

- For measuring and displaying physical quantities (level, temperature, flow, etc.).
- For connection of level meters with current or voltage output (e.g. CLM, DLM, GRLM, HLM, ULM).
- Up to 4 independent relay outputs.
- Wall-mounted and panel-mounted design.
- Isolated analogue current output option.
- Supply voltage 230 V or 24 V AC/DC.



The PDU-4x0-W meter is equipped with one current input 0-20 / 4-20mA and one voltage input 0-5 / 1-5 / 0-10 / 2-10V. Current input has additionally overcurrent protection circuit, which protects standard resistor. The selection of active input is realised by software, and selected input can be changed at any time. Additionally the PDU-420-W allows user to select a conversion characteristic of several kinds: linear, square, square root, user defined (max.20 points length) and volume characteristics of a cylindrical tank in the vertical and horizontal position. Result is showed on 4-digit LED display.

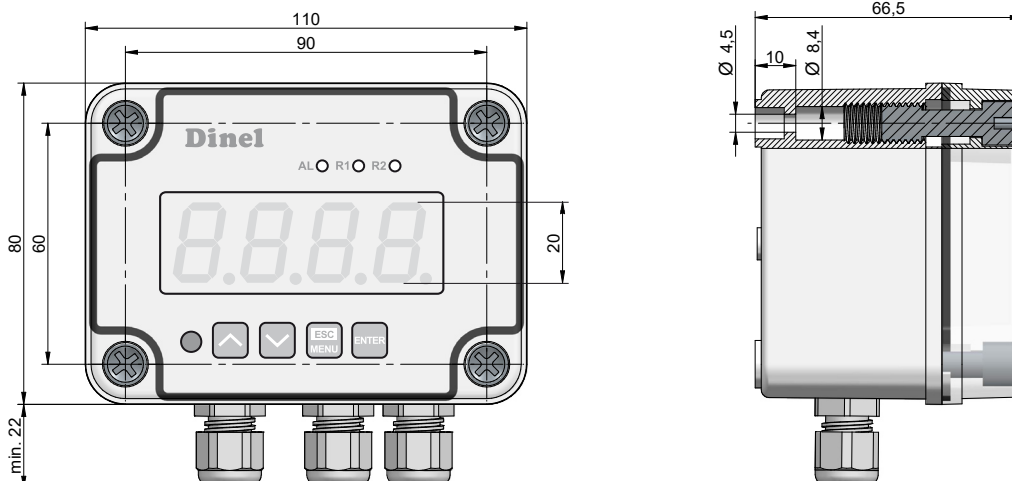
### RANGE OF APPLICATION

The unit is designed to be coupled with the level meter, which is connected via current or voltage output. The unit continually displays level in any physically units, according to selected limits, it can control switching of connected equipment (pumps, valves etc.) and it can be used as power supply for level meters too.

### VARIANTS OF UNITS

- **PDU-420-W** 2 independent relay outputs (2 limits), wall-mounted. Power supply 230 V or 24 V, RS-485 / Modbus RTU interface. Option to add the RCW-1 infrared remote controller.
- **RCW-1** Infrared remote control for changing parameter settings without removing the front cover of the PDU-420-W. For more detailed information, see the Accessories datasheet.

