

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

INTRODUCTION

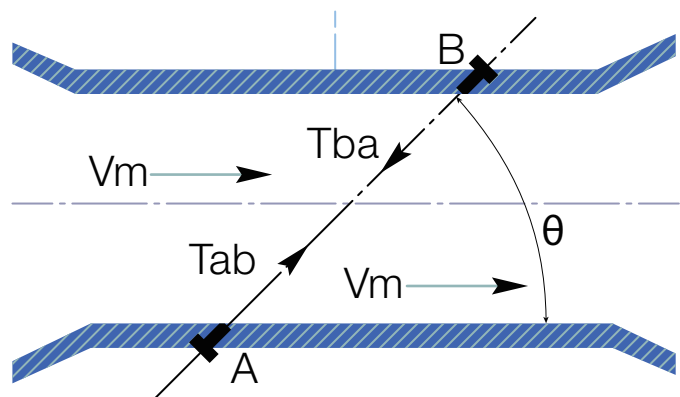
UL-BW-PLUS is the cast iron ultrasonic bulk meter with advanced sensors for precise and reliable measurement to commercial and industrial application. The meter combined with high-tech IoT technology for both superior hydraulic performance and instant alarm to realize smart water management.



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_{ab} (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.



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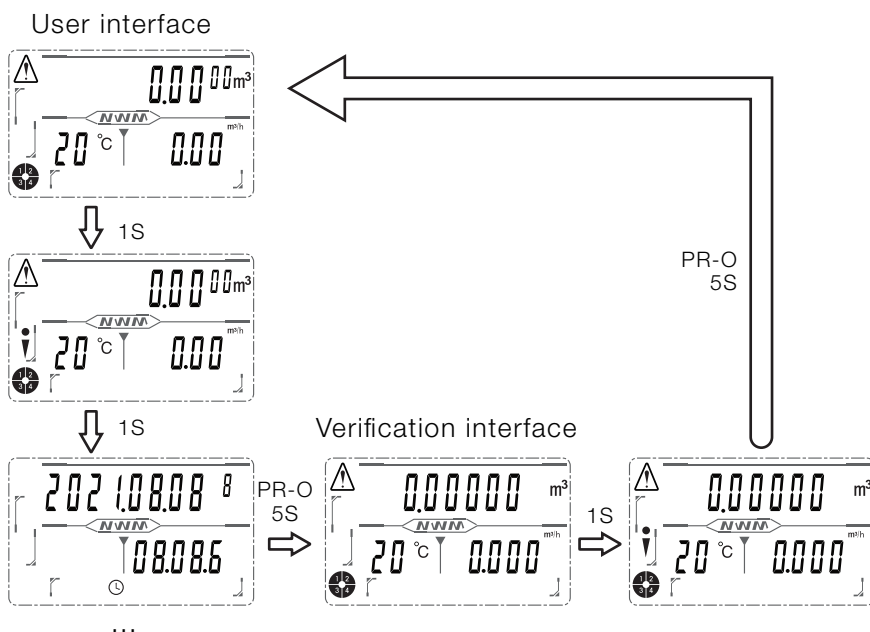


Rectifying device

With rectifying device

m³	Cumulative flow		Positive flow
m³/h	Instantaneous flow		
°C	Temperature display		Reverse flow
bar	Pressure unit		Sensor information
	Vocal cues		Water shortage
	Low battery		Time symbol
	Pulse		Infrared symbol
	Tube burst		Communication

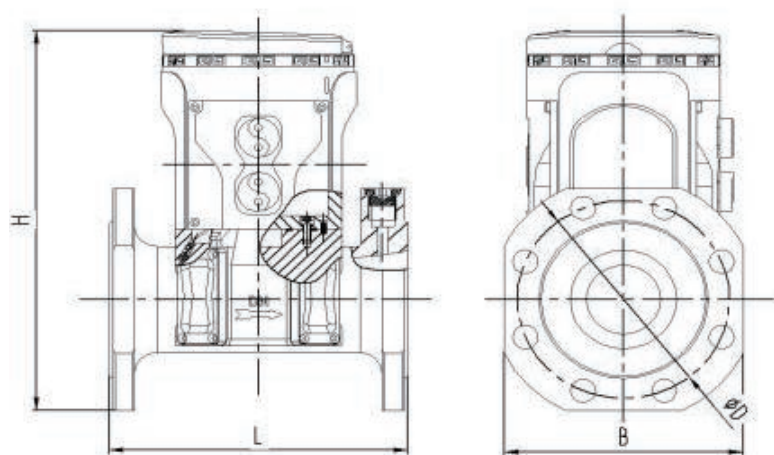
Block the light at the photosensitive switch at the lower left corner of the panel for 1 second, and the display menu can be switched; When switching to the time interface, block the light for 5 seconds, users can enter the verification menu from the user menu, and long press in the current menu to exit the verification interface and return to the user interface.



