IN-LINE ULTRASONIC FLOWMETER

FDT100 Series

1 YEAR WARRANTY | **NIST** | CE **Standard**
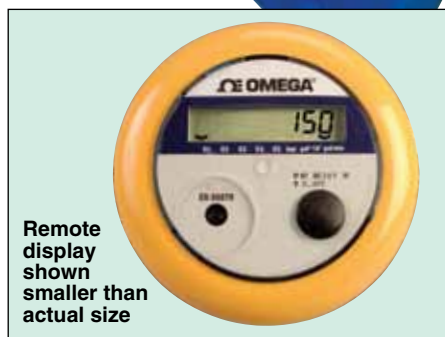
- ✔ **Economical Ultrasonic Flowmeter for Water Service**
- ✔ **Battery Powered**
- ✔ **Displays Flow Rate and Total**
- ✔ **Extended Low Flow Range**
- ✔ **Virtually No Pressure Loss**
- ✔ **No Moving Parts for Long Life**
- ✔ **NIST 3-Point Calibration Included**

The FDT100 Series comprises advanced-technology water flowmeters. This series uses transit-time ultrasonic technology in which the signal is transmitted and received alternately between 2 flow sensors and the "time of flight" determines the flow rate. The battery-powered transmitter comes in the user's choice of an integrally mounted display or a remote-mount version. Applications include both commercial and consumable water measurement. Long-term stability and a wide measurement range make it possible not only to measure water consumption, but also to monitor systems for water leakage. Because the FDT100 Series has no moving parts, system pressure loss is minimal and filtration is not required. Display flow rate or total at the push of a button. Installation is aided by 150-lb ANSI flanges in sizes from 2 to 8".

FDT103 shown smaller than actual size.

Remote display shown smaller than actual size

SPECIFICATIONS
Accuracy: ±2% of reading; ±5% below minimum transition rate
Fluid Temperature: 0 to 50°C (32 to 122°F)
Maximum Pressure: 230 psig
Enclosure: IP67 (integral mount version)
Electronic Housing: Aluminum alloy with plastic cover
Display: 7-segment, 8-digit, single-line LCD

Current Output: 4 to 20 mA/DC current (requires 8 to 24 Vdc supply)
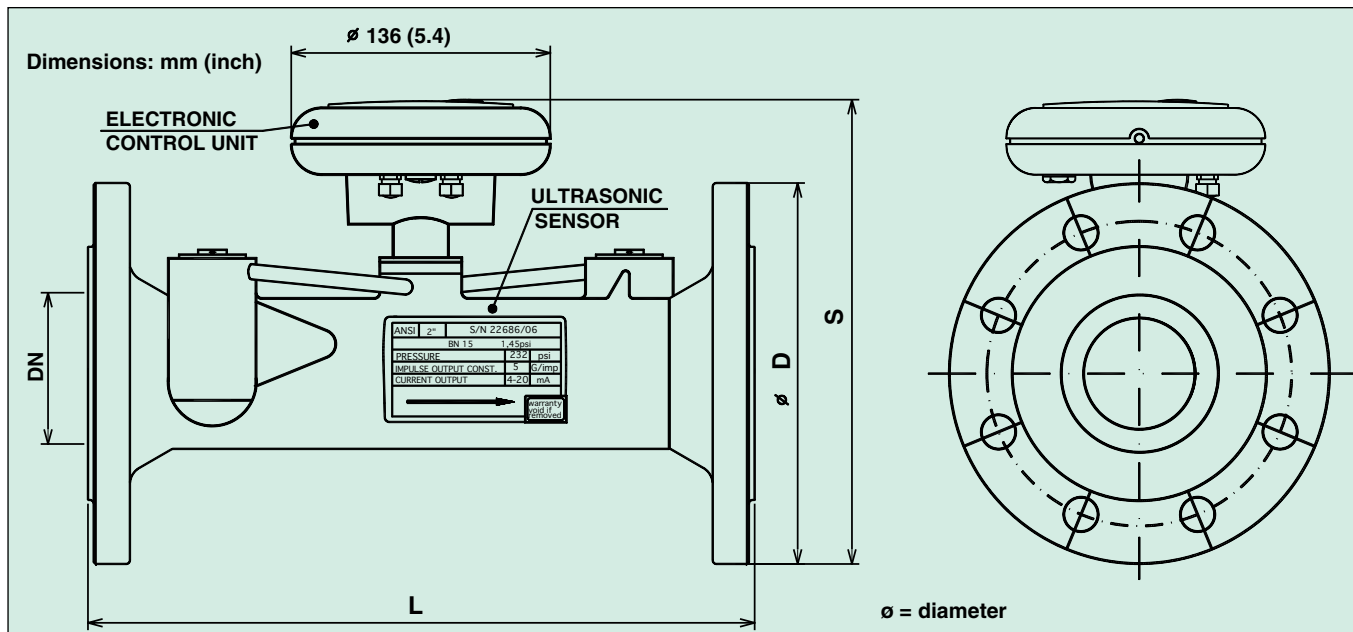**Open Collector Output:** 5 to 30 Vdc, 1 mA max
Flange: ANSI 150# or DIN

Meter Body: Cast iron
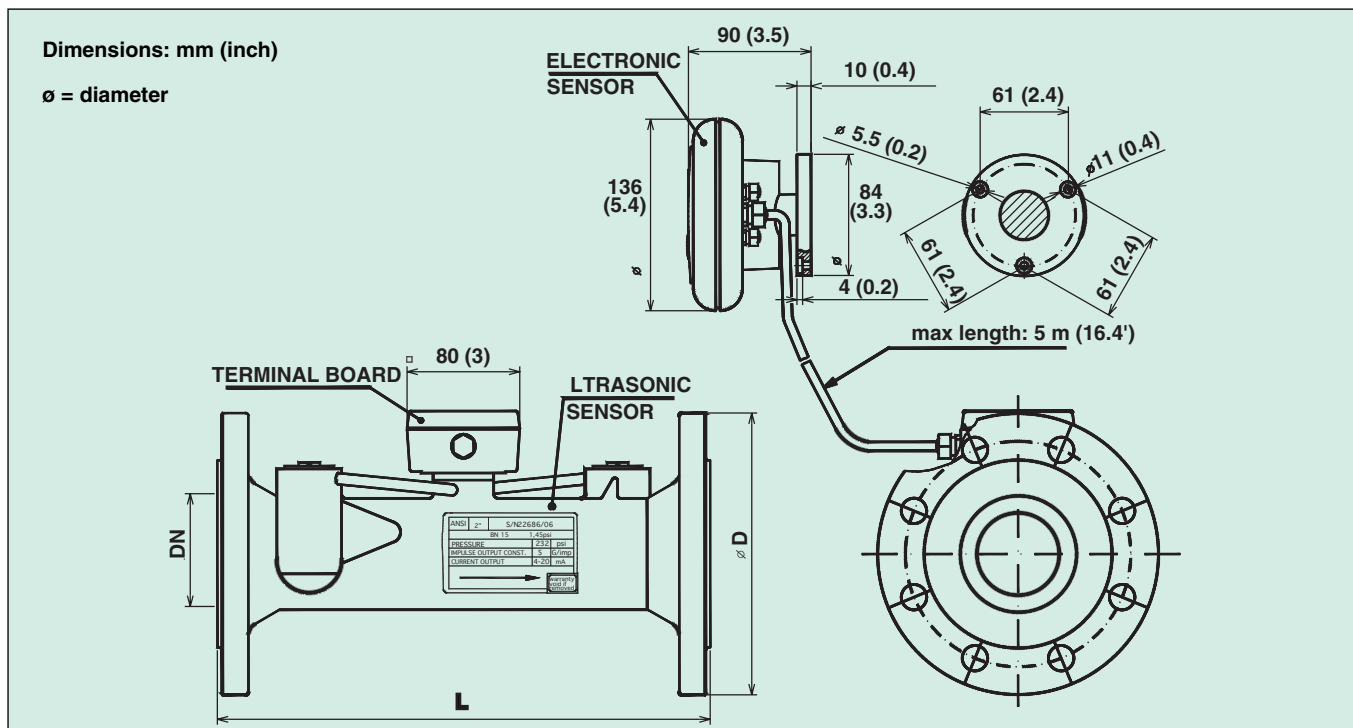**Power Supply:** Internal 3.6V battery (included), 1 to 2 year life

