





---

## Configuration, reading and maintenance

### Software ConfigView

ConfigView is a PC program that makes all Cewe DPT functions available. With ConfigView, you can do:

- Configuration

Configuring means that parameters affecting transducer function can be set. Examples of parameters that can be configured are: transformer ratios, curves for analogue outputs and baudrates.

- Reading

The information that can be read is instant and output values.

- Remote control
- Maintenance

Examples of maintenance tasks are: resetting the Maximum Demand (MD) values and updating the firmware in the meter.

### Programming the transducer

*Presentation of all programming parameters in the main menu.*

The programmable transducers have an integrated USB interface.

The configuration software has an easy-to-operate, clear menu structure which allows for the following functions to be performed:

- Reading and displaying the programmed configuration of the transducer
- Clear presentation of the input and output parameters
- Transmission of changed programming data to the transducer and for archiving of a file
- Protection against unauthorized change of the programming
- Configuration of all the usual methods of connection (types of power system)
- Easy change of input and output parameters
- Parameter setting of outputs A to C (input of measured quantity, upper limits, limitation of upper limits.
- Graphics display of the set system behaviour of each output.

### Connecting to the transducer

To be able to configure or read values in the Cewe DPT, ConfigView must be connected and have authorisation to access the transducer. The transducer has a password that can be set. See the section Communications and security (Manual).

To communicate with the transducer, the PC must be physically connected to the Cewe DPT in one of the following ways:

- PC – USB cable – Transducer
- PC – Straight serial cable – RS485 converter – Daisy chained transducers

### Communications

All Cewe DPT are equipped with an USB and a RS485 port for communication. It supports USB 2.0 and MODBUS protocol. For more information on protocol support, see Modbus Map (Manual).

Communication speed

The transducer's USB port always runs at 38400 baud and is fully auto configured from the system.

The RS485 needs to be set to the correct baudrate to have a successful connection. The baudrate can be set between 1200 bps and 38400 bps.

---

## Functions

### Analogue outputs

The Cewe DPT has up to four analogue outputs that can be configured to either remote control or to output a current or voltage signal that reflects to any of the measured quantities. They have an isolated interface between the electronics and the surroundings to ensure personal safety.

#### Outputs

The outputs can be configured as follows:

- **Inactive**

The output is not used. The output will be set to 0 mA or 0V, depending on the configuration.

- **Remote control**

With this function, the output can be made active without having any input signals to the transducer.

- **Measurand quantity**

This defines which of the quantities measured by the transducer will be reflected on the output. Most of the quantities also need to be selected for a single phase or the complete system.

### Output Ranges:

#### Nominal and free programmable:

20 mA

5 mA

2 mA

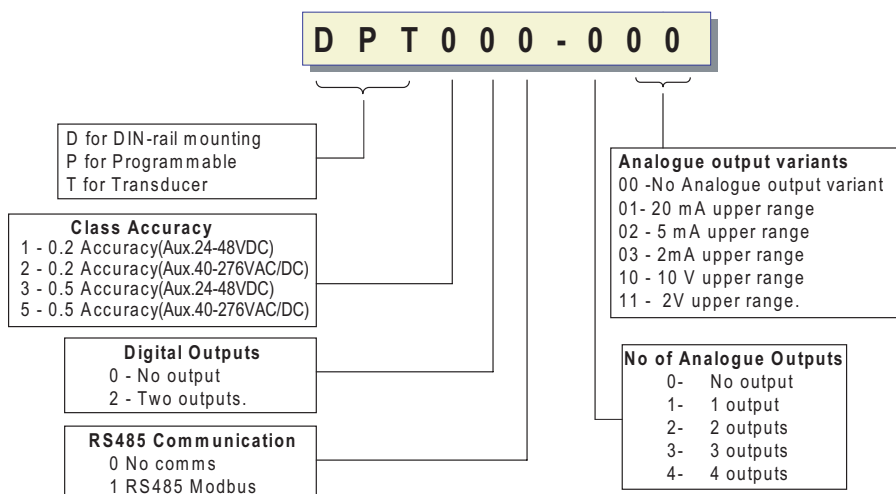
10 V

2 V

- **Pulse output**

The output is used to pulse a energy type that the transducer is measuring. A pulse constant is specified for the output as primary pulses/unit as well as the pulse length.

