

Ultrasonic Flowmeter for Water

Portable, very robust and easy-to-use ultrasonic flowmeter for the water and wastewater industry

Features

- Very high bi-directional measuring accuracy and highly dynamic flow measurement
- IP68 transducers, reinforced transducer cables and very robust housing
- Easy and intuitive use
- Very fast and easy installation
- High measuring accuracy, even at low flow velocities
- Suitable for highly diverse nominal pipe sizes and pipe materials



Applications

- Short-term measurements in the water and wastewater industry
- Leakage detection
- Water loss balancing
- Accuracy verification of permanently installed flowmeters
- Monitoring of pumping tests



FLUXUS F401 H₂O

Flow Transmitter

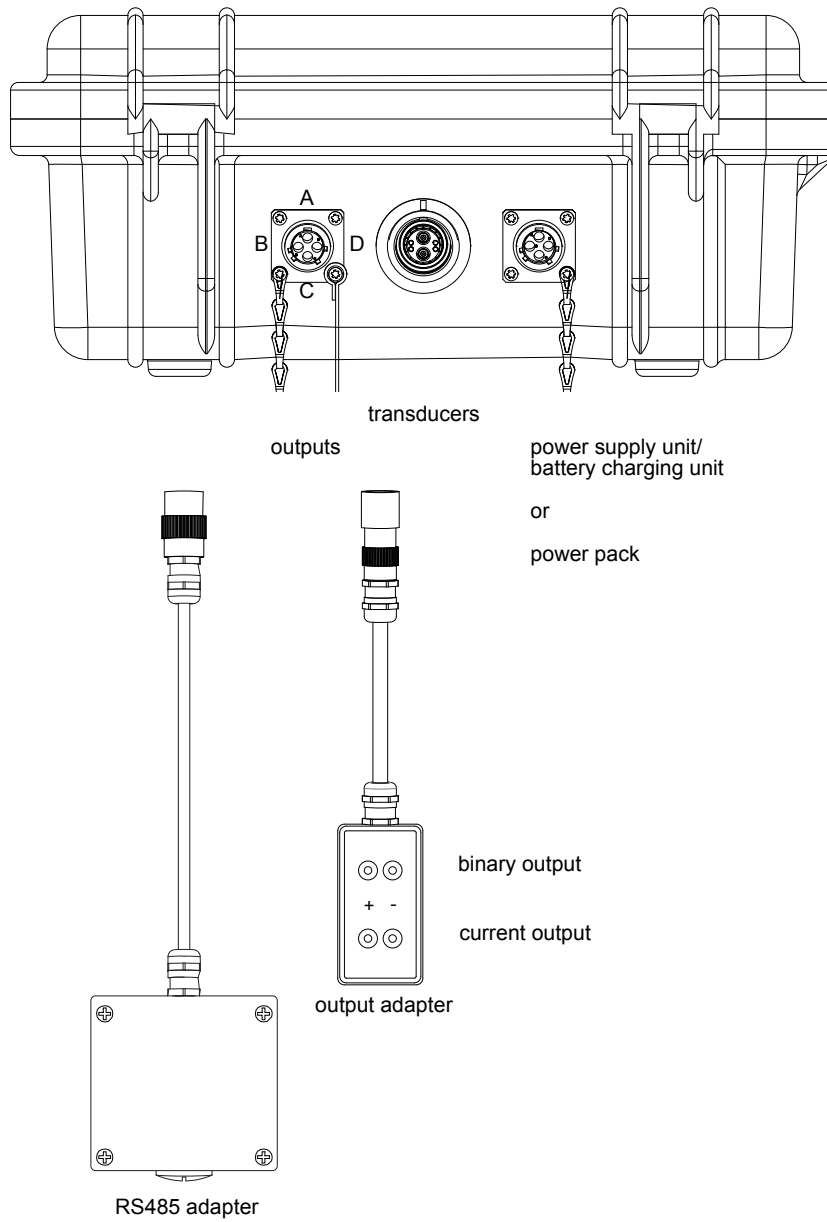
Technical Data

FLUXUS	F401
measurement	
measurement principle	transit time difference correlation principle
flow velocity	0.01...25 m/s
repeatability	0.25 % of reading ± 0.01 m/s
fluid	water and acoustically similar liquids with < 6 % gaseous or solid content by volume
accuracy ¹ - volumetric flow rate	± 2 % of reading ± 0.01 m/s
flow transmitter	
power supply	100...240 V/50...60 Hz (power supply unit) 12 V DC (socket at transmitter) integrated battery
battery	Li-Ion operating time ² (without outputs and backlight): > 20 h
power consumption	< 6 W
number of flow measuring channels	1
signal attenuation	0...100 s, adjustable
measuring cycle	10 Hz
response time	1 s
housing material	PP
degree of protection according to IEC/EN 60529	IP67 (housing cover closed) IP65 (housing cover open)
dimensions	273 x 247 x 127 mm
weight	2.9 kg
ambient temperature	-10...+50 °C
display	2 x 16 characters, dot matrix, backlight
