



ULTRASONIC WATER METER (Bulk water meter) NWM UL-BW

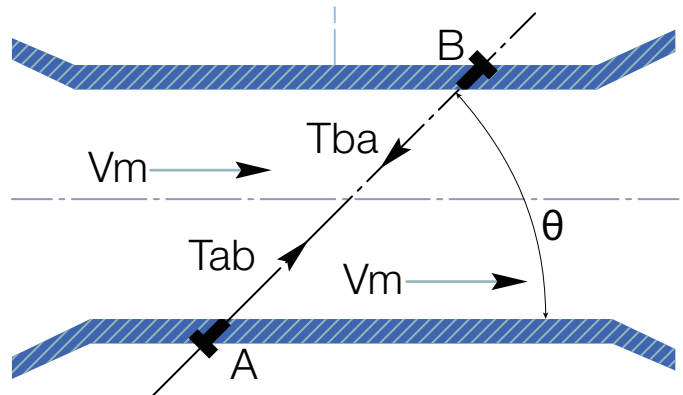
INTRODUCTION

UL-BW is the cast iron ultrasonic bulk meter with advanced sensors for precise and reliable measurement to commercial and industrial application. The meter combined with high-tech IoT technology for both superior hydraulic performance and instant alarm to realize smart water management.

WORKING PRINCIPLES

The sound wave that flows in the direction of the stream moves faster than the one that flows against the stream.

The transit times T_{ba} (Transit time of ultrasonic) waves from sensor A to measured continuously. The time difference ($T_{ba} - T_{ab}$) is directly proportional to the mean flow velocity (V_m) of the liquid. The flow rate is a result of the velocity multiplied by the cross section area of the flow tube size.



FEATURES



Non-moving parts

Non-moving parts permit reliable performance, long service life and low pressure loss;



High accuracy

High accuracy, unaffected by sand, suspended solids or air pockets;



Long battery life

≥10years; possible to keep the external battery bag for easy to exchange;



Communication

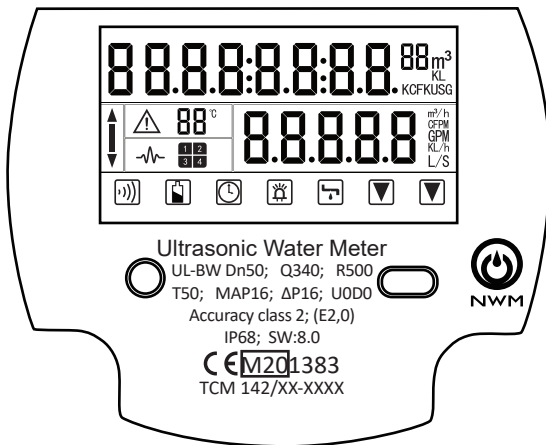
AMR ready for wireless, or RS485, M-BUS and other wired communication modes;



Rectifying device

With rectifying device

DIAL FACE DESIGN

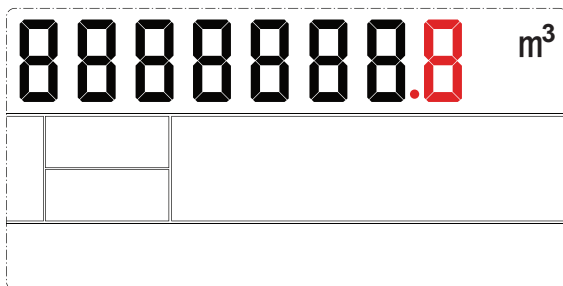


- m^3 Cumulative flow
- m^3/h Instantaneous flow
- Warning symbols
- $88^\circ C$ Temperature display
- Receiving signal
- Vocal cues
- Flow direction
- Communication
- Low battery
- Time symbol
- Infrared symbol
- Leakage symbol
- Page Up/Down

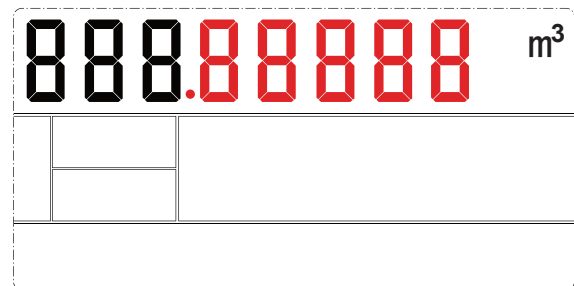


Keeping a magnet on the LEFT-DOWN (Bottom left) of the LCD location for at least 3 seconds to switch the menu from User Mode to Verification Mode.

