Ultrasonic flow module

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The TDS-100M modular ultrasonic flow meter can work alone without a LCD and Keypad module, the module can be used alone as a flow meter. Users can even integrate a number of the modules into a multi-channel flow meter that can measures up to several dozen of different pipes or a flow meter that has higher accuracy by measures the same pipe with all the channels, The design of the meter is intended to provide for users like system integrators and OEM users with a lowest cost but of high performance flow meter.

- 8-36VDC
- RS485 .4-20mA and OCT output
- 4-20mA and PT100 platinum resistance input
- 2×20 English letters LCD display
- 4 key tactile-feedback membrane keypad
- IP57
- Operate with clamp on, insertion and flow-cell transducer
- Pipe diameters from 15mm to 6000mm

Transducer Options

S1-type clamp-on transducer

M1-type clamp-on transducer

L1-type clamp-on transducer

S1H-type clamp-on high temperature transducer

M1H-type clamp-on high temperature transducer

B-type insertion wetted transducer (direct insertion)

cement insertion wetted transducer

Joint type transducer

PI-type transducer

Standard pipe transducer

Transducer recommendation

Clamp-on transducer

A pair of clamp-on transducer to measure the flow from outside of a pipe, there is no pressure drop, no leaks and no Contamination. The installation is very simple and no special skills or tools are required.

S1-type clamp-on transducer

M1-type clamp-on transducer

L1-type clamp-on transducer

S1H-type clamp-on high temperature transducer

M1H-type clamp-on high temperature transducer

Transducer Options

Technical parameters	S1-type	M1-type	L1-type	S1H-type	M1H-type
Pipe size (mm)	DN15~100	DN50~700	DN300~6000	DN15~100	DN50~700
Pipe size (inch)	(1/2~4")	(2~28")	(12~240")	(1/2~4")	(2~28")
Material	ABS			Special high-temp materials	
Frequency	1MHz				
Installation method	V(N/W)	V/Z	Z	V(N/W)	V/Z
Calibration	Calibrate with main unit				
Magnetism	Magnetic		No magnetic		
Temperature	32F~158F (0℃~70℃)			32F~320F (0℃~160℃)	
Protection class	IP65				
Dimension (mm)	45×30×30	60×45×45	80×70×55	90×85×24	90×82×29
Weight (g)	75	250	650	94	150
Liquid types	Water、sea water、waste water, chemical liquids, oil, crude oil, alcohol, beer, etc.				
Suspension concentration	< 10,000ppm and particle size less than 80um. May contain very small amount of air bubbles.				
Pipe material	Carbon steel、stainless steel、cast iron、copper、 PVC、aluminum、fiberglass-epoxy, ect. Allow pipe liner				
Cable	Standard length 5m×2. Can be extended to 10m×2 or 15m×2				

Insertion wetted transducer

A pair of insertion-type transducers are inserted into the pipe wall to interrogate the flow in the pipe. Since the transducers do not extrude into the flow, they do not generate any disturbance or cause any pressure drop. There is no moving parts to wear out.

B-type insertion wetted transducer
(direct insertion)

C-type insertion wetted transducer
(oblique insertion)

cement insertion wetted transducer

If the pipe material is carbon steel or stainless steel can be installed directly welding, but if the pipe material is cast iron, FRP,PVC or cement please contact with the manufacturer to order the dedicated pipe hoop. To prevent leak water please give the exact outside Diameter or perimeter to the manufacturer.

Technical parameters	B-type insertion wetted transducer (direct insertion)	C-type insertion wetted transducer (oblique insertion)	Cement insertion wetted transducer
Pipe size	More than DN80mm		
Material	Ball valve and transducer pole's material: stainless steel, Valve base's material is carbon steel (stainless steel is optional)		
Frequency	1MHZ		
Pipe material	All metals, most plastics, fiber glass,etc.		
Installation method	Z method		
Application of temperature	-40℃-160℃		
Bore size	Φ19mm (please use the manufacture's dedicated tools to drill, it can install with pressure.)		
Pressure class	1.6MPa(less than 0.8MPa when installing)		
Protection class	IP68 (can work in water and water depth ≤ 3 meter)		
Mounting Space	More than 550mm between the well wall and the pipe wall	More than 360mm between the well wall and the pipe wall	More than 700mm between the well wall and the pipe wall
Length	186mm	228mm	330mm
Liquid types	Water, sea water. Waste water, chemical liquids, oil, crude oil, alcohol, beer, etc		
Suspension concentration	≤2000ppm, may contain very small amount of air bubbles		
Cable	Shielded transducer cable, can be extended to 500 meter×2 contact the manufacturer for longer cable requirement, but the cable for water meter transducer do not more than 5 meter.		

