yes	A
Average active power	Yes	Yes	W
MD* active power	Yes	Yes	W
Average reactive power	Yes	Yes	var
MD* reactive power	Yes	Yes	var
Average apparent power	Yes	Yes	VA
MD* apparent power	Yes	Yes	VA

*MD: This is a periodic interval value not linked with date and time stamping.

Technical specifications

General measurement

Accuracy	Class 0.2, Class 0.5 (Frequency ± 0.01 Hz, Power Factor $\pm 0.1^\circ$)
Mains frequency	50 or 60 Hz (45-65 Hz)
Measurement	True root-mean squared (RMS)

Voltage Circuit

Nominal measuring voltage (UN)	3 x 100-693 V (three-wire system) 3 x 57.7/100 V to 3 x 400/693 V (four-wire system)
Measuring range	0% - 120% UN
Burden	$\leq V^2/400$ k Ω $\pm 3\%$ (W) per phase
Maximum overload voltage	1.2 x UN continuously 1.5 x UN for 10 s with up to 10 repetitions at 10 s intervals 2 x UN for 1 s with to 10 repetitions at 10 s intervals
Starting voltage	0.25 V

Current Circuit

Nominal measuring voltage (IN)	1-5 A
Measuring range	0% - 200% IN
Burden	$\leq I^2 \times 0.01$ Ω (W) per phase
Maximum overload current	2 x IN continuously 20 x IN for 1 s with up to 10 repetitions at 100 s intervals 40 x IN for 1 s with to 5 repetitions at 300 s intervals
Starting current	4 mA

Auxiliary Supply

Voltage range	40-276 V AC or DC (AC frequency 45-65 Hz)
Maximum burden	< 12 VA / 7 W

Analogue Outputs

Type	Current/voltage bi-polar
Maximum voltage (open output)	± 20 V
Range/load (current output)	± 20 mA / ≤ 750 Ω ± 5 mA / ≤ 3 k Ω ± 2 mA / ≤ 7.5 k Ω
Range/load (voltage output)	± 10 V / ≥ 2 k Ω ± 2 V / ≥ 400 Ω
Programmable response time (t_{99})	300 ms default (provision for better or higher response time)

Digital Outputs

Accuracy	0.5 s
Pulse length	10 ms to 1 s, R_{ON} 8 Ω (max.)

Temperature Range

Operating temperature	-10 $^\circ$ C to +50 $^\circ$ C
Storage temperature	-20 $^\circ$ C to +80 $^\circ$ C

Environmental

Protection class	II (double insulation) EN 61010-1
Pollution degree	2
Installation category	CATIII (refer to measuring and auxiliary inputs ≤ 300 V AC versus earth) CATII (refer to measuring inputs ≤ 600 V AC versus earth)
Ingress protection	Protection housing IP 40 Terminals IP 20

Physical

Dimensions (W x H x D)	102 x 71 x 114 mm
Weight	0.5 kg (approx.)
Mounting	DIN rail (DIN EN 50022)

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