menu language	English, German, French, Dutch, Spanish
measuring functions	
physical quantities	volumetric flow rate, mass flow rate, flow velocity
totalizer	volume, mass
data logger	
loggable values	all physical quantities and totalized values
capacity	> 100 000 measured values
communication	
interface	- process integration (optional, without outputs): RS485 (emitter) - diagnosis: RS232/USB
accessories	
serial data kit - software (all Windows™ versions) - cable - adapter	- FluxData: download of measurement data, graphical presentation, conversion to other formats (e.g. for Excel™) - RS232 - RS232 - USB
output adapter	optional
RS485 adapter	optional
outputs (optional)	
	The outputs are galvanically isolated from the transmitter.
current output	
number	1
range	0/4...20 mA
accuracy	0.1 % of reading ± 15 μ A
active output	$R_{ext} < 500 \Omega$
binary output	
number	1
optorelay	32 V/200 mA
binary output as alarm output - functions	limit or error
binary output as pulse output - pulse value - pulse width	0.01...1000 units 80...1000 ms

¹ for reference conditions and $v > 0.25$ m/s

² operating time using power pack PP0026NN (optional) (with power pack and integrated battery of the transmitter completely charged): max. 168 h

Connection



Output Adapter

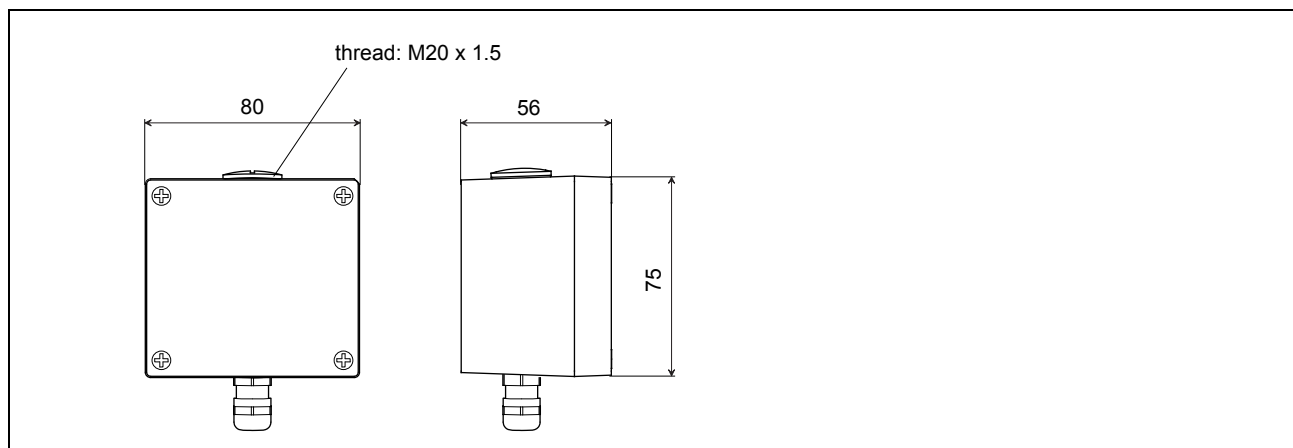
pin	connection
A	binary output (+)
B	binary output (-)
C	current output (+)
D	current output (-)

RS485 Adapter

Technical Data

technical type		OA485
dimensions		see dimensional drawing
weight	kg	0.29
material		
housing		polyester
gasket		silicone
degree of protection according to IEC/ EN 60529		IP66
ambient temperature		
min.	°C	-20
max.	°C	+90

