



DATCON

INDUSTRIAL MEASUREMENT

DEMS5300 ...



Three-phase Power Meter

Product features:

- Measuring of 50 different parameters:
 U_{eff} , I_{eff} , P , S , Q , PF , ϕ , $+E_p$, $-E_p$, $+E_Q$, $-E_Q$ per phase,
 P , S , Q , $+E_p$, $-E_p$, $+E_Q$, $-E_Q$ per 3 phase,
 f , U_{L1-L2} , U_{L2-L3} , U_{L1-L3} , ϕ_{L1-L2} , ϕ_{L1-L3} ,
 $P_{1/4h}$ average value (demand), $P_{1/4h}$ estimated average value,
 $P_{last 1/4h}$ average value, $t_{1/4h}$ rest
- 3 x 0–125 VAC / 0–250 VAC / 0–450 VAC,
3 x 0–5 AAC / 0–1 AAC galvanic isolated inputs
- 4 x 16 character alphanumeric display
- 2 / 4 x 0–20 mA / 4–20 mA galvanic isolated outputs
- MODBUS RTU / PROFIBUS DP / ETHERNET communication
- Data storage, USB port
- 2 limit-relay outputs
- Synchronous and time zone signal inputs
- Pulse outputs
- 24 V AC/DC, 230 V AC/DC power supply
- 96 x 96 mm panel instrument



DEMS5300

INPUT	I1	0–1 A
	I5	0–5 A
	U250	0–125 V / 0–250 V
	U450	0–250 V / 0–450 V

OPTION*				
IA	RS2	RS4	PDP	ETH
2 x 0–20 mA / 4–20 mA active outputs	RS232 MODBUS	RS485 MODBUS	PROFIBUS DP	ETHERNET
RL2 2 LIMIT-RELAY OUTPUTS				
DIO DIGITAL INPUTS AND OUTPUTS				
18–40 V AC/DC POWER SUPPLY				
PS 180–250 V AC/DC POWER SUPPLY				

* maximum two options at the same time

The **DEMS5300 ... Three-phase Power Meter** suitable for the measuring and to be displayed of 50 different parameters of the three-phase power network:

- the TRMS values of phase voltages and phase currents
- active power, reactive power, apparent power and power factor per each phase
- + active energy, -active energy, inductive energy, capacitive energy per each phase and per 3 phase
- frequency, phase angle, line voltages, phase angles between phase voltages
- 1/4 h demand, 1/4 h estimated demand, last 1/4 h demand

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

The current inputs 3 x 0–5 AAC or 3 x 0–1 AAC, as well as the voltage inputs 3 x 0–125 VAC / 0–250 VAC / 0–450 VAC are in compliance with the requirements for measurement category CAT III.

The **DEMS5300 ...** is available with the following output options:

- 2 relays with closing contacts (SPST) for limit-switching, and for simple control tasks
 - 2 / 4 x 0–20 mA / 4–20 mA galvanic isolated, scalable, active analog current outputs *
 - Synchronous and time zone signal inputs, pulse 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 *
 - Data storage (fix installed memory card) and USB port
- (* maximum two options at the same time)

All of the outputs are galvanic isolated.

Programming and adjustment are performed via the front panel membrane keypad. A multi-level menu system is available to support a simple use of the instrument:

- User Menu: here you can select the measurement values you want to present on the display
- Installation Menu: here you can set the parameters of inputs (voltage-transformer / current-transformer ratios), the parameters of outputs (limit values, analog outputs, pulse outputs, communications parameters, etc.). The settings of the Installation menu are password protected against unauthorized access
- Calibration Menu: (access to this menu is possible for the manufacturer or for service personnel only) making calibration tasks easier

The **DEMS5300 ...** has two power supply versions: 18–40 V AC/DC (DEMS5300 ...) or 180–250 VAC (DEMS5300 ...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:

Input current:	3 x 0–5 AAC / 0–1 AAC (specified at ordering)
Input voltage:	3 x 0–125 VAC / 0–250 VAC / 0–450 VAC (specified at ordering)
Overrange:	2 x I, 2 x U (continuous), 500 V (max.) / 20 x I, 100 A (1 sec), 2 x U, 500 V (max.)
Frequency range	40–400 Hz

Digital input (optional):

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

Output parameters:

Analogue outputs (optional):

Output type:	2 / 4 active current outputs (configurable, specified at ordering)
Range:	0–20 mA / 4–20 mA (scalable)

Limit outputs (optional):

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

Pulse outputs (optional):

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

Communication interface (optional):

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

Display:

Display:	4 x 16 character alphanumeric display
----------	---------------------------------------

Manual controls:

Manual controls:	6 membrane push-buttons on the front cover
------------------	--

Power supply:

Power supply:	18–40 V AC/DC (DEMS5300 ...) 180–250 VAC/DC (DEMS5300 ...PS)
---------------	---

Ambient conditions:

Operating temperature range:	0–60°C (-20–60°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:	panel instrument
Connection:	push-in direct connection
Connection cable:	0,25–1,5 mm ²
Dimensions / weight:	96 x 96 x 100 mm (width x height x depth) / 0,6 kg
Protection:	IP 20

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



H-1148 Budapest, Fogarasi út 5., Hungary

IPARI ELEKTRONIKAI KFT.

Tel.: +(361) 460-1000 Fax: +(361) 460-1001 www.datcon.eu