

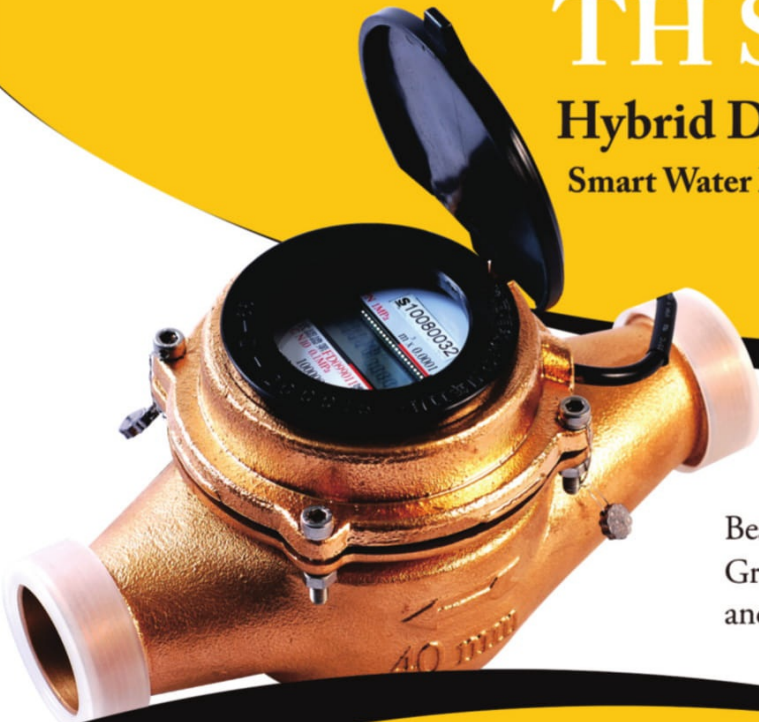


TH Series

Hybrid Digital Multi-Jet Water Meter

Smart Water Meter (Domestic type) Class C performance

Available size: DN15~DN50 (1/2"~2")



Best measuring performance for cold potable water.
Great choice for commercial billing, submetering
and smart building.

APPLICATIONS

Smart building, apartment, submetering
Leakage detection, control and prevention
Suitable for AMR, DMA, Wireless metering solutions

MAIN FEATURES

Wide measuring range with ISO standard
Nominal size Q3 2.5 up to 25 m³/h
PN10 (PN16) based on request
Designed for horizontal installation
Innovative Magnet-Free measuring technology
Direct reading LCD register, protected from condensation
Electronic register with build-in smart functions
Electronic register can be equipped with digital encoder, pulse, Modbus (RTU), RS485 output
Value added smart functions such as totalizer, flow rate, flow directions, data-logging, leak detection, tamper alarms and MNF functions for DMA applications

ELECTRONIC FEATURES

Multi-point flow performance calibration
Data synchronization within 10 sec.
Build-in 12 years battery lifespan
Gear-free with innovative electronic sensing technology
Equipped with digital encoder, pulse, Modbus (RTU), RS485 to develop AMR system

TECHNICAL SPECIFICATIONS

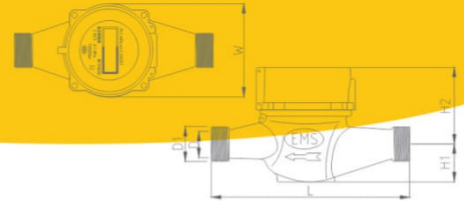
Meter can be submerged; Protection Class Ip68
Used materials are temperature resistant up to 65°C
Max. working pressure: PN10 (10 bar)
Max. working temperature: 70°C
Meter body: Corrosion proof copper alloy

INTELLIGENT MANAGEMENT FUNCTIONS

Totalizer mode; Forward totalizer mode; Reverse totalizer mode;
Flow rate mode; Management mode
Leakage days; Reverse flow days; Tamper-proof days; Low voltage days

BEST FUNCTIONS IN DMA CONSTRUCTION TO REDUCE NRW

Monthly water consumption logs
MNF (Minimum Nighttime Flow) logs
8 days Flow logging profile data



