



# DATCON

INDUSTRIAL MEASUREMENT

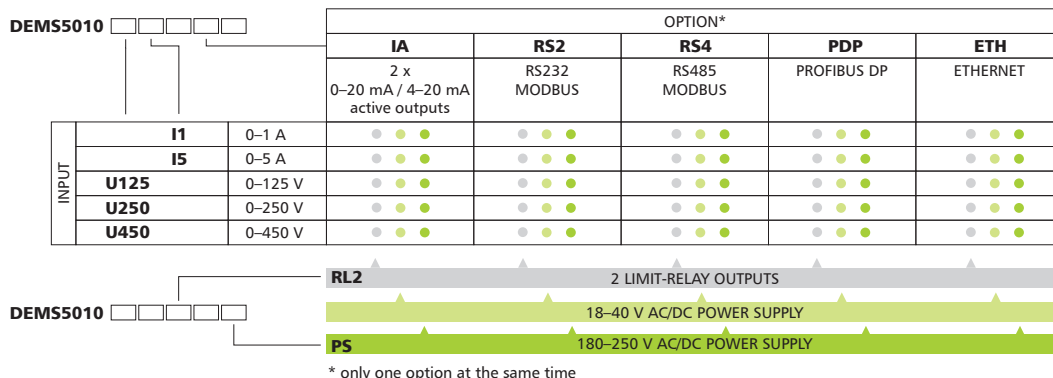
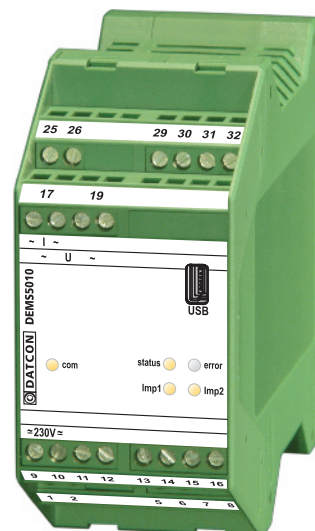
## DEMS5010 ...



## Single-phase Power Transmitter

### Product features:

- Measuring of 12 different parameters:  
 $U_{eff}$ ,  $I_{eff}$ ,  $P$ ,  $Q$ ,  $S$ ,  $+E_p$ ,  $-E_p$ ,  $+E_Q$ ,  $-E_Q$ ,  $PF$ ,  $f$ ,
- 0–125 VAC / 0–250 VAC / 0–450 VAC,  
0–5 AAC / 0–1 AAC galvanic isolated inputs
- 2 x 0–20 mA / 4–20 mA galvanic isolated outputs
- MODBUS RTU / PROFIBUS DP / ETHERNET communication
- 2 limit-relay outputs
- Synchronous and time zone signal inputs
- Pulse outputs
- Configuration via USB port
- 24 V AC/DC, 230 V AC/DC power supply
- TS-35 rail mounting, 45 mm width



The **DEMS5010 ... Single-phase Power Transmitter** suitable for the measuring of 12 different parameters of the single-phase power network:

- the TRMS values of phase voltage and phase current
- active power, reactive power, apparent power and power factor
- + active energy, - active energy, inductive energy, - capacitive energy
- frequency, phase angle

The inputs of the equipment are isolated from the network with wideband current- and voltage-transformers.

The current inputs 0–5 AAC or 0–1 AAC, as well as the voltage inputs 0–125 VAC / 0–250 VAC / 0–450 VAC are in compliance with the requirements for measurement category CAT III.

The **DEMS5010 ...** is available with the following output options:

- 2 relays with closing contacts (SPST) for limit-switching, and for simple control tasks
- 2 x 0–20 mA / 4–20 mA galvanic isolated, scalable, active analog current outputs \*
- MODBUS RTU or PROFIBUS DP or ETHERNET communication which makes possible the reading of all measurement values via the communication line, with a PLC or with a PC \*

(\* only one option at the same time)

All of the outputs are galvanic isolated.

