



# Data sheet deltawaveVER2

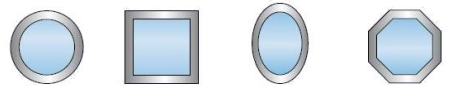
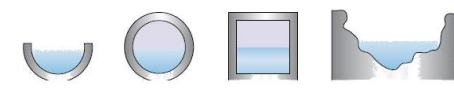
Range of application	
Temperature range	-30 to +80 °C
Pressure range	0 to 160 bar
Channel widths or Pipe diameter	0,1 m – 80 m
Media	Water
Channel shapes	Open channels Partially filled pipes Fully filled pipes Rectangular channels

General Information	
	Housing: stainless steel, wall-mounted Protection class: IP65 Dimensions (WxHxD, mm): 360 x 290 x 82 Weight: 4,1 kg Display: LCD 320x240 (Backlight: LED, dimmable) Operation: Intuitive via 8 main keys (soft keys) Operating temperature: -20 ... 60 °C Ex: Alternative Ex housing (optional)

Interfaces	
Inputs	2x 4...20 mA (active/passive)
Outputs	1x USB-socket (Mini B) 4x Transducer 2x 4...20mA (active/passive) 2x Puls (active/passive) 1x Relay (max 50V; 0,5A)
Communication	Modbus RTU / ASCII (RS485) opt. MBUS (via RS485) optional

Technical Data	
Measurement method	Ultrasonic transit time difference
Measured values	Volume flow, flow velocity, sound velocity, Water level
Counters	Total volume
Measuring range	-30 ... +30 m/s
Languages	German, English
Units	metric, imperial
Power supply	90 – 264 VAC 18 – 36 VDC (optional)
Power consumption	approx. 10 Watt
Integrated data storage	Micro-SD card, 4 GB (more possible)
Signal damping	1...60 sec (adjustable)
Diagnostic functions	Speed of sound, signal strength, SNR, signal quality, amplitude, energy. Signals can be shown graphically on the display.
No. of measuring paths	1 to 2
Arrangement measurement paths	Up to 2 paths vertically above each other Up to 2 crossed paths
No. Ultrasonic boards	1 MUS-Board

Higher accuracy requirements?	
	For more precise requirements, we recommend using the deltawaveVER2.  With its impressive 8 measuring paths, the deltawaveVER2 is the ideal choice, even for complex measuring tasks, to achieve reliable results.

Accuracies (apply from v = 0.1 m/s)					
Inlet Path	> 10 D			< 5 D	
Paths / Crosswise Measurements	2	*4	*6	*2 x 2	*4 x 2
 Filled pipes and filled rectangular cross-sections	< 2 %	0,5 %	0,3 %	< 2 %	0,5 %
 Open channels Partially filled pipes, running water	3 %	2 %	1 %	3 %	2 %

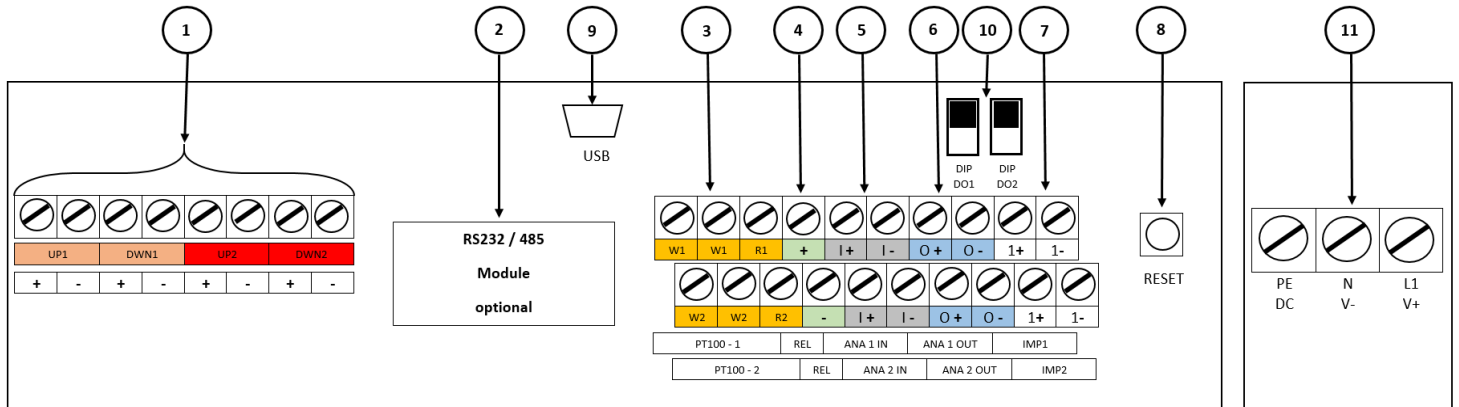
\*Possible with deltawaveVER2 only

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Specifications ultrasonic transducer					
Transducer	Pathlength	Media temperature	Cable length	Material housing	Pressure range
1 MHz (Ex opt.)	0,1 m to 7 m	-40 ... 80°C *Optional: -40 ... 140°C	10 m – 150 m	PVC / PU / V4A	Max. 10 barü *Optional: up to 100 barü
0,5 MHz (Ex opt.)	0,5 m to 40 m	-40 ... 80°C	10 m – 150 m	PVC / PU / V4A	Max. 3 barü Optional: up to 100 barü
0,2 MHz	3 m to 150 m	-40 ... 80°C	10 m – 300 m	PVC / PU / V4A	Max. 2 barü

\* When using the optional temperature extension, a pressure extension is only possible up to 28 barü.



Wiring diagram Input/Output		
1	UP1	ultrasonic transducer measurement path 1
	DWN1	(+) = red cable (core) (-) = black cable (shield)
	UP2	ultrasonic transducer measurement path 2
	DWN2	<b>Only 2-channel transmitter</b>
2	RS485 module (plug-on board for pin headers)	
3	PT100 – 1 & 2 (not used for deltawave LEAN)	
4	Relay connection, passive, potential-free	
5	Analogue inputs 1 & 2, 4...20mA (active/passive)	
6	Analogue outputs 1 & 2, 4...20mA (active/passive)	
7	Digital outputs 1 & 2: pulses (active/passive)	
8	Hardware-Reset (Restart of the system)	
9	Mini USB type B socket (access to SD card)	
10	DIP switch active/passive circuit IMP1 IMP2	
11	Connection power supply	
When changing between active and passive, the polarity changes: Active: O + (+); O - (-) Passive: O + (-); O - (+)		

## Any questions? We are happy to help you!

If you are not sure whether deltawaveVER2 is right for your application, contact us! We are happy to help.

Further, detailed information about the deltawaveVER2 and application examples can be found on the product pages of our website at [www.systemec-controls.de](http://www.systemec-controls.de) (Products)

At [www.systemec-controls.de](http://www.systemec-controls.de) (Info & Contact) you will find your personal contact person and you can also send us an enquiry using the online form.

You can get in touch with the specialists at the head office here:

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