SPECIFICATIONS

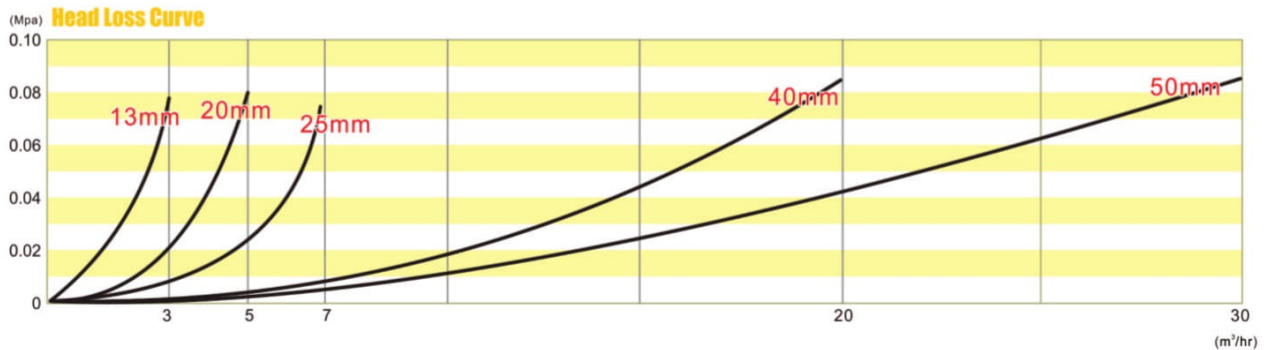
Model	Diameter(D) Unit : mm (inch)	Length (L) max	Max. Width (W±2)	From Bottom To Aperture (H1)max	From Head To Aperture (H2±2)	Thread Diameter (D1±0.3)	Approx. Weight (kg)	Threads Numbers Avg. 25.4mm
TH15	15(½")	165	90	40	80	25.8	1.8	14
TH20	20(¾")	190	90	37	80	33.0	1.9	14
TH25	25(1")	210	90	42	85	39.0	2.2	14
TH40	40(1 ½")	245	124	50	93.8	56.0	3.41	11
TH50	50(2")	270	123	58	138	67.6	6.38	11

Technical Data

ISO 4064:2005	Flow	Units	DN15	DN20	DN25	DN40	DN50
	Q1	m3/h	0.010	0.016	0.0252	0.064	0.1
	Q2	m3/h	0.016	0.0256	0.04032	0.1024	0.16
	Q3	m3/h	2.5	4	6.3	16	25
	Q4	m3/h	3.125	5	7.875	20	31.25
	Q3/Q1	Ratio R	250	250	250	250	250

ISO 4064:1993 (Class C)	Flow	Units	DN15	DN20	DN25	DN40	DN50
	Q1	m3/h	0.015	0.025	0.035	0.1	0.09
	Q2	m3/h	0.0225	0.0375	0.0525	0.15	0.225
	Q3	m3/h	1.5	2.5	3.5	10	15
	Q4	m3/h	3	5	7	20	30

Head Loss Curve



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WT Series

Hybrid Digital Woltmann Water Meter
Smart Water Meter (Bulk Type) Class C Performance
Available Size: DN 50 - DN 300



Bulk flows of cold potable water for revenue billing in commercial, industrial and distribution system monitoring.

MAIN FEATURES

- Wide measuring range with ISO standard PN10, PN16 based on request
- Designed for horizontal installation
- Innovative measuring technology
- Direct reading LCD register, protected from condensation
- Electronic register with build in smart functions
- Electronic register can be equipped with digital encoder, pulse, Modbus (RTU), RS485 output
- Value added smart functions such as totalizer, flow rate, flow directions, data-logging, leak detection, tamper alarms and MNF functions for DMA applications

ELECTRONIC REGISTER FEATURES

- Multi-point flow performance calibration
- Data synchronization within 10 sec.
- Build-in 12 years battery lifespan
- Gear-free with innovative electronic sensing technology
- Equipped with digital encoder, pulse, Modbus (RTU), RS485 to develop AMR system

TECHNICAL SPECIFICATIONS

- Meter can be submerged; Protection Class IP68
- Measurement for billing of cold potable water up to 65°C (hot water by request)
- Max. working pressure: PN10, Pn16
- Max. working temperature: 70°C
- Meter body: Cast iron, Epoxy or Ceramic Paint

APPLICATIONS

- For commercial, industrial and distribution system applications
- Smart building, apartment, DMA application, Submetering
- Revenue billing for distribution system
- Suitable for AMR, DMA, smart building, wireless metering solutions