The measurement and output parameters are configurable from PC via USB port with the help of a user friendly configuration software. The configuration software is free of charge.

The **DEMS5010 ...** has two power supply versions: 18–40 V AC/DC (DEMS5010 ...) or 180–250 VAC (DEMS5010 ...PS).

## Technical specification

### Safety data:

The connection terminals of the supply voltages are isolated from each other, the isolation is in compliance with the standard EN 61010-1, taking into consideration the following:

|                       |         |
|-----------------------|---------|
| Pollution level:      | 2       |
| Measurement category: | CAT III |

### Input parameters:

|                          |                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------|
| Measured parameters:     | see above                                                                             |
| Input current:           | 0–5 AAC / 0–1 AAC (specified at ordering)                                             |
| Input voltage:           | 0–125 VAC / 0–250 VAC / 0–450 VAC (specified at ordering)                             |
| Overrange:               | 2 x I, 2 x U (continuous), 500 V (max.)<br>20 x I, 100 A (1 sec), 2 x U, 500 V (max.) |
| Frequency range          | 40–400 Hz                                                                             |
| Error:                   | < 0,2% @ Ta = 23°C ± 2°C                                                              |
| Temperature coefficient: | 25 ppm / °C (max.)                                                                    |

### Digital input:

|               |                                       |
|---------------|---------------------------------------|
| Input signal: | 3 x CMOS, non isolated, 0–30 VDC max. |
|---------------|---------------------------------------|

### Output parameters:

#### Analogue outputs (optional):

|              |                                                                |
|--------------|----------------------------------------------------------------|
| Output type: | 2 active current outputs (configurable, specified at ordering) |
| Range:       | 0–20 mA / 4–20 mA (scalable)                                   |
| Error:       | < 4 uA @ Ta = 23°C ± 2°C                                       |

#### Limit outputs (optional):

|          |                                                                  |
|----------|------------------------------------------------------------------|
| Outputs: | 2 NO SPST relays, contact rating: 30 VDC, 3 ADC / 240 VAC, 3 AAC |
|----------|------------------------------------------------------------------|

#### Pulse outputs:

|                |                                                             |
|----------------|-------------------------------------------------------------|
| Output signal: | 2 galvanic isolated transistor outputs, rating: 30 V, 50 mA |
|----------------|-------------------------------------------------------------|

#### Communication interface (optional):

|           |                                     |
|-----------|-------------------------------------|
| Protocol: | MODBUS RTU / PROFIBUS DP / ETHERNET |
|-----------|-------------------------------------|

### Indicator:

|            |                                                       |
|------------|-------------------------------------------------------|
| Indicator: | 5 LED (power, error, output1, output2, communication) |
|------------|-------------------------------------------------------|

### Power supply:

|               |                                                                   |
|---------------|-------------------------------------------------------------------|
| Power supply: | 18–40 V AC/DC (DEMS5010 ...)      180–250 VAC/DC (DEMS5010 ...PS) |
|---------------|-------------------------------------------------------------------|

### Ambient conditions:

|                              |                                        |
|------------------------------|----------------------------------------|
| Operating temperature range: | 0–50°C (-20–50°C for customer request) |
| Relative humidity:           | 90% (max., non condensing)             |
| Place of installation:       | cabinet                                |

### Electromagnetic compatibility (EMC) accordance with the standard EN 61326:2000:

|                 |               |
|-----------------|---------------|
| Immunity:       | -B- criterion |
| Noise emission: | -A- class     |

### General data:

|                      |                                                                               |
|----------------------|-------------------------------------------------------------------------------|
| Housing:             | terminal assembly box, rail mounting on TS-35 rail, material: polyamide PA6.6 |
| Connection:          | screw terminal                                                                |
| Connection cable:    | 0,25–1,5 mm <sup>2</sup>                                                      |
| Dimensions / weight: | 45 x 99 x 115 mm (width x height x depth) / 0,3 kg                            |
| Protection:          | IP 20                                                                         |

Detailed information see in operating instructions. The Manufacturer maintains the right to change the technical data!

2009.08.07.

