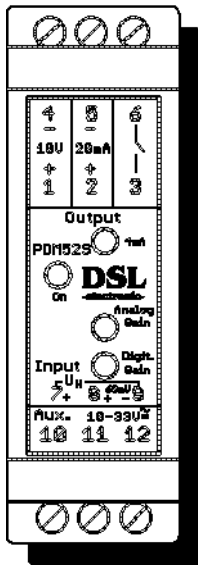


## DC–Power Transducer PDM52S for Power measurements (kWh) in DC voltage systems up to 500V, intermediate voltage circuits and Photovoltaic installations, with analog output 0/4-20mA and S0 - Interface



### Function

The transducer PDM52S measures the real power of a DC voltage source and transforms it to the output as **puls / kWh** (terminals 3 / 6) or at the same time with analog output of **0 - 10V** (terminals 1 / 4) or as **0/4 - 20mA** (terminals 2 / 5). The measuring voltage and current are connected to the input terminals of PDM500 on same potential, as printed on front of unit.

The measuring DC current flows through an external shunt resistor in solar plant with rated current amount, whose voltage drop of max. 60mV will be gone into the current input. With the two measuring values a real analog multiplying will be done with a microcircuit. The power value will be changed into an impulse signal transporting to the output of PDM52S. From here an electric meter can count the amount of working power. Additionally an analogue display can be connected to the analog outputs.

### Application

The unit is used for registration and monitoring of DC power i.e. of a solar energy plant. The available voltage range reaches to 500VDC on terminals 7 / 9. The current range depends on the external shunt resistor which

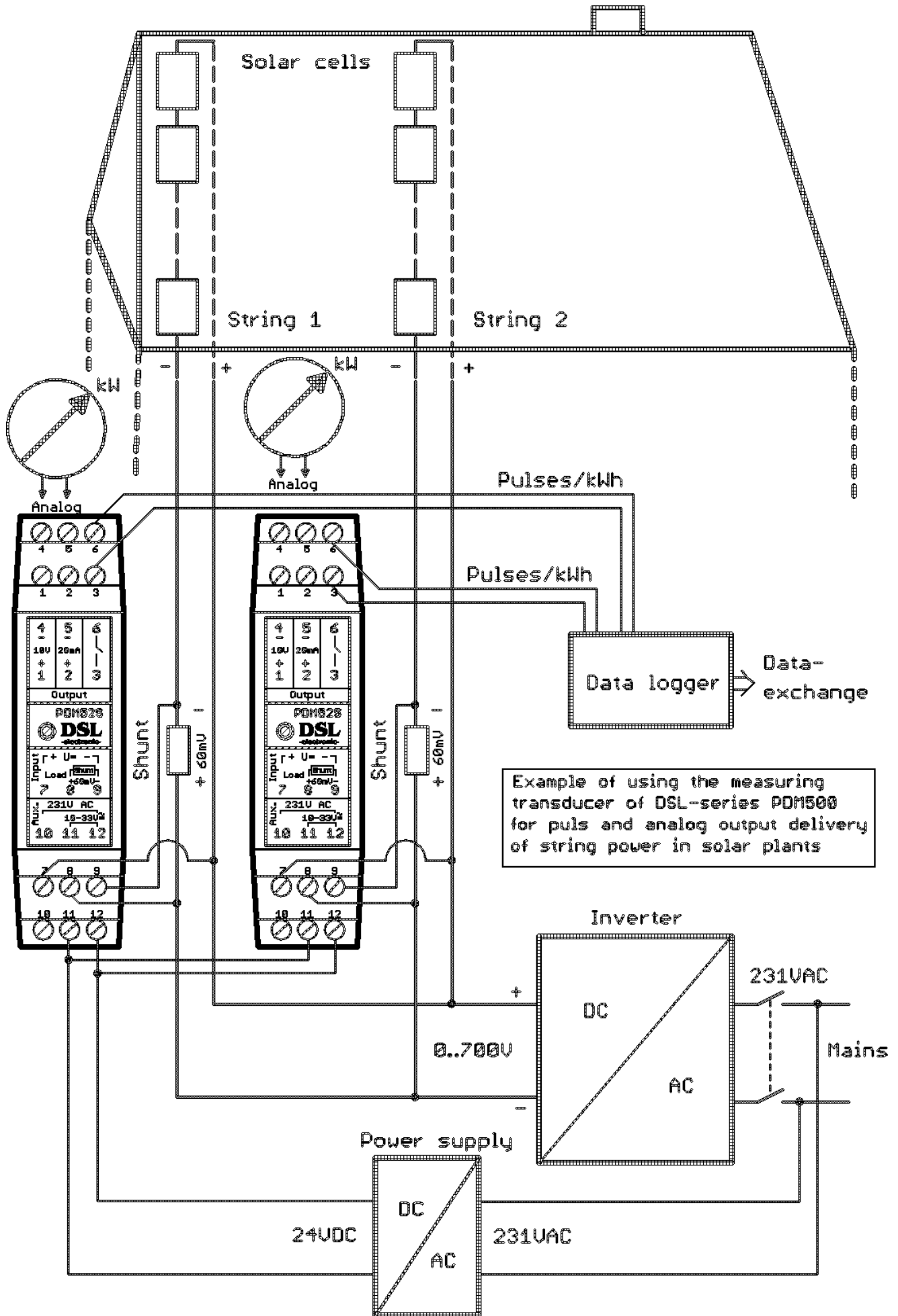
delivers a maximum voltage of 60mV to the input terminals 8 / 9. The calibration of measuring range has to be done by the manufacturer but also a fine calibration can be done by customer. The unit works with potential-free supply voltage of 10 – 33VDC on terminals 11 / 12, optional 231VAC on terminals 10 / 12.