INDUCTIVE REGISTER

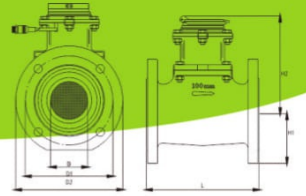
- Hermitically sealed, mineral glass register prevents moisture and water ingress
- Large index reading with distinct digits to aid visual readings and provide correct data
- Sub-units provides additional resolution to verify the billing disputes
- Instant flow rate display to prevent manual calculation based on pointers
- Digital interface for data communication and firmware upgrade

INTELLIGENT MANAGEMENT FUNCTIONS

- Totalizer mode; Forward totalizer mode; Reverse totalizer mode;
- Flow rate mode; Management mode; Data-logging mode
- Leakage days; Reverse flow days; Tamper-proof days; Low voltage days; Over Qmax times
- Leak logs (3); Tamper logs (3); Totalizer logs (7); Over Qmax ranking (5)

BEST FUNCTIONS IN DMA CONSTRUCTION TO REDUCE NRW

- Monthly water consumption logss
- MNF (Minimum Nighttime Flow) logs

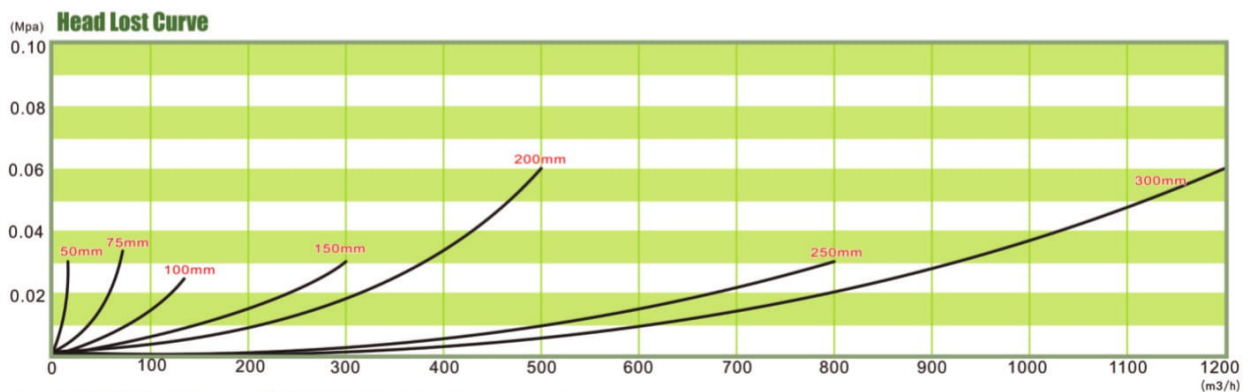


SPECIFICATIONS

Model	Diameter(D) Unit : mm (inch)	Length (L) max	Flange Diameter (D2 ± 2)	From Bottom Flange Center (H1 ± 2)	From Cover to Flange Center (H2 ± 2)	Flange Center Range (D1 ± 2)	Flange Spec. 7.5k		Approx. Weight (kg)
							Hole Diameter(d)	Hole Number(n)	
WT50	50(2")	200	186	92.5	202.5	143	19	4	18.5
WT80	80(3")	200	211	99	210	168	19	4	18.2
WT100	100(4")	250	238	108	211	195	19	4	22.8
WT150	150(6")	300	290	136	248	247	19	6	29
WT200	200(8")	350	342	163	248	299	19	8	53
WT250	250(10")	440	410	190	335	360	23	8	80
WT300	300(12")	500	464	222	335	414	23	10	107

Technical Data									
ISO 4064:2005	Flow	Units	DN50	DN80	DN100	DN150	DN200	DN250	DN300
	Q1	m3/h	0.1	0.252	0.4	1	1.6	2.52	4
	Q2	m3/h	0.16	0.4032	0.64	1.6	2.56	4.032	6.4
	Q3	m3/h	25	63	100	250	400	630	1000
	Q4	m3/h	31.25	78.75	125	312.5	500	788	1250
	Q3/Q1	Ratio R	250	250	250	250	250	250	250

ISO 4064:1993 (Class C)	Flow	Units	DN50	DN80	DN100	DN150	DN200	DN250	DN300
	Q1	m3/h	0.09	0.21	0.36	0.9	1.5	2.4	3.6
	Q2	m3/h	0.225	0.525	0.9	2.25	3.75	6	9
	Q3	m3/h	15	35	60	150	250	400	600
	Q4	m3/h	30	70	120	300	500	800	1200



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PH Series

Hybrid Digital Multi-Jet Water Meter

Smart Water Meter (Domestic type) Class C performance

Available size: DN15~DN25 (1/2"~1")



Best measuring performance for cold potable water.
Great choice for commercial billing, submetering
and smart building.