Dimensions



in mm

Terminal Assignment

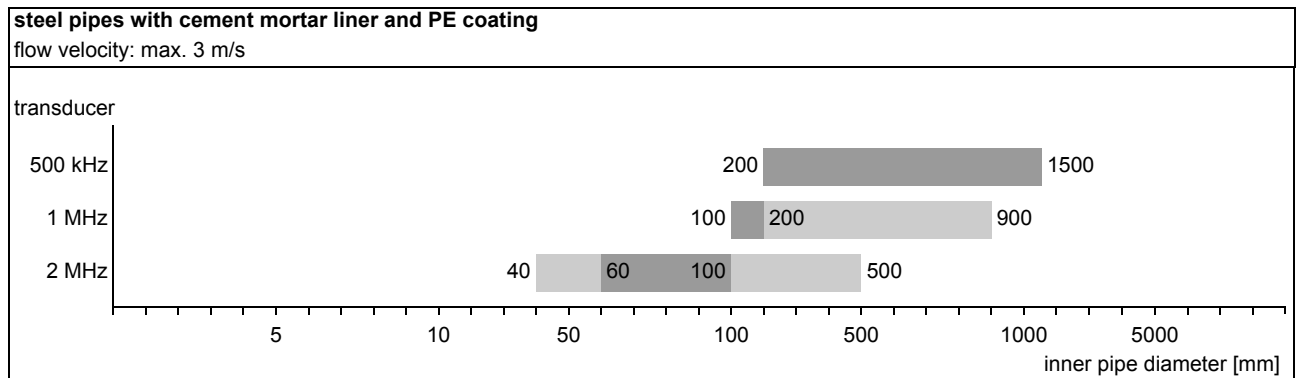
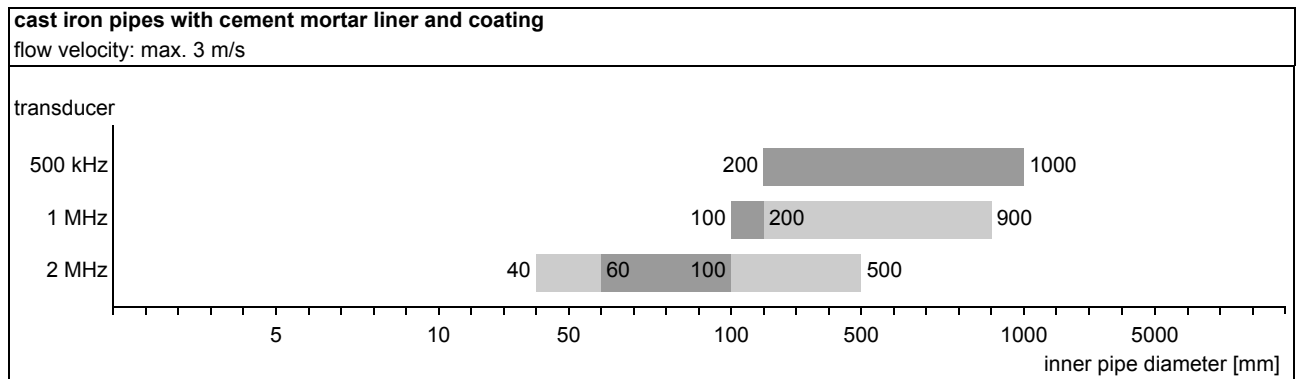
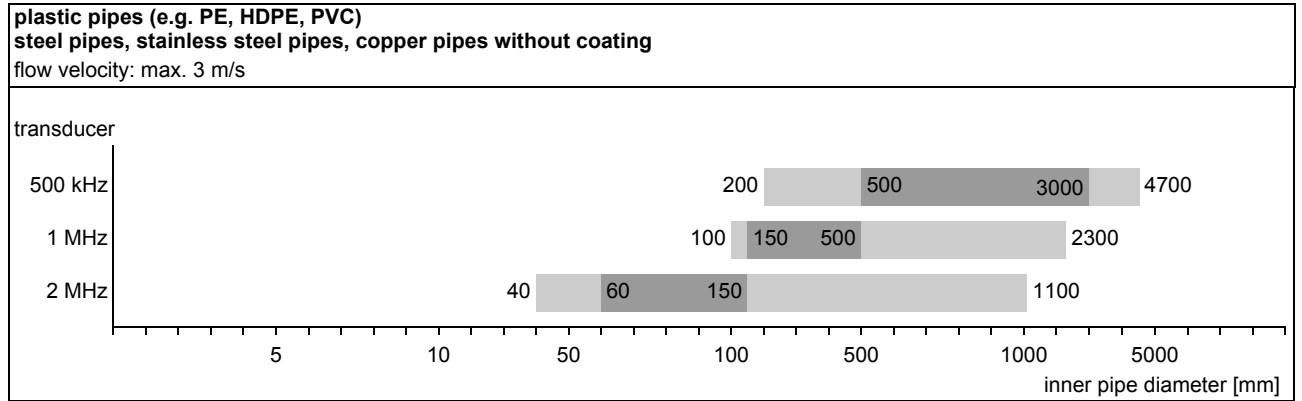


pin	terminal
A	A (+)
B	B (-)
C	S (shield)
D	-

Transducers

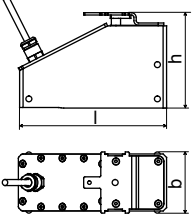
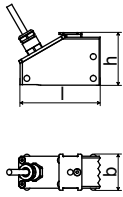
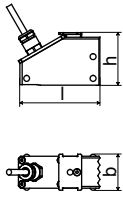
transducer recommendation for typical water pipe materials

For other pipe materials and higher flow velocities please contact FLEXIM.