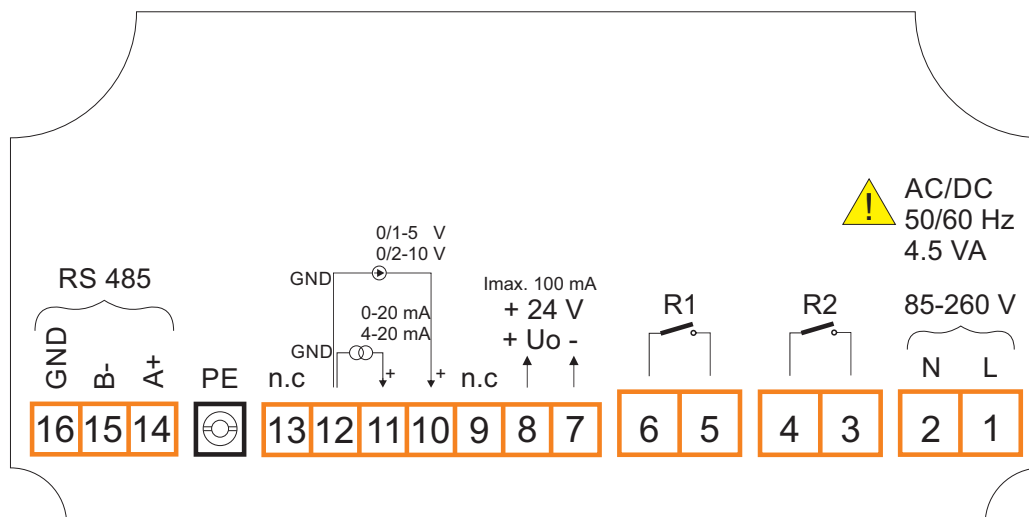
### DIMENSIONAL DRAWINGS



## TERMINAL DESCRIPTION

### UNIT TERMINAL BLOCK

terminal No.	PDU-420-W	terminal No.	PDU-420-W
1	L / + (230 / 24V)	9	
2	N / - (230 / 24V)	10	+ IN (voltage)
3	RE 2	11	+ IN (current)
4	RE 2	12	GND
5	RE 1	13	
6	RE 1	14	A + (RS 485)
7	+ U <sub>o</sub>	15	B - (RS 485)
8	+ U <sub>o</sub>	16	GND (RS 485)



## TECHNICAL SPECIFICATIONS

### BASIC TECHNICAL DATA

Location		panel version
Power supply voltage	version 230 V version 24 V	230 V AC ± 10% 24 V DC ± 15%
Power consumption	version 230 V version 24 V	2,6 VA 4,5 W
Voltage input		current 0/4 ... 20 mA (limited input current to 40 mA) voltage 0/1 ... 5 V; 0/2 ... 10 V
Voltage input resistance		< 65 Ω (current input) > 50 kΩ (voltage input)
Display range		-999 - 9999, plus decimal point
Voltage measurement accuracy		± 0,25% (± one digit over the entire measuring range)
Display		4-digit, seven-segment, LED, red
Outputs relay		2 (relay 1A / 250 V AC)
Sensor power supply outputs	version 230 V version 24 V	24 V DC ± 3 V, max. 25 mA 24 V DC ± 15%, max. 100 mA
Outputs		-
Communication interface		RS-485, 8N1 and 8N2, Modbus RTU, no galvanic separation
Baud rate		1 200 ... 115 200 bit/s
Operating temperature		0 ... +50°C; (-20 ... +50°C)*
Storage temperature		-10 ... +70°C; (-20 ... +70°C)*
Protection		IP65
Housing material		ABS + fiberglass
Weight		cca 340 g

\* special design for an extra charge

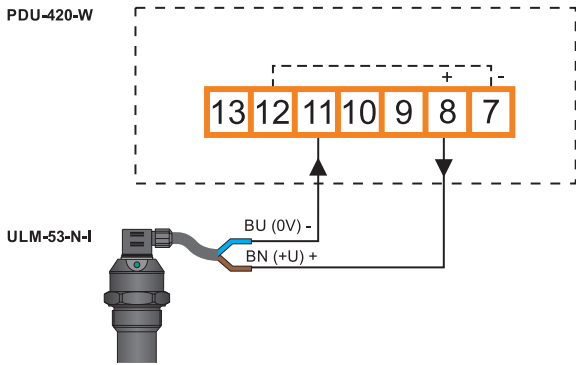
## ELECTRICAL CONNECTION

The unit is not equipped with an internal fuse or power supply circuit breaker. Because of this an external time-delay cut-out fuse with a small nominal current value must be used (recommended bipolar, max. 2A) and a power supply circuitbreaker located near the unit. In the case of using a monopolar fuse it must be mounted on the phase cable (L). The power supply network cable diameter must be selected in such a way that in the case of a short circuit of the cable from the side of the unit the cable shall be protected against destruction with an electrical installation fuse.