APPLICATIONS

Smart building, apartment, submetering
Leakage detection, control and prevention
Suitable for AMR, DMA, Wireless metering solutions

MAIN FEATURES

Wide measuring range with ISO standard
PN10 /PN16 based on request
Designed for horizontal installation
Innovative Magnet-Free measuring technology
Direct reading LCD register, protected from condensation
Electronic register with build-in smart functions
Electronic register can be equipped with digital encoder, pulse,
Modbus (RTU), RS485 output
Value added smart functions such as totalizer, flow rate, flow
directions, data-logging, leak detection, tamper alarms and MNF
functions for DMA applications

ELECTRONIC FEATURES

Multi-point flow performance calibration
Data synchronization within 10 sec.
Build-in 12 years battery lifespan
Gear-free with innovative electronic sensing technology
Equipped with digital encoder, pulse, Modbus (RTU),
RS485 to develop AMR system.

TECHNICAL SPECIFICATIONS

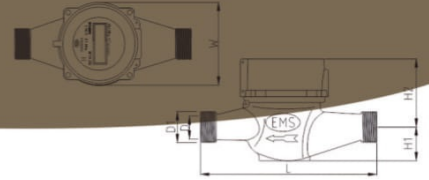
Meter can be submerged; Protection Class IP68
Used materials are temperature resistant up to 60°C
Max. working pressure: PN10 (10 bar)
Max. working temperature: 70°C
Meter body: Corrosion proof nylon

INTELLIGENT MANAGEMENT FUNCTIONS

Totalizer mode; Forward totalizer mode; Reverse totalizer mode;
Flow rate mode; Management mode
Leakage days; Reverse flow days; Tamper-proof days; Low
voltage days.

BEST FUNCTIONS IN DMA CONSTRUCTION TO REDUCE NRW

Monthly water consumption logs
MNF (Minimum Nighttime Flow) logs
8 days Flow logging profile data logger



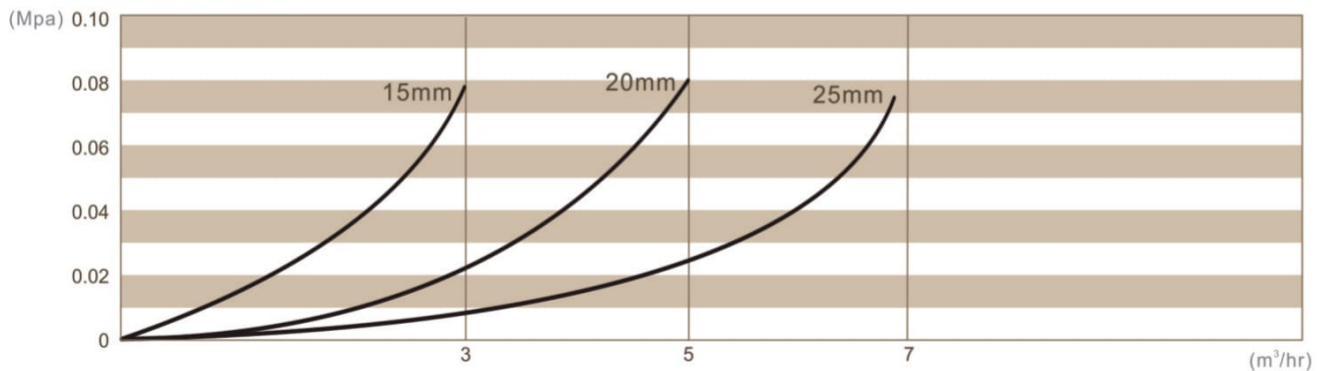
SPECIFICATIONS

Model	Diameter(D) Unit : mm (inch)	Length (L) max	Max. Width (W±2)	From Bottom To Aperture (H1)max	From Head To Aperature (H2±2)	Thread Diameter (D1±0.3)	Approx. Weight (kg)	Threads Numbers Avg. 25.4mm
Th15	15(½")	165	96	40	80	25.8	0.6	14
TH20	20(¾")	195	96	40	80	33.0	0.67	11
TH25	25(1")	225	100	42	85	39.0	0.9	11

