

Data sheet deltawaveC-F

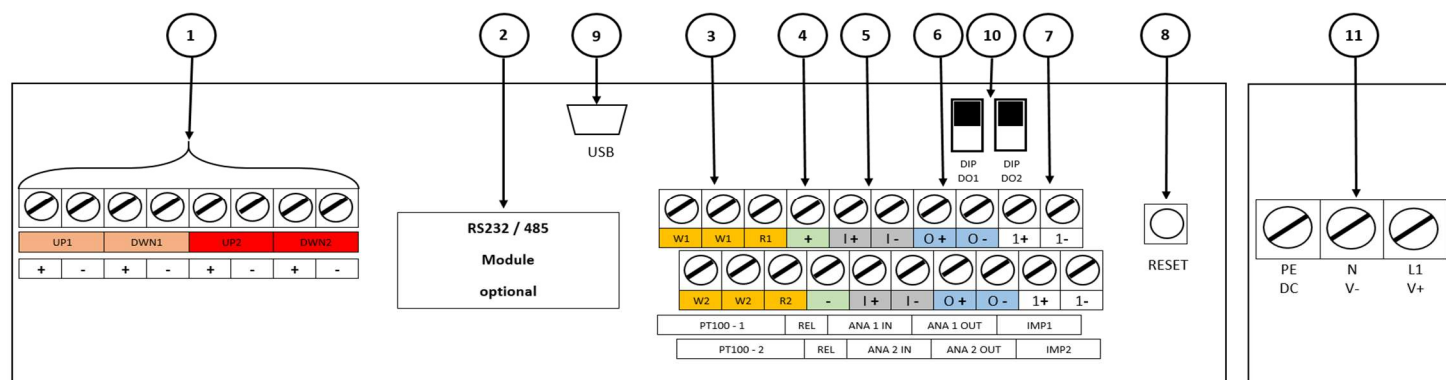
Range of application	
Temperature range	-40 to +150 °C
Pipe diameter	DN10 – DN6000
Pipe materials	All common sound-conducting materials (steel, plastics, etc.)
Media	Sound conducting liquids
Flow velocity	0.01...30 m/s,
Additional function	Heat quantity measurement (opt.) 2-channel transmitter (opt.)

General information	
	Housing: stainless steel, wall-mounted
	Protection class: IP66
	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 d housing (optional)

Interfaces	
Inputs	2x 4...20 mA (active/passive) optional 2x Pt100 (3-wire) optional
Outputs	1x USB socket (Mini B) 2x Transducer (2CH: 4x) 2x 4...20mA (active/passive) 1x Pulse (active/passive) (2CH: 2x) 1x Relay (max 50V; 0,5A)
Communication	Serial communication RS232 / RS485 in ASCII coding optional Modbus RTU / ASCII (RS485) opt. MBUS (via RS485) optional

Technical data	
Measurement method	Ultrasonic transit time difference
Measured values	Volume flow, mass flow, flow velocity and sound velocity Optional: heat output
Counters	Volume, mass, heat quantity (opt.)
Measuring range	-30 ... +30 m/s
Languages	EN-DE-FR; EN-ES-FR; EN-RU-CH
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.

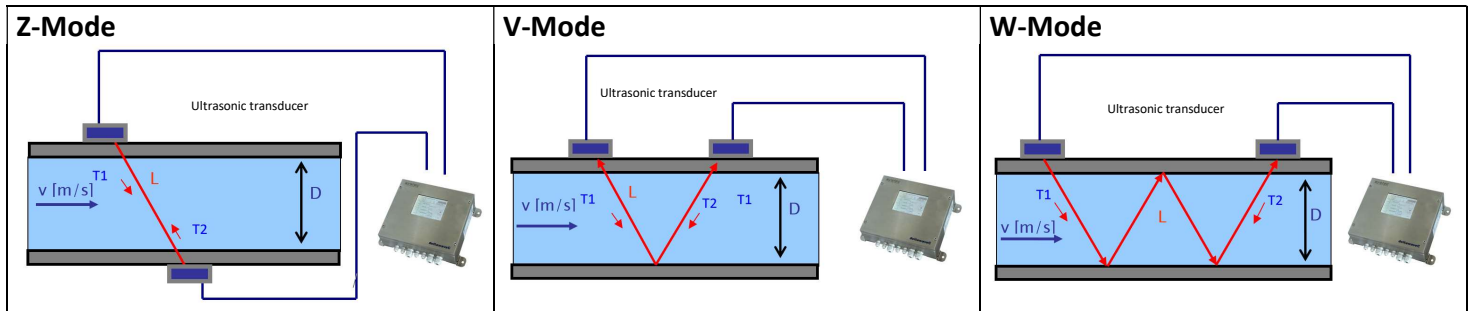
Wiring diagram Input/Output		
1	UP1	ultrasonic transducer measurement path 1 (+) = red cable (core) (-) = black cable (shield)
	DWN1	
	UP2	ultrasonic transducer measurement path 2 Only 2-channel transmitter
	DWN2	
2	RS232 / RS485 module (plug-on board for pin headers)	
3	PT100 – 1 & 2 (Connection for 3-wire PT100)	
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 - (+)		