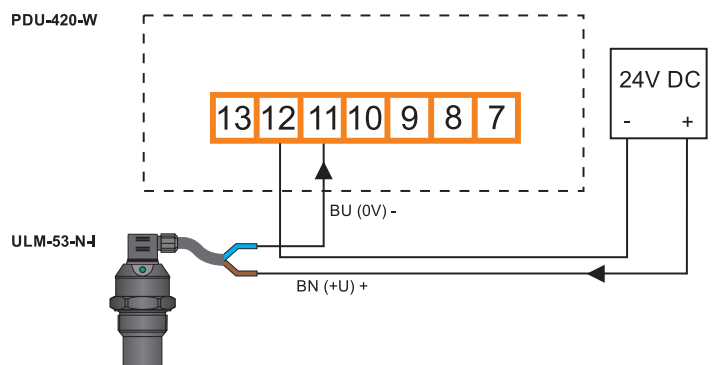
Note: In case of measurement (evaluation) of the values from the level meter located in areas with explosion hazard, it is necessary to install an isolating repeater between the PDU display unit and the level meter.

### Explosive areas

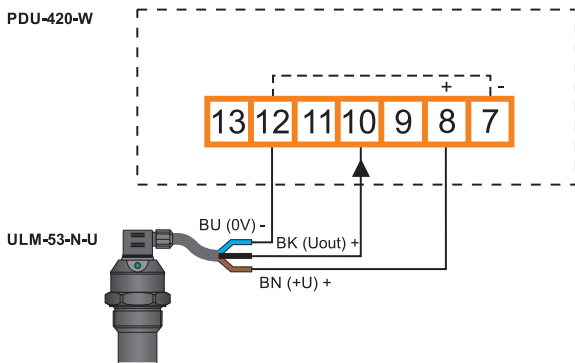
#### Connection of the sensors with shielded cable



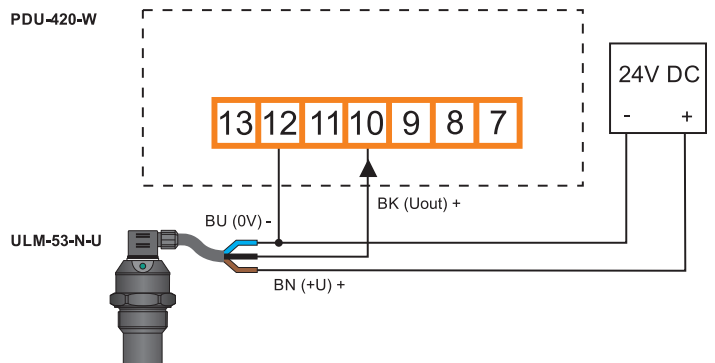
Connection diagram - level meter with current output to PDU unit, using internal power source



Connection diagram - level meter with current output to PDU unit, using external power source



Connection diagram - level meter with voltage output to PDU unit, using internal power source



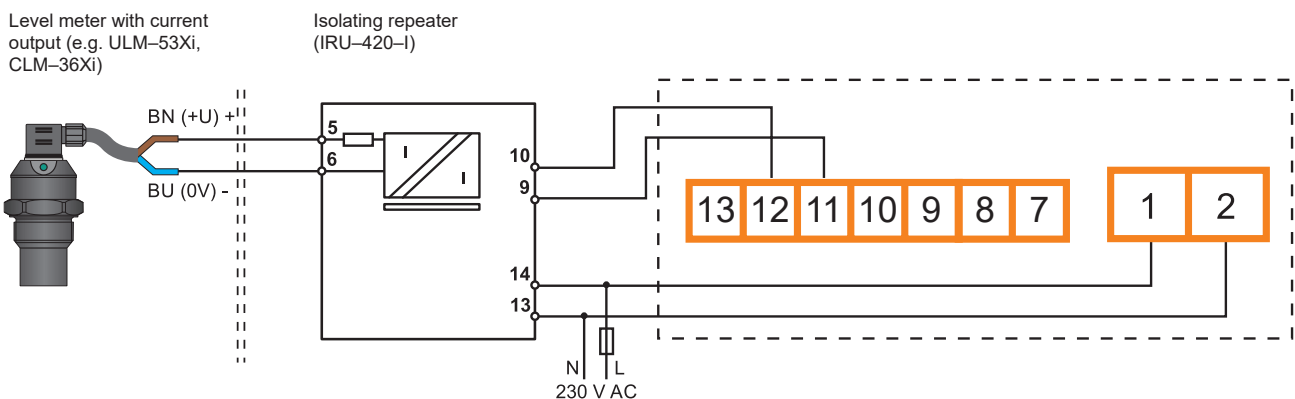
Connection diagram - level meter with voltage output to PDU unit, using external power source



Connection diagram is the same for all types of level meters with current or voltage outputs.