■ recommended ■ possible

Technical Data

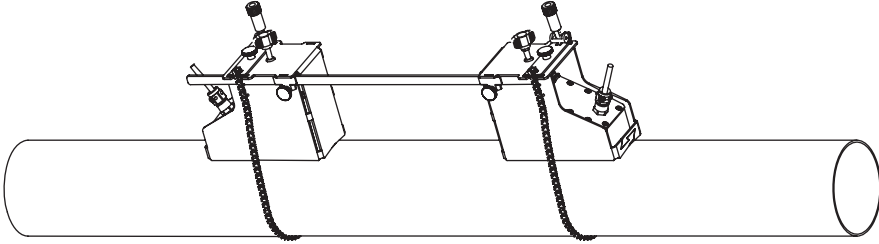
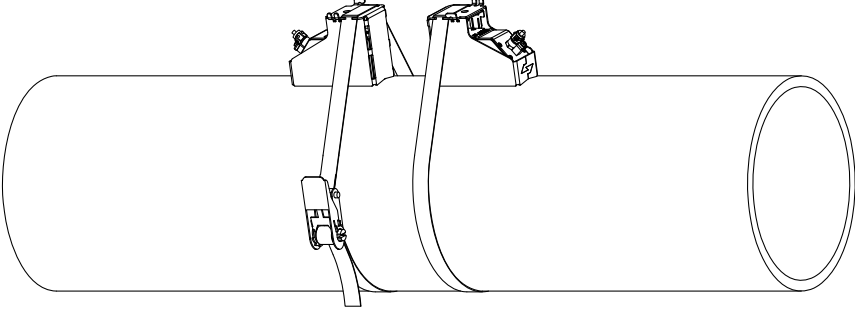
transducer		500 kHz	1 MHz	2 MHz
transducer frequency	MHz	0.5	1	2
inner pipe diameter	mm	see transducer recommendation		
material				
housing		PEEK with stainless steel cap 316Ti (1.4571)	PEEK with stainless steel cap 316Ti (1.4571)	PEEK with stainless steel cap 316Ti (1.4571)
contact surface		PEEK	PEEK	PEEK
degree of protection according to IEC/ EN 60529		IP68 ¹	IP68 ¹	IP68 ¹
transducer cable				
type		7819	7819	7819
length	m	12	12	12
dimensions				
length l	mm	130	72	72
width b	mm	54	32	32
height h	mm	83.5	46	46
dimensional drawing				
ambient temperature				
min.	°C	-40	-40	-40
max.	°C	+100	+100	+100

¹ test conditions: 3 months/2 bar (20 m)/20 °C

Transducer Cable

type		7819
ambient temperature	°C	-40...+100
properties		longitudinal water tight
cable jacket		
material		PUR
outer diameter	mm	5.2 ±0.2
thickness	mm	0.9
colour		grey
shield		x
sheath		
material		PUR
outer diameter		13 ±0.4

Transducer Mounting Fixture

<p>chains and transducer shoes</p> 	<p>material: stainless steel 316Ti (1.4571), 304 (1.4301), 301 (1.4310) chain length: 1/2 m</p>
<p>tension belts TB</p> 	<p>transducer frequency: K</p> <p>material: steel, powder coated and textile tension belt length: 5/7 m</p> <p>ambient temperature: max. 60 °C outer pipe diameter: max. 1500/2100 mm</p>

Coupling Materials for Transducers

type	order code	ambient temperature °C	material	transducer
coupling compound type N	990739-1	-30...+130	mineral grease paste	
coupling foil type VT	990739-0	-10...+200	fluoroelastomer	500 kHz
	990739-14			1, MHz, 2 MHz



FLEXIM GmbH
Wolfener Str. 36
12681 Berlin
Germany
Tel.: +49 (30) 93 66 76 60
Fax: +49 (30) 93 66 76 80

internet: www.flexim.com
e-mail: info@flexim.com

Subject to change without notification. Errors excepted.
FLUXUS® is a registered trademark of FLEXIM GmbH.
TSFLUXUS_F401V1-2EN_Leu, 2016-01-19