Technical Data					
ISO 4064:2005	Flow	Units	DN15	DN20	DN25
	Q1	m3/h	0.010	0.016	0.0252
	Q2	m3/h	0.016	0.0256	0.04032
	Q3	m3/h	2.5	4	6.3
	Q4	m3/h	3.125	5	7.875
	Q3/Q1	Ratio R	250	250	250

ISO 4064:1993 (Class C)	Flow	Units	DN15	DN20	DN25
	Q1	m3/h	0.015	0.025	0.035
	Q2	m3/h	0.0225	0.0375	0.0525
	Q3	m3/h	1.5	2.5	3.5
	Q4	m3/h	3	5	7

Head Loss Curve



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GTI Series (5.0)

Advanced Multi-Channel Data Transmission Logger
GPRS/3G/4G



GTI 5.0 is the highly advanced wireless data logger for monitoring the combination of digital or analogue signals. GTI 5.0 is excellent for intensive monitoring flow and pressure in a district or zone area to optimize flow and pressure demand, prevent pipe burst and leakage. The dynamic analysis of flow and pressure in the network can be conducted easily.

MAIN FEATURES

- 2G / 3G/ 4G available
- GPRS Cellular Telemetry options
- LCD display to verify flow / pressure data onsite
- Fast logging per 1 second
- Intensive transmission per 10 minutes
- All parameters set up by IR interface without opening the case
- External antenna for optimum signals
- Alarms for flow and pressure with separately defined high / low profile
- Battery lifespan up to 5 years (replaceable)
- Build-in battery; external battery pack (optional)
- Build-in memory card port
- Rugged PPS case
- Fully sealed & submersible, IP68 waterproof

REMOTE PROGRAMMING / PRE-ACTIVATION

- All parameters (logging and transmission) can be set up remotely by GPRS function
- Pre-activation- user can set up parameters in advance and then activate the parameters later

LOGGING & TRANSMISSION

- The logging capacity of flow up to 800,000
- The logging capacity of pressure up to 2,000,000
- The logging capacity of flow and pressure up to 570,000
- Data logging frequency from 1 Sec. to 1440 Min.
- Data transmission frequency from 10 Min. to 1440 Min.
- Alarm logging for flow and pressure

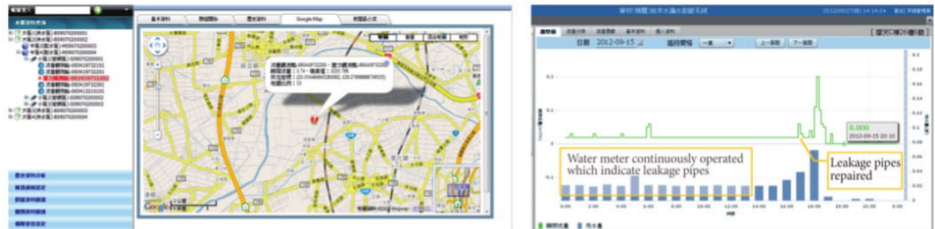
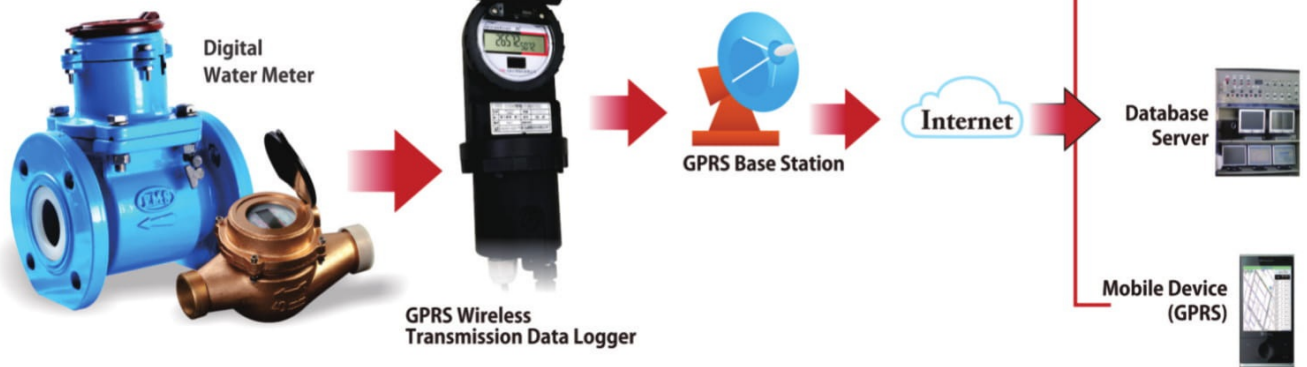
REMOTE DATA VIEWING

