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Adept - DWM
Domestic Ultrasonic Water Meter

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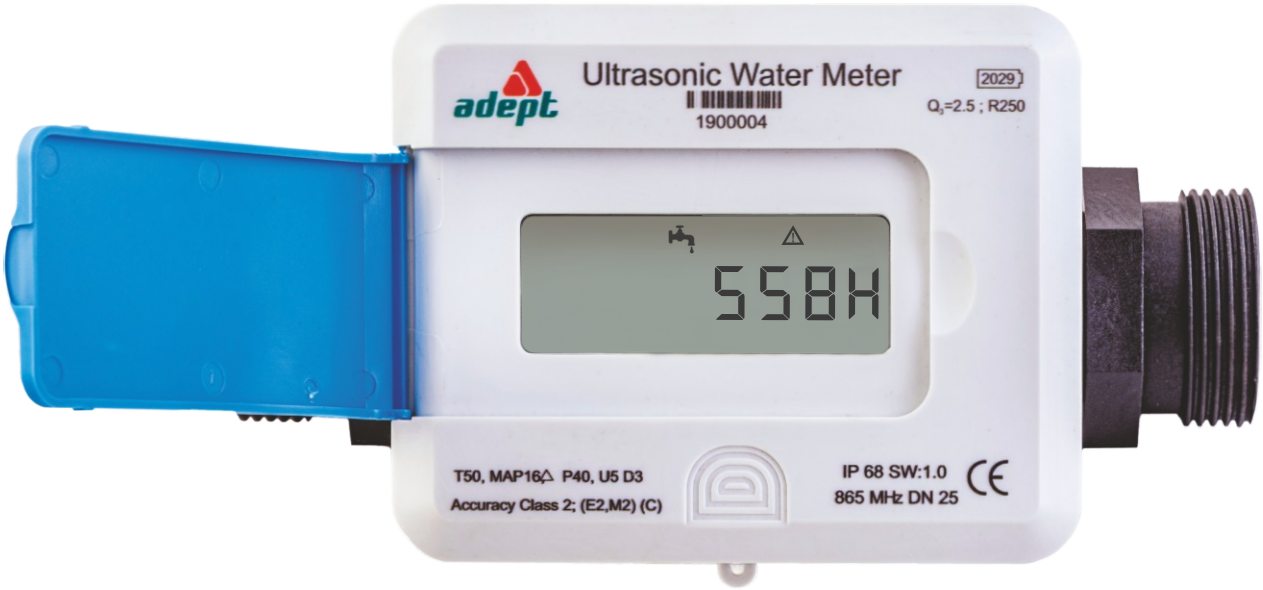

Domestic Ultrasonic Water Meter

Ultrasonic Water Meter is a device used to measure the velocity of flow by using the principle of ultrasound. It can measure the average velocity along the path of an emitted beam of ultrasound by averaging the difference in measured transit time between the pulses of ultrasound propagating into and against the direction of the flow. The flow measurement is based on an acoustic wave time of flight principle. The flow meter body is equipped with 2 ultrasonic transducers facing 2 acoustic reflectors.

IoT Ready

DWM supports IoT ready wireless communication interfaces which are suitable for any type of installation environment, e.g. LoRaWAN or NB-IoT. The data transmission frequency is every 24 hours.
Wireless Remote Reading Solution offers reliable remote meter reading solutions with accurate measuring. Utilities no longer need to send engineers on site to read the meter manually. With wireless technology, meter data is uploaded to server automatically on each billing date. With this solution, utility save significant expenditure on installation cost, meter reading labour cost and avoid mistakes in the meter reading. This solution is widely used worldwide on various types of meters.

The LoRaWAN and NB-IoT standards are both part of a larger family of technologies known as LPWAN (Low Power Wide Area Networking).
LoRaWAN is an open protocol offered by the LoRa alliance that uses unlicensed spectrum, allowing almost anyone to set up their own networks at a low cost.
NB-IoT is a licensed protocol from the standards organisation 3GPP offered through the licensed RF spectrum, making it available only through established mobile network operators.

Flow Measurement

DN (mm)	Flow rate (LPH)				
	Start flow	Q1	Q2	Q3	Q4
15	3	12.5	20	2500	3125
20	10	25	40	4000	5000
25	16	39	62.5	6300	7875
32	25	62.5	100	10000	12500
40	40	128	205	16000	20000

Parameters	Specifications
Water temperature range	0.1 to 50°C
Q3/Q1	R200 for DN 15, R160 for DN 20 - 32, R125 for DN 40
Accuracy	Class 2
Maximum permissible error in upper flow rates range $Q2 \leq Q \leq Q4$	± 2% (at $T \leq 30°C$) ± 3% (at $T > 30°C$)
Maximum permissible error in lower flow rates range $Q1 \leq Q < Q2$	± 5%
Scale interval (m^3)	0.001
Capacity of calculator	99999999
Type of liquid	Water
Installation requirement	Min. 10*DN length of straight pipe before the meter and Min. 5*DN length of straight pipe after the meter (DN is the diameter of Meter)
Basic mounting orientation and other specified orientation	Horizontal / Vertical
MAP	16 Bar
Max. pressure loss	≤ 63 kPa
Display & Indication	
Display unit options	m^3, L
Display LCD	8 digit
Volume	0.001 m^3 or 1 L
Data history	24 months
Time to LCD off	3 min.
Environment Requirement	
Electromagnetic class	E1
Machanical class	M1
Ambient temperature	5 to 55°C (Indoor and non-condensing)
Storage temperature	-20 to 60°C
Protection class	IP 68
Interface & Communication	
Communication interface (Optional)	GPRS, LoRaWAN, NB-IoT
Power Supply	
Battery	Lithium battery
Battery life	10 years
Mechanical Specification	
Top cover	ABS
Bottom cover	ABS
Flow body	PA with 40% long glass fibers

Model	DWM 15	DWM 20	DWM 25	DWM 32	DWM 40
Size	DN 15	DN 20	DN 25	DN 32	DN 40
L - Length (mm)	165	165	175	200	200
l - Length of Enclosure (mm)	110	110	110	110	110
H - Overall Height (mm)	88	88	97	100	110
h - + Height above Axis (mm)	70	70	70	75	80
W - Width (mm)	94	94	94	94	94
Threads	BSP (3/4")	BSP (1")	BSP (1 1/4")	BSP (1 1/2")	BSP (2")
Weight (kg)	0.7	0.7	0.8	0.8	0.8

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