EVERY DROP OF WATER WILL CREATE THE VALUE OF LIFE.

SPECIFICATIONS

► Dimension



The Flange Standard under ISO 7005-2:1998(E) PN10/16 as:

Size	Dn50	Dn65	Dn80	Dn100	Dn125	Dn150	Dn200	Dn250	Dn300
L	200	200	225	250	250	300	350	450	500
H	275	295	310	335	350	385	445	488	533
B	160	170	180	200	250	260	320	380	430
D	165	185	200	220	250	300	340	395	445
D ₁	125	145	160	180	210	240	295	350	400
nXM	4×M16	4×M16	8×M16	8×M16	8×M16	8×M20	8×M20	12×M20	12×M20

► 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 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	RE-485, M-Bus, NB-IoT, LoraWan, GPRS...		

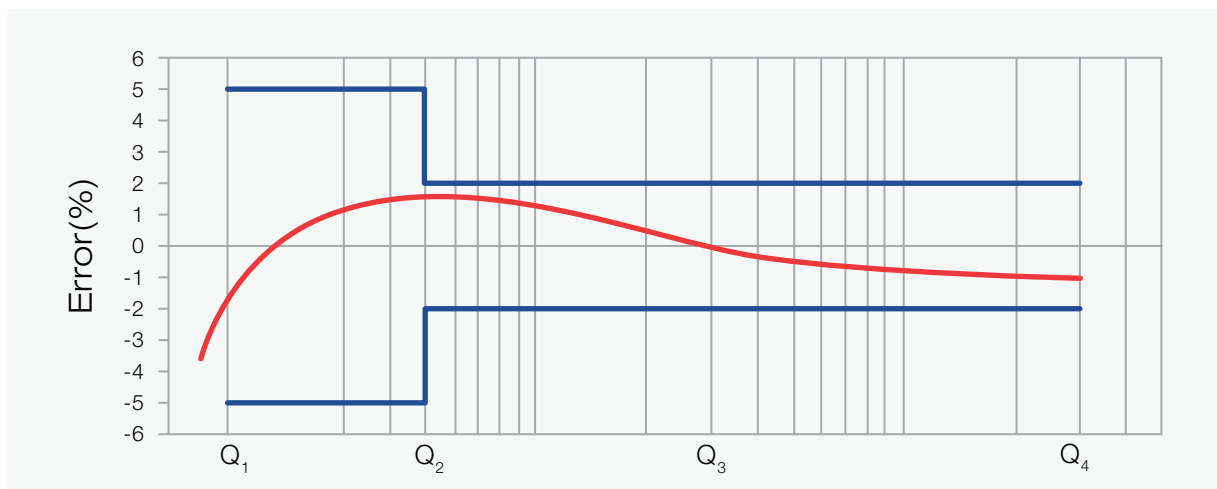
► Max Permission Error

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 $\pm 5\%$;



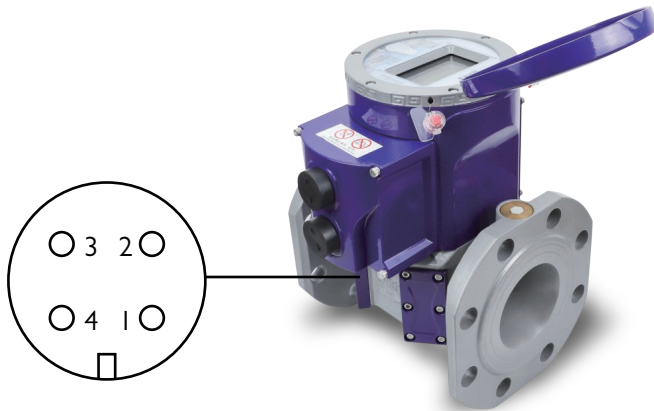
INSTALLATION

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

Recommend 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

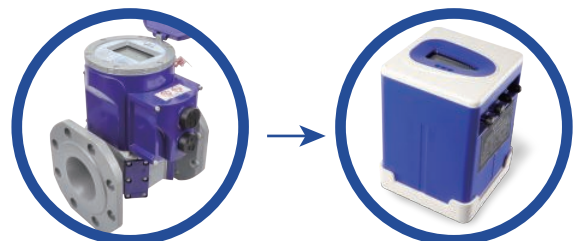
Integrated

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



Separated

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



SYSTEM SCHEME