## Hardware variants



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

## 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 (ph-ph)	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

## Design of label

21	22	23	24	25	26	27	28	40	41	42	43	60	61	62
- A1 +	- A2 +	- A3 +	- A4 +	D1	D2	+ RS485 -								
A1 U1	0..10kV			0..20mA	≤ 750Ω									Adr. 1   B1: GND
A2 I1	0..1000A			4..20mA	≤ 750Ω									
A3 P	-200..200MW			-20..20mA	≤ 750Ω									
A4 Q	-100..100MVar			-20..20mA	≤ 750Ω									
D1 P	10pulses/kV			Pollution degree: 2										
D2 Q	20pulses/kVar			Usage Group: II										
VTR	10kV/400V	Type	△	Snr: c23x1										
CTR	1000A/1A	50/60Hz		Mnr: 12089										
U1	U2	U3	N	↕ I1 ↕	↕ I2 ↕	↕ I3 ↕								
2	5	8	11	1	3	4	6	7	9					AUX
													13	14

## Measurement generally

Accuracy	Class 0.2, Class 0.5 *(Frequency $\pm 0.01$ Hz, Power Factor $\pm 0.1^\circ$ )
Frequency	50/60 Hz (45-65 Hz)
Measurement True RMS	Up to 31st harmonic
Measurement category	CATIII $\leq 300$ VAC (versus earth), CATII $\leq 600$ VAC (versus earth)

## Voltage circuit

Nominal measuring voltage (UN)	
3-wire system:	3x100-693 V
4-wire system:	3x57,7/100-3x400/693 V
Range:	0% – UN – 120%
Input impedance:	400k $\Omega$ (per phase)
Consumption:	$\leq U^2/400k\Omega \pm 3\%$ (per ph) (W)
Max overload voltage	1.2 x UN continuously 1.5 x UN during 10 s with max. 10 attempts with 10 s between 2 x UN during 1 s with max.10 attempts with 10 s between.
Starting voltage	0.25 V
Connector	screw terminals for $\leq 6$ mm <sup>2</sup>

## Current circuit

Nom. measuring current (IN)	1-5 A
Measuring range	0 - 200% of IN
Consumption	$\leq I^2 \times 0.01\Omega$ (per phase)
Max overload current	2 x IN continuously 20 x IN during 1 s with max. 10 attempts with 100 s between 40 x IN during 1 s with max. 5 attempts with 300 s between.
Starting current	4 mA
Connector	screw terminals for $\leq 6$ mm <sup>2</sup>

## Auxiliary supply

Voltage range option A	40-276 VAC/VDC
AC frequency	45 – 65 Hz
Max burden	$\leq 12$ VA / 7W
Voltage range option B	24-48 VDC
Max burden	$\leq 7$ W

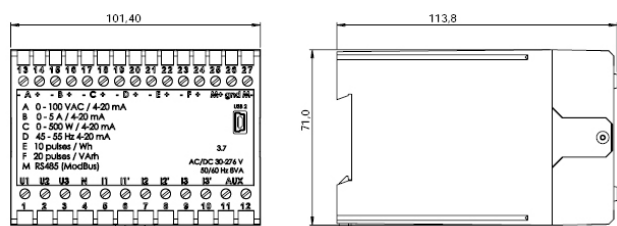
## Analogue outputs

Number of outputs	4
Type	current /voltage bipolar
Max voltage at open output:	$\leq \pm 20$ V
Max over-driven output	$\leq \pm 125\%$ (hardware limiter)
Load influence	$\leq 0,1\%$
Range/Load (current outp)	$\pm 20$ mA / $\leq 750\Omega$ $\pm 5$ mA / $\leq 3$ k $\Omega$ $\pm 2$ mA / $\leq 7,5$ k $\Omega$
Range / Load (voltage outp)	$\pm 10$ V / $\geq 2$ k $\Omega$ $\pm 2$ V / $\geq 400\Omega$
Residual ripple	$\leq 0,4 \%$ (peak to peak at full load)
Auxiliary voltage influence	$\leq 0,1\%$
Temperature coefficient	$\leq 0,01\%$ extra per deg C
Programmable response	200 ms, 300 ms, 600 ms, time (t99) 900 ms, 1.2s, 1.5s, 2s, 5s, 10s, 30s