- Data can be transmitted to EMS's secure WMMs web based portal from which it can be viewed on any internet enabled device via the EMS Online website. Alternatively, the logger can send data directly to a customer specific UDP / FTP.

APPLICATIONS

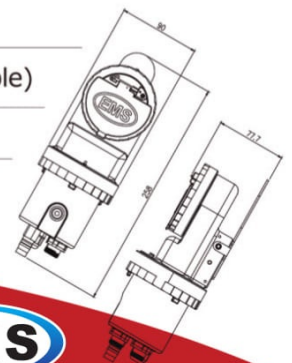
- Flow-district metering areas / zone monitoring
- Pressure monitoring
- AMR / DMA / Smart water resource managements
- Real-time data (flow & pressure) reception

Communication Network



Product Specification

Model	GTI 5.0
Signal Input	EMS electronic water meter; build-in pressure transmitter; pulse signals (2 sets)
Communication Protocol	GPRS / 3G / 4G
Working Temperature	-25°C~70°C
Logging Capacity	Flow with 800,000 data Pressure with 2,000,000 data Flow / Pressure with 570,000 data
Power Supply	5 years build-in battery lifespan (Daily / Replaceable) 1-3 years external battery pack
Build-in memory card capacity	2MB
Enclosure Rating	IP 68
Case Material	PPS
Wires	22 AWG For Water Meter (3C Shielded Cable)
Dimension	90mm x 90 mm x 26 mm
Weight	850g



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MINI-G Series

Compact Flow Data Transmission Logger

GPRS/2G/ 3G



MINI-G is the highly advanced wireless data logger for monitoring the flow data in a district or remote area.

MAIN FEATURES

- 2G / 3G available
- GPRS Cellular Telemetry options
- Fast logging per 10 minutes & Daily transmission
- Integrated antenna and memory module
- Battery lifespan up to 5 years (replaceable)
- UDP / IP communications support
- Rugged PC case
- Fully sealed & submersible, IP68 waterproof

REMOTE DATA VIEWING

Data can be transmitted to EMS's secure WMMS web based portal from which it can be viewed on any internet enabled device via the EMS Online website. Alternatively, the logger can send data directly to a customer specific UDP / FTP .