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Flow-cell transducer

Transducer is a flow-cell (or spool-piece), where a pair of ultrasonic sensors have already been built in. the flow cell transducer Is a accurately calibrated in the factory. When it is put in line with the testing pipe, the accuracy normally does not change .with high accuracy, good stability, easy to use, etc.

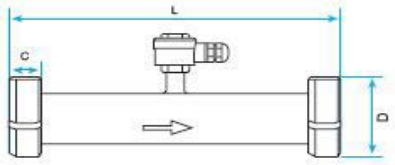
Joint type transducer

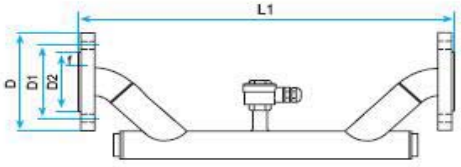
PI-type transducer

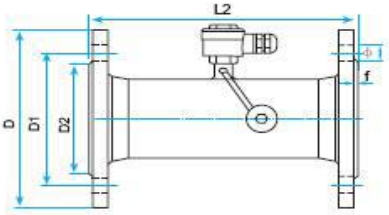
Standard pipe transducer

Transducer parameters

Technical parameters	Joint type transducer	PI-type transducer	Standard pipe transducer
Main unit	Integrated type, wall-mount, converter, module		Integrated type, wall-mount, converter, Module, water meter
Pipe size	DN25-DN80mm	DN15-DN40mm	DN50-DN1000
Material	Stainless steel		Carbon steel (stainless steel is optional)
Frequency	1MHZ		
Connection	Joint type	Flange type	
Application of temperature	-40℃-160℃		
Calibration	Calibrate with the main unit		
Protection class	IP68 (can work in water, and water depth ≤ 3 meter)		
Dimension	Refer to the following table		
Nominal pressure	Refer to the following table		
Liquid types	Water, sea water. Waste water, chemical liquids , oil crude oil, alcohol, beer, etc.		
Suspension concentration	≤ 20000 ppm , may contain very small amount of air bubbles.		
Cable	Shielded transducer cable, can be extended to 500 meter ×2 contact the manufacturer for longer cable requirement, but the cable for water meter transducer do not more than 5 meter.		







Flow-cell transducer

Joint type

Nominal diameter DN (mm)	Rated pressure (MPa)	Pipe material	Joint dimension			
			L	H	D	C
25	4.0	Stainless steel	300	282	51	19
40			300	300	74	23
50			300	310	84	24
65			350	330	100	28
80			400	345	114	30

Flange type

Nominal diameter DN(mm)	Rated pressure (MPa)	PI-type L1	Standard- pipe L2	Flange dimension (mm) D	D1	D2	f	N-Φ	Thickness
15	2.5	320		95	65	46	2	14×4	14
20		360		105	75	56	2	14×4	16
25		390		115	85	65	3	14×4	16
32		450		140	100	76	3	18×4	18
40		500		150	110	84	3	18×4	18
50	1.6		200	165	125	99	3	18×4	20
65			200	185	145	118	3	18×4	20
80			225	200	160	132	3	18×8	20
100			250	220	180	156	3	18×8	22
125			250	250	210	184	3	18×8	22
150			300	285	240	211	3	22×8	24
200			350	340	295	266	3	22×12	24
250			450	405	355	319	3	26×12	26
300			500	460	410	370	4	26×12	28
350			550	520	470	429	4	26×12	30
400			600	580	525	480	4	26×16	32
450			700	640	585	548	4	30×20	34
500	1.0		800	670	620	585	4	25×20	32
600			1000	780	725	685	5	30×20	36
700	0.6		1100	860	810	775	5	24×25	32
800			1200	975	920	880	5	24×30	32
900			1300	1075	1020	980	5	24×30	34
1000			1400	1175	1120	1080	5	28×30	36