ANSI Size Rate Information							
ANSI Flange Size	2	2½	3	4	5	6	8
Overload Flow Rate qs [GPM]	130	220	350	530	880	1320	1585
Nominal Flow Rate qp [GPM]	65	110	175	265	440	660	1100
Transitional Flow Rate qt [GPM]	13	22	35	53	88	132	220
Minimum Flow Rate qmin [GPM]	2	3.3	5.3	8	13.2	20	33
Pulse Output Constant ki [gal/pulse]	5	10	10	15	30	30	30

DIN Size Rate Information									
DIN Flange Size	32	40	50	65	80	100	125	150	200
Overload Flow Rate q_s [m3/h]	12	20	30	50	80	120	200	300	360
Nominal Flow Rate q_p [m3/h]	6	10	15	25	40	60	100	150	250
Transitional Flow Rate q_t [m3/h]	0.48	0.8	3	5	8	12	20	30	50
Minimum Flow Rate q_{min} [m3/h]	0.12	0.2	0.45	0.75	1.2	1.8	3	4.5	7.5
Pulse Output Constant k_i [l/pulse]	10	25	25	50	50	100	100	100	100

Dimensions: mm (inch)

ø 136 (5.4)

ELECTRONIC CONTROL UNIT

ULTRASONIC SENSOR

DN

S

ø D

L

ANSI | 2" | S/N 22686/06
BN 15 | 1,45psi
PRESSURE | 232 | psi
IMPULSE OUTPUT CONST. | 5 | G/imp
CURRENT OUTPUT | 4-20 | mA
warranty void if removed

ø = diameter

Compact Version—Basic Dimensions									
DN	32 (1¾)	40 (1½)	50 (2)	65 (21.2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)
L: mm (in)	260 (10.2)	300 (11.8)	300 (11.8)	300 (11.8)	350 (13.8)	350 (13.8)	350 (13.8)	350 (13.8)	350 (13.8)
S: mm (in)	190 (7.5)	198 (7.8)	208 (8.2)	225 (8.9)	237 (9.3)	253 (10)	280 (11)	307 (12)	352 (14)
D: mm (in)	140 (5.5)	150 (5.9)	165 (6.5)	185 (7.3)	200 (7.9)	220 (8.7)	250 (9.8)	285 (11.2)	340 (13.4)
Weight: kg (lb)	4.5 (10)	7 (15)	10 (22)	11 (24)	15 (33)	17.5 (39)	22.5 (50)	26 (57)	36.5 (80)

Dimensions: mm (inch)

ø = diameter

ELECTRONIC SENSOR

90 (3.5)

10 (0.4)

61 (2.4)

ø 5.5 (0.2)

ø11 (0.4)

136 (5.4)

84 (3.3)

61 (2.4)

61 (2.4)

4 (0.2)

max length: 5 m (16.4')

TERMINAL BOARD

80 (3)

LTRASONIC SENSOR

DN

ø D

L

ANSI | 2" | S/N2686/06
BN 15 | 1,45psi
PRESSURE | 232 | psi
IMPULSE OUTPUT CONST. | S | G/imp
CURRENT OUTPUT | 4-20 | mA
warranty void if removed

Remote Version—Basic Dimensions									
DN	32 (1¾)	40 (1½)	50 (2)	65 (21.2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)
L: mm (in)	260 (10.2)	300 (11.8)	300 (11.8)	300 (11.8)	350 (13.8)	350 (13.8)	350 (13.8)	350 (13.8)	350 (13.8)
D: mm (in)	140 (5.5)	150 (5.9)	165 (6.5)	185 (7.3)	200 (7.9)	220 (8.7)	250 (9.8)	285 (11.2)	340 (13.4)
Weight: kg (lb)	5 (11)	7.5 (16.5)	10.5 (23)	11.5 (25)	15.5 (34)	18 (40)	23 (51)	26.5 (58)	37 (82)

E

FDT103-R shown smaller than actual size.