LOGGING & TRANSMISSION

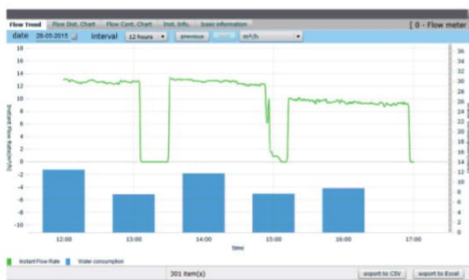
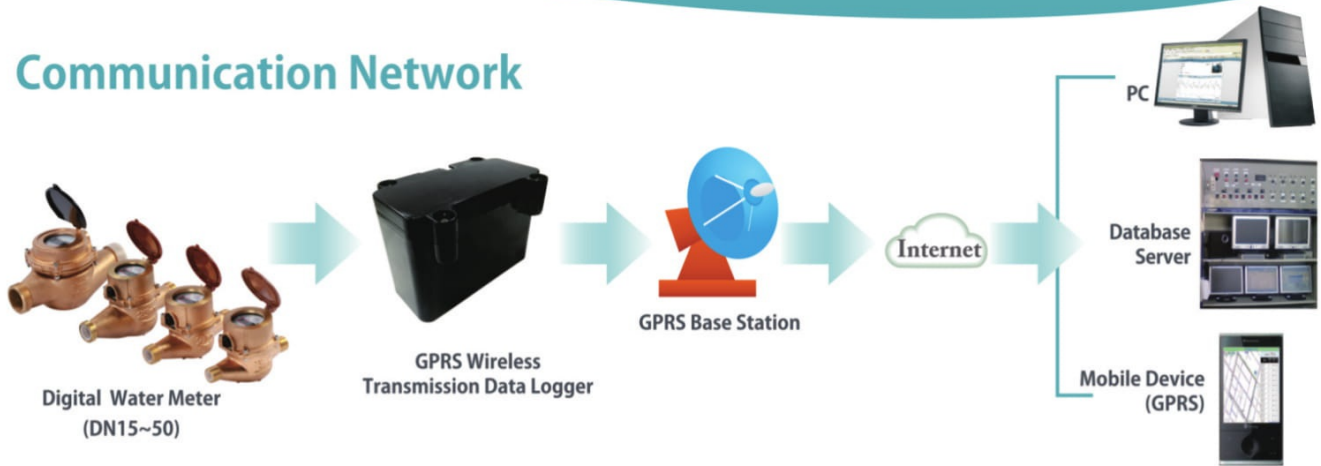
- The logging capacity of flow up to 1,000
- Data logging from 1 minute to 1440 minutes
- Data transmission from 10 minutes to 1440 minutes

APPLICATIONS

- Flow-district metering areas / zone monitoring
- AMR / DMA / Smart water resource managements
- Domestic / Residential water meter logging
- Real-time data reception
- Suitable for domestic water meter (DN15~DN50)



Communication Network



Water Meter Management System



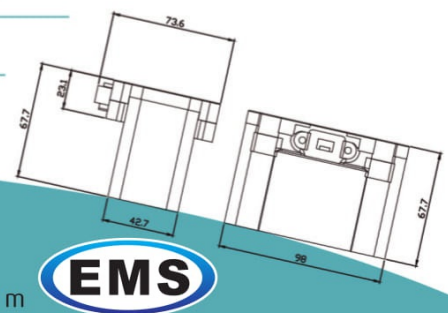
Analyzing Software



GIS System

Product Specification

Model	MINI-G
Signal Input	Digital Water Meter
Communication Protocol	2G/3G
Working Temperature	-25°C~70°C
Logging Capacity	Flow with 1,000data
Power Supply	5 years build-in battery lifespan(Replaceable)
Enclosure Rating	IP68
Case Material	PC
Wires	3C Shielded Cable
Dimension	98mmx73.6mmx67.7mm
Weight	350g



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Electromagnetic Flow Meter (MF 3.2)



MF 3.2 is a range of high performance electromagnetic flowmeters for the measurement of electrically-conductive fluids and systems are normally provided based on factory-configured and calibrated. The task of electromagnetic flowmeter includes water, food, beverages, chemicals, slurry, pulp & paper and mining slurries with magnetic particles.

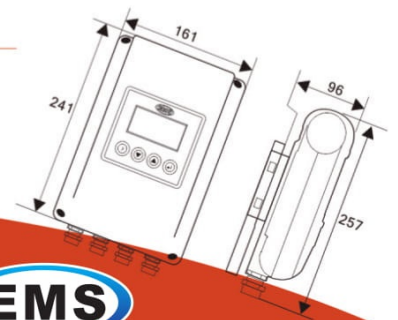
Sensor of the electromagnetic flowmeter is flanged version. This version is the most used for general purposes. It is manufactured in dimensions from DN15 up to DN2200 for pressure rates from PN6 up to PN40. Lining is manufactured from soft rubber (MG), hard rubber (TG), special hard rubber (NG), PTFE (T). Measuring electrodes are manufactured from stainless steel (Ss) AISI 316 Ti, Hastelloy C276 (Ha), Titanium (Ti), Platinum (Pt). The lining and the electrodes are chosen according to the chemical composition and the temperature of the measured medium.

FEATURES

- Instant flow rate and totalizer calculation base on Faraday's law of induction.
- Large LCD screen
- Minimal or no inlets/outlets
- Large choice of liner materials suitable for potable water, wastewater and chemicals
- Measurement is independent of the flow profile
- Abrasion and corrosion-resistant liners available
- Stable measurement with little power consumption
- No mechanical parts, little pressure loss
- Anti-noise interference.

SPