PU COMPACT ULTRASONIC PROBE

Ja.Br.

(The innovated series of the previous SU type)

PU 500, PU 2000, PU 4000 and **PU 6000** ultrasonic probes are intended for contactless measurements of physical substances in open and closed profiles in a range from 0 to 5.2m. The signal processing with a powerful filter is fully digitalized. A pair of microprocessors controls the probe which also provides controlling and evaluating the monitored height even under severe conditions, e.g., strong liquid waves, aggressive vapour above the liquid surface, strong air flow above the surface, non-homogeneous air field above the surface, etc. The probes are provided with the internal temperature sensors and the digital temperature compensation unit. The height measured is available for the next use in the form of the galvanically separated analogue output, pulse output, and RS485 digital form.

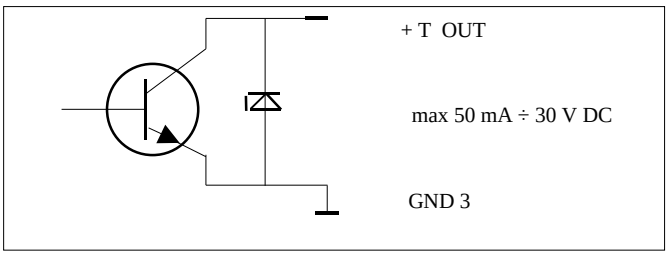
Specifications:

Type of probe	PU 500	PU 2000	PU 4000	PU 6000
Fixation above bottom	500	2000	4000	6000
Measurement range	0 ÷ 400	0 ÷ 1800	0 ÷ 3500	0 ÷ 5200
Resolution	0.2 mm			
Measurement accuracy	0.8 percent of the scale			
Linearity	+/- 2 mm			
Emission angle	6° to 9° according to homogeneity of the air field above the level			
Operational temperature	- 20° to + 60 °C			
Storage temperature	- 40° to + 85 °C			
Power supply	12 to 25 VDC/VAC, consumption max. 110 mA/ 15V *Protection against reversing of polarity and the 3rd overvoltage grade*			
Active current output	0÷20,4÷20, etc., generally from 0 to +30mA/300 Ohms *Protection against reversing of polarity and the 3rd overvoltage grade*			
Binary output Functions OR OR	Open collector, max 50 mA, max 30 VDC Hysteresis compactor 0 to 100% Probe failure alarm 0 or 1 Adjustable pulse output 0 to 5 kHz *Protection against reversing of polarity and the 3rd overvoltage grade*			
Communication line Functions	RS 485, 150 to 9600 Bd ELA format transmission Probe parameter setting Height and temperature data output to PC *Protection against the 3rd overvoltage grade*			
Electrical protection	IP 68			
Dimensions	Height=165 mm, diameter=90 mm			
Weights	1 kg			
Connecting cable	Self-supporting, length of 4m,			
	8x 0.5 mm² free conductor terminal			
Probe option	(PP) POLYPROPYLENE – integral part			
	Flange arrangement only on special order			

Probe connection

Conductor colour	Connection	Function
Blue Red	GND 1 12 V to 25VDC/VAC	Power supply
Violet Black	GND 2 + I OUT	Active analogue output
Brown Grey	GND 3 + T OUT	Open collector
White Green	A B	RS 485

Open collector (galvanically separated from power supply)



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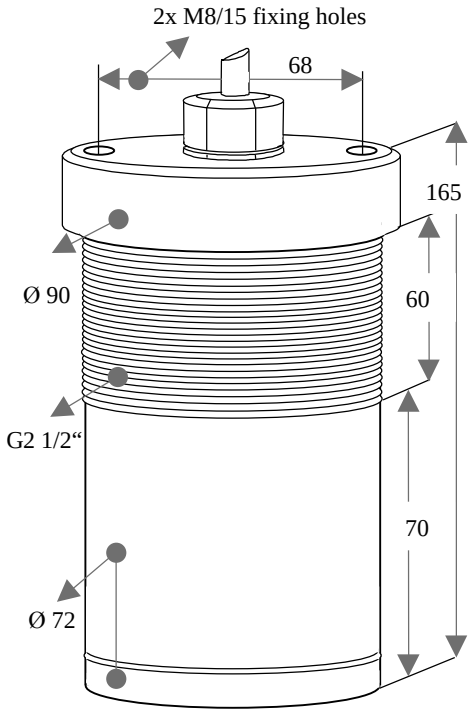
The authorized producer, approved by the ČMI, the certificate no. 3180/99/010, pursuant to the Act on Metrology no. 505/1990 Coll., par. 6 and 7, with the official mark of the approved types ***TCM 142/99 – 3180.***