## Digital outputs

Number of outputs	2
Accuracy	0.5s
Type	Solid-state MosFET relay, bi-directional rating 0,2 A, 110 VAC/DC (Varistor protected)
Pulse length	10 ms - 1 s
R <sub>ON</sub>	8 $\Omega$ (max)

## Dimensional drawing



---

## Communication ports

### Serial RS485 port

Connector	Three screw terminals for ≤ 6 mm <sup>2</sup>
Com. protocol	Modbus RTU
Baud rate	1200 - 38400 baud

### Serial USB port

Connector	USB Mini-B connector
Com. protocol	Modbus RTU
Hand shaking	Not supported
Baud rate	38400 baud (automatic)

## Temperature range

Normal temperature	0...15...30...+45 °C
Operating temperature	-10 °C - +55 °C
Storage temperature	-40 °C - +85 °C
Temperature coefficient	0.5 x basic accuracy per 10°C
Relative humidity	≤ 80 %
Altitude	max 2000 m
Environment	Indoor only

### Reference conditions

Usage group according to IEC/EN60688	group II
Reference temperature range	+15 °C - +30 °C
Pre-conditioning	30 min
Input variable	Rated useful range

For further information refer to EN60688 table 3 and 4.

## Safety

Protection class	II (Double insulation) EN 61010-1 Table D.12
Pollution degree	2
Installation category	CATIII (refer to measuring and auxiliary inputs ≤ 300VAC versus earth) CATII (refer to measuring inputs ≤ 600VAC versus earth)
Protection housing	IP40 (test wire, IEC/EN 60529)
terminals	IP20 (test finger, IEC/EN 60529)

Insulation surge test	5kV 1,2/50µs 0,5Ws (valid for circuits with reference voltage ≥40V) <ul style="list-style-type: none"><li>• Outer surface versus earth *)</li><li>• All voltage input versus earth*)</li><li>• All current input versus earth*)</li><li>• Auxiliary input versus earth*)</li></ul>
Insulation AC-voltage test	acc. to EN61010-1 3,7kVAC/50Hz/1min <ul style="list-style-type: none"><li>• Outer surface versus earth*)</li><li>• All voltage- and current- inputs connected together versus earth*)</li><li>• Auxiliary input versus earth*)</li></ul>
2,2kVAC/50Hz/1min	<ul style="list-style-type: none"><li>• All voltage inputs versus earth*)</li><li>• All current inputs versus earth*)</li><li>• All digital outputs versus earth*)</li></ul>
0,5kVAC/50Hz/1min:	<ul style="list-style-type: none"><li>• All analog outputs versus earth*)</li><li>• RS-485 COM.port versus earth*)</li><li>• USB-COM.port versus earth.*)</li></ul>

\*) All circuits/terminals not under test are connected to earth

## Ambient tests

IEC/EN60068-2-1/-2/-3	Temp/Humidity: Cold, dry, heat, damp
IEC/EN60068-2-6	Vibration: Acceleration ±2 g Frq. range: 10...150...10Hz, rate of frequency sweep: 1 octave/minute Number of cycles: 10, in each of the three axes
IEC/EN60068-2-27	Shock: Acceleration 3 x 50 g, 3 shocks each in 6 directions
IEC/EN61000-6-2/-6-4	Electromagnetic compatibility (EMC). Generic standards for industrial environments, immunity and emission.

## Weight

Weight	500 g
--------	-------



**Cewe Instrument AB**

Box 1006 • SE-611 29 Nyköping • SWEDEN

Tel: +46 155 775 00 • Fax: +46 155 775 97

e-mail: [info@ceweinstrument.se](mailto:info@ceweinstrument.se) • [www.ceweinstrument.com](http://www.ceweinstrument.com)