### Technical Data

Type	DC Power Transducer PDM52S
Housing	Plastic Housing on 35 mm DIN bar nach DIN EN 50022 bzw. DIN 46277
Material of Housing	ABS with fire protecting equipment UL 94 V-O
Dimensions, Weight	22,5 x 75 x 110,8mm (WxHxD), appr. 110 g
Potential Separation	None between input voltages, 500V between input, output and auxiliary supply
Auxiliary Supply	10 – 33VDC, 100mA max, Option 231VAC
Supply Connected	Green Frontside LED lights
Input Measuring voltage	0 - 500V (maximum voltage value)
Input Measuring Current	0 - 60 mV DC (to 10kOhm) from external shunt resistor
Measuring Delay	< 100 ms
Output Signal	Puls output with Photo-MOS-Relay 60V max, < 0,4A, 1A (100ms), < 2,5 Ohm, 40ms, Fmax. 12,5 Hz
S0-Interface	Acc. to DIN 43 864
Analog output 0-10V	0-10V and 2-10V (internal plug), load < 10mA (> 1kOhm)
Analog output 0-20mA	0-20mA and 4-20mA, load < 450 Ohm
Accuracy	Calibration of final value 0.5 %, Linearity about 1%
On Period	100 %
Terminals	Strand 2,5mm <sup>2</sup> , Rigid 4mm <sup>2</sup> , Torque 0,5Nm, Screw size M3
Type of protection	Housing IP 40, Terminals IP 20
Environmentals	-10 °C bis +45°C, 95% Hum
Mains Isolation	EN 60 742 (Safety transformers)
General Regulations	EN 50 178 (Electrical resources in power installations)
Noise Suppressions	EN 55 022/B
EMV acc. to	EN 61000 und EN V 50 140
Installation position	Any
Maintenance	Maintenancefree

### Notes

For connecting of the input terminals right direction of poles be necessary, see printing on front label. The shunt resistor must be connected to the negative voltage terminals of photovoltaic string. The potential-free pulse output could be connected with any polarity. For the ordering of units PDM500 the following informations are necessary: Maximal operating voltage (V), maximal operating current (A on shunt 60mV) and for the output pulses the rate of pulses / kWh.



Example of using the measuring transducer of DSL-series PDM500 for puls and analog output delivery of string power in solar plants