User mode

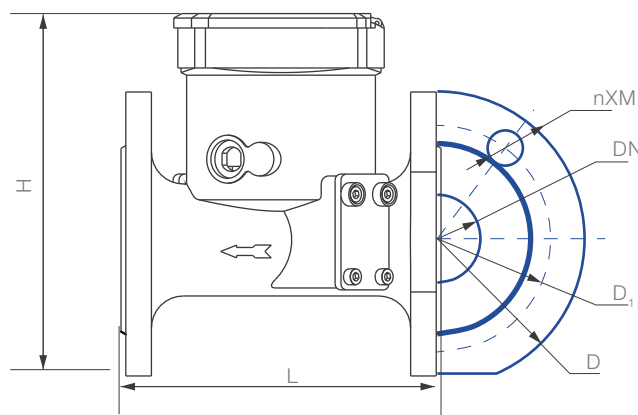


Verification mode



SPECIFICATIONS

► Dimension



The Flange Standard under ISO 7005-2:1998(E) PN10 as:

Size	Dn50	Dn65	Dn80	Dn100	Dn125	Dn150	Dn200	Dn250	Dn300
L	200	200	225	250	250	300	350	450	500
H	225	230	240	250	285	310	360	410	450
B	165	185	200	220	250	285	340	395	445
D	165	185	200	220	250	285	340	395	445
D ₁	125	145	160	180	210	250	295	350	400
nXM	4×M16	4×M16	8×M16	8×M16	8×M16	8×M20	8×M20	12×M20	12×M20

Different Flange Standard for selecting such as:

ISO 7005-2:1998(E) PN16, ASME B16.1-Class 125 working for B16.5-Class 150...

► Metrology

DN	mm	50	65	80	100	125	150	200	250	300
R	Q ₃ /Q ₁	250	250	250	250	250	250	250	250	250
Q ₄	m ³ /h	50	50	78.75	125	200	312.5	500	787.5	1250
Q ₃	m ³ /h	40	40	63	100	160	250	400	630	1000
Q ₂	l/h	256	256	403.2	640	1024	1600	2560	4032	6400
Q ₁	l/h	160	160	630	400	640	1000	1600	2520	4000
Max. reading	m ³	99 999.999								
Min. reading	m ³	0.00001								

(For different Q₃ and R, please contact with NWM manufacture).

► Main Technical Data

Max. pressure	1.6MPa	Installation Position	Any position
Max. temperature	T30、 T50	Climate and EMC Class	O / E2
Protective class	IP68	Accuracy class	I / II
Communication port	RS485, M-Bus, NB-IoT, GPRS...		

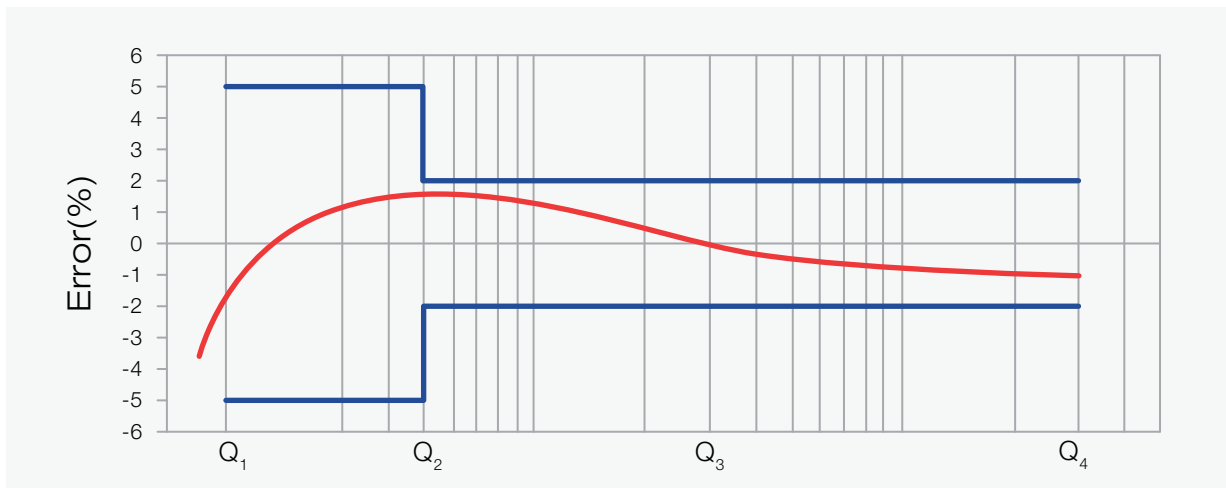
► Max Permission Error

FOR CLASS I

From Q_1 inclusive up to but excluding Q_2 is $\pm 1\%$; From Q_2 inclusive up to and including Q_4 is $\pm 3\%$;

FOR CLASS II

From Q_1 inclusive up to but excluding Q_2 is $\pm 2\%$; From Q_2 inclusive up to and including Q_4 is $\pm 5\%$;



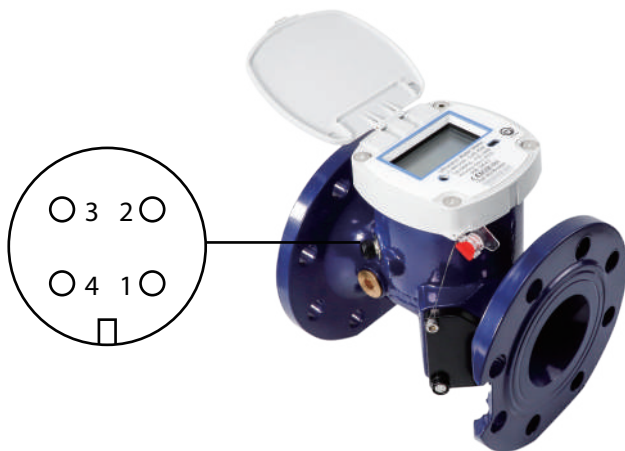
INSTALLATION

Recommand to install the UL-BW water meter at U10D5 (Straight pipe before the water meter at 10D, after the water meter at 5D);