is the producer and dealer of

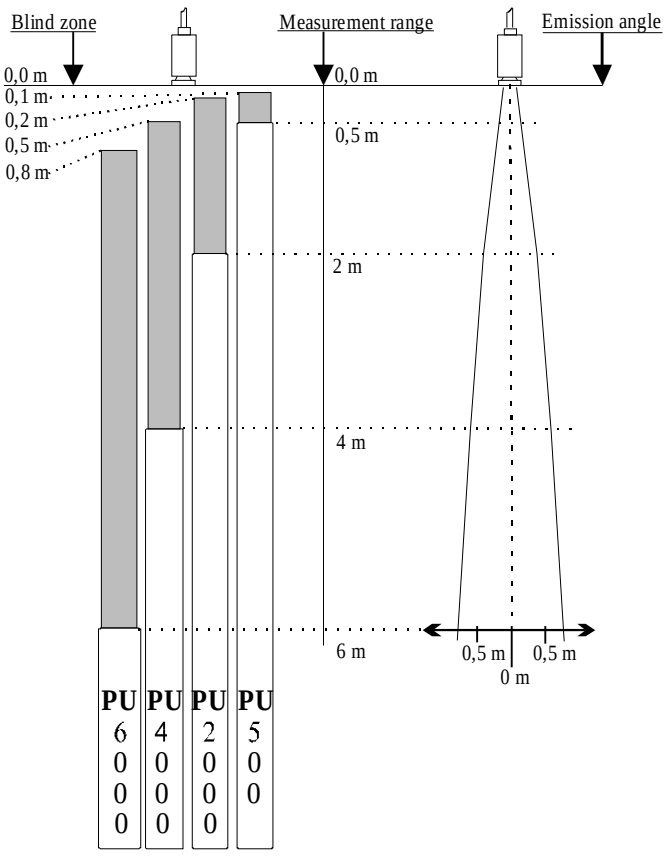
inductive flowmeters DN 10 to DN 1000
ultrasonic flowmeters for all types of open profiles
ultrasonic level gauges in a range from 0 to 950 cm
compact level gauges in a range from 0 to 520 cm
electrode systems
Parshall grooves

Dimensions of the sensing probe:

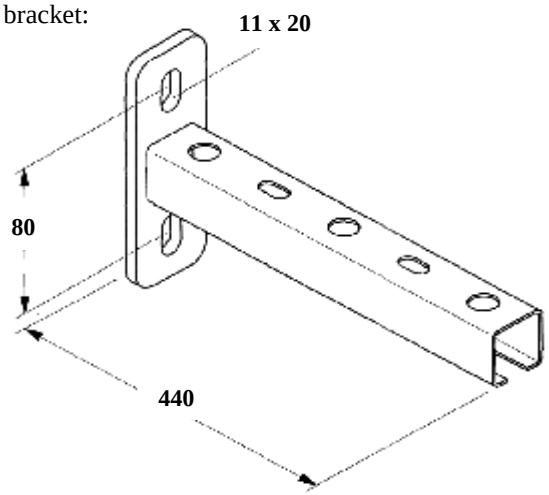


Recommendation for assembly:

The PU series ultrasonic probes can be fixed above the medium by means of the ELA Brno bracket (only when ordered), or suspended on the connecting cable that is shipped together with the probes. The cable design allows the probe to suspend along its full length.
During the final assembly of the sensing probes, it is necessary to take into account (mainly in confined space) both the emission angles of the ultrasonic probes and the blind distance from the level to be monitored. We recommend that this space should be let free (at least with 10 percent reserve).



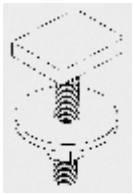
The assembly of the sensing probe:
(only when ordered)
1 x bracket:



2 x 10 mm dowel – NYLON:

2 x combined screw:

2 x probe fixing screw:



4 x M8 nut, 4 x washer, 1 x bracket blind

The marking and the PU series probe assembly:

The example of the probe marking:

APU 1,2 (0÷1)

Use of the probe with MQU 95, 99 controller (A÷B channels)
Probe type (compact, ultrasonic)
Assembling distance from the bottom [m]
Measuring range from the bottom [m]