Remote display shown smaller than actual size
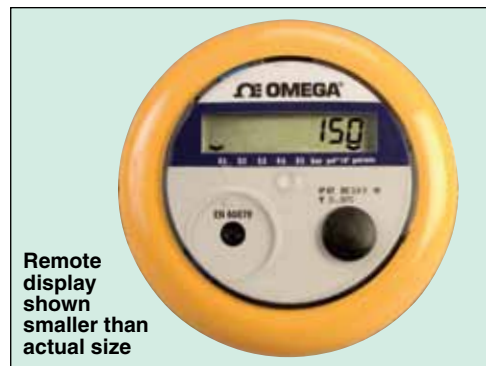
To Order

Model No.	150# ANSI Flange Size cm (in)	Description
FDT103	5 (2)	Battery-powered ultrasonic flowmeter
FDT104	6.3 (2.5)	Battery-powered ultrasonic flowmeter
FDT105	7.6 (3)	Battery-powered ultrasonic flowmeter
FDT106	10.2 (4)	Battery-powered ultrasonic flowmeter
FDT107	12.7 (5)	Battery-powered ultrasonic flowmeter
FDT108	15.2 (6)	Battery-powered ultrasonic flowmeter
FDT109	20.3 (8)	Battery-powered ultrasonic flowmeter
FDT103-R	5 (2)	Battery-powered ultrasonic flowmeter with remote display
FDT104-R	6.3 (2.5)	Battery-powered ultrasonic flowmeter with remote display
FDT105-R	7.6 (3)	Battery-powered ultrasonic flowmeter with remote display
FDT106-R	10.2 (4)	Battery-powered ultrasonic flowmeter with remote display
FDT107-R	12.7 (5)	Battery-powered ultrasonic flowmeter with remote display
FDT108-R	15.2 (6)	Battery-powered ultrasonic flowmeter with remote display
FDT109-R	20.3 (8)	Battery-powered ultrasonic flowmeter with remote display
Model No.	**DIN Size**	**Description**
FDT101-DIN	32	Battery-powered ultrasonic flowmeter
FDT102-DIN	40	Battery-powered ultrasonic flowmeter
FDT103-DIN	50	Battery-powered ultrasonic flowmeter
FDT104-DIN	65	Battery-powered ultrasonic flowmeter
FDT105-DIN	80	Battery-powered ultrasonic flowmeter
FDT106-DIN	100	Battery-powered ultrasonic flowmeter
FDT107-DIN	125	Battery-powered ultrasonic flowmeter
FDT108-DIN	150	Battery-powered ultrasonic flowmeter
FDT109-DIN	200	Battery-powered ultrasonic flowmeter
FDT101-R-DIN	32	Battery-powered ultrasonic flowmeter with remote display
FDT102-R-DIN	40	Battery-powered ultrasonic flowmeter with remote display
FDT103-R-DIN	50	Battery-powered ultrasonic flowmeter with remote display
FDT104-R-DIN	65	Battery-powered ultrasonic flowmeter with remote display
FDT105-R-DIN	80	Battery-powered ultrasonic flowmeter with remote display
FDT106-R-DIN	100	Battery-powered ultrasonic flowmeter with remote display
FDT107-R-DIN	125	Battery-powered ultrasonic flowmeter with remote display
FDT108-R-DIN	150	Battery-powered ultrasonic flowmeter with remote display
FDT109-R-DIN	200	Battery-powered ultrasonic flowmeter with remote display

Accessory

Model No.	Description
FDT100-BAT	Replacement battery for the FDT100 Series

Comes complete with operator's manual, 3.6V battery, and NIST 3-point calibration.
For a 4-point NIST calibration, add suffix "-NIST4" to model number, for additional cost. For an 8-point NIST calibration, add suffix "-NIST8" to model number, for additional cost.
Ordering Examples: FDT104-R, *2½" 150# ANSI flanged ultrasonic flowmeter with remote display.*
FDT106, *4" 150# ANSI flanged ultrasonic flowmeter with integral display.*