Recommand to install the same size of the filter before the water meter;

Only for Horizontal installation;

OUTPUT



- 1 VCC (DC5~12V) – RED (POWER +)
- 2 NC;
- 3 Pulse Signal Output (DC 0~5V) - YELLOW
- 4 GND – BLUE (POWER -)

DATA COMMUNICATION

Integrated

Built-in remote transmission
(NB-IoT/GPRS/4G/RS-485/M-Bus)

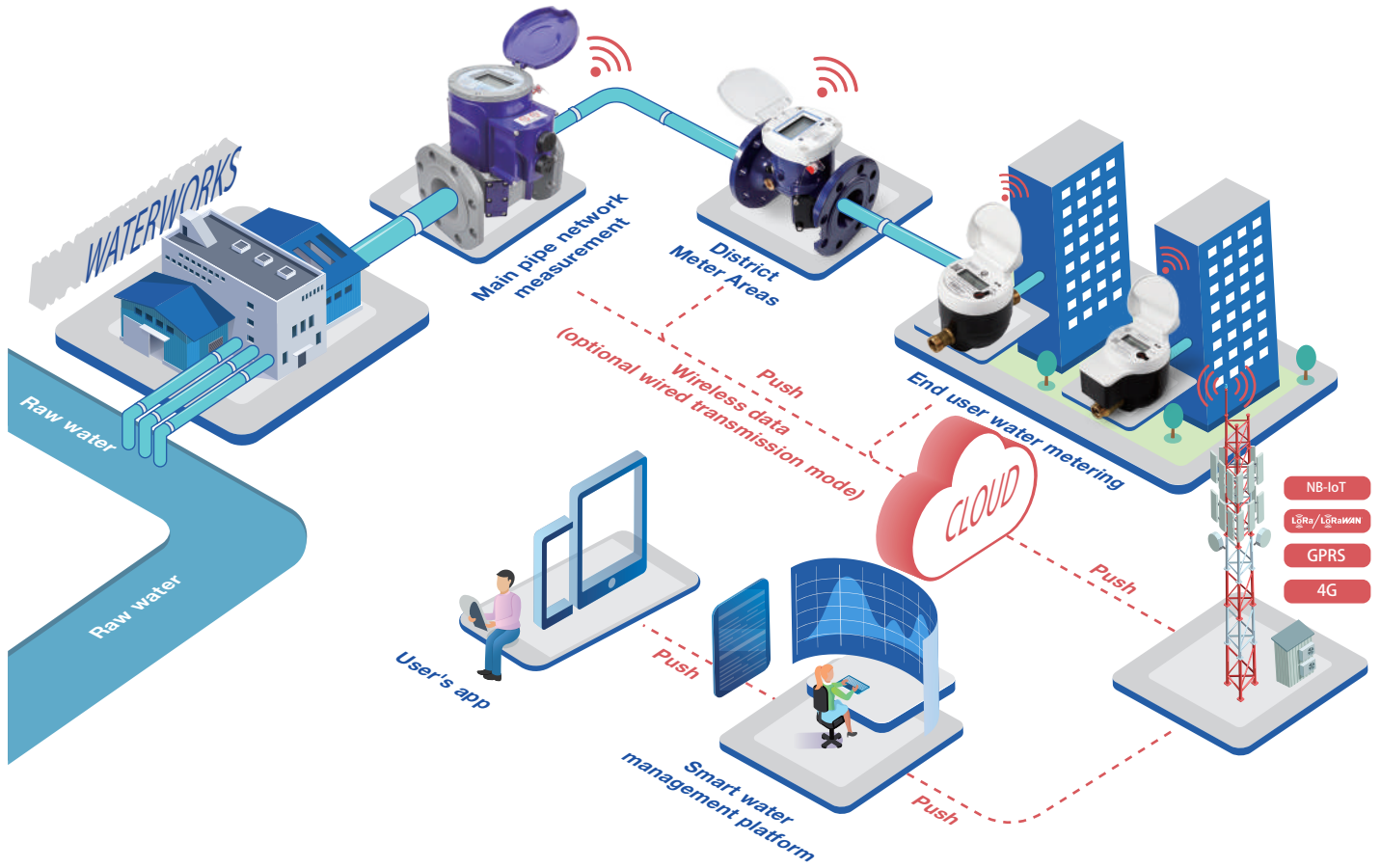


Separated

Data monitoring and remote transmission
(RS-485/M-Bus + NB-IoT/GPRS/4G)



SYSTEM SCHEME



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