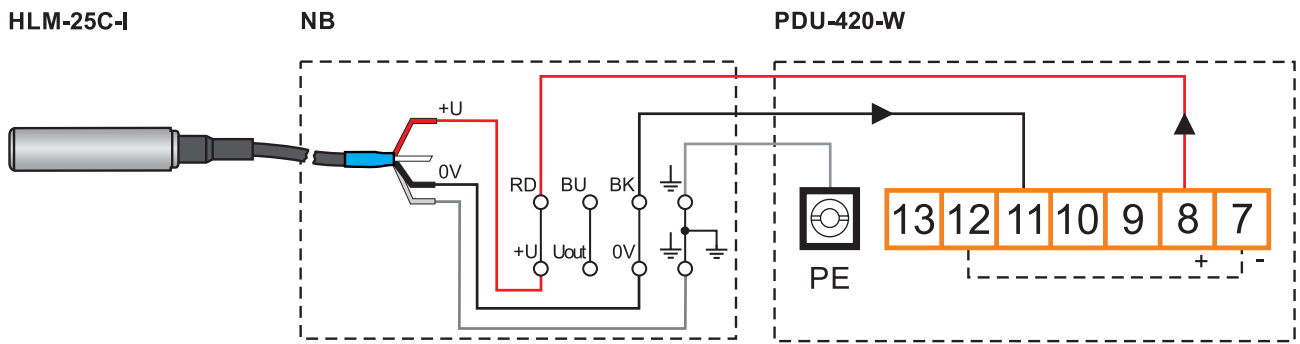
### Explosive areas

#### Connection of the sensors without shielded cable

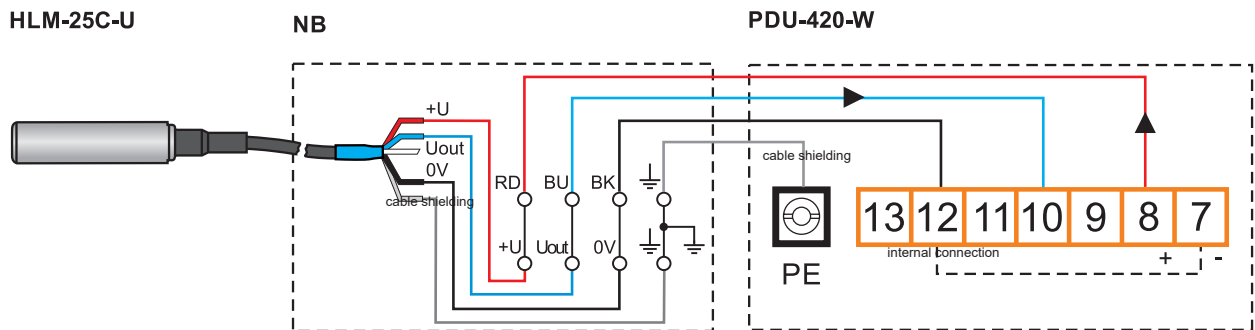


Connection of the unit to the level meters with current output located in explosive areas

**Non-explosive areas**  
**Connection of the sensors with shielded cable**



Connection diagram - level meter with current output to PDU unit, using internal power source



Connection diagram - level meter with voltage output to PDU unit, using internal power source

Legend:  
RD – red                      BK – brown  
BU – blue                     BN – black

**i** If junction box with integrated overvoltage protection is used, the sensor must be connected to the bottom contacts of the terminal block. These contacts are identified with SENSOR label.

**FUNCTION AND STATUS INDICATION**

LED control	colour	function
„AL“	red	<b>lit</b> – input current (voltage) on the terminals "+ IN" is outside of the allowed range (adjustable) <b>dark</b> – correct function
„R 1“	red	<b>lit</b> – relay RE 1 is energized (threshold status value exceeded) <b>dark</b> – relay RE 1 de-energized (threshold status value not reached)
„R 2“	red	<b>lit</b> – relay RE 2 is energized (threshold status value exceeded) <b>dark</b> – relay RE 2 de-energized (threshold status value not reached)