Supported mounting types

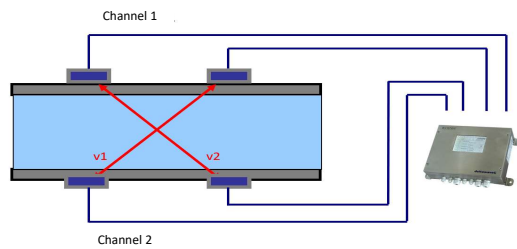
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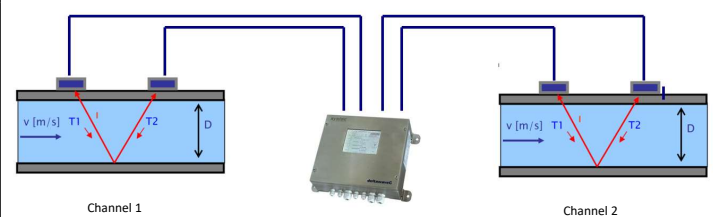


Supported measurement types 2-channel transmitter

One measuring point



Two measuring points



CH1, CH2, CH1+CH2, CH1-CH2, (CH1+CH2)/2

Specifications ultrasonic transducer

Transducer type	Nominal size	Media temperature	Cable length	Material housing	Coupling
F40 4 MHz	DN10 ... DN400 (DN20..DN100)(1)	-40 ... 150°C	10 m to 100 m on request	PEEK / Aluminium (SS316Ti opt) IP68	Gel (Magnalube) Coupling pad (opt.)
F10 (Ex opt.) 1 MHz	DN32 ... DN1200 (DN50 ... DN400)(1)	-40 ... 150°C	10 m to 100 m on request	PEEK / Aluminium (SS316Ti opt) IP68	Gel (Magnalube) Coupling pad (opt.)
F05 (Ex opt.) 500 kHz	DN200 ... DN6000 (DN200 ... DN2000)(1)	-40 ... 150°C	10 m to 100 m on request	PEEK / Aluminium (SS316Ti opt) IP68	Gel (Magnalube) Coupling pad (opt.)
HT10 1 MHz	DN32 ... DN1200 (DN50..DN400)(1)	-40 ... 380°C	5 m	PEEK / Aluminium (SS316Ti opt) IP68	Silver foil

Any questions? We are happy to help you!

If you are not sure which deltawaveC is right for your application, contact us! We will be happy to help.

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

At 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:

- (1) In V- or W-mode operation
- (2) XG-High Accuracy Type option with filed calibration
- (3) Transit-Time operation under reference conditions

Accuracy

Pipe Size mm	Accuracies	Repeatability
10 ... 25	0.5% o.v. +/- 0.04m/s (2) 1% o.v. +/- 0.04m/s (3)	+/- 0.005m/s (2) +/- 0.01m/s (3)
32 ... 50	0.5% o.v. +/- 0.03m/s (2) 1% o.v. +/- 0.03m/s (3)	+/- 0.005m/s (2) +/- 0.01m/s (3)
50 ... 100	0.5% o.v. +/- 0.01m/s (2) 1% o.v. +/- 0.02m/s (3)	+/- 0.005m/s (2) +/- 0.01m/s (3)
100 ... 6000	0.5% o.v. +/- 0.005m/s (2) 1% o.v. +/- 0.01m/s (3)	+/- 0.005m/s (2) +/- 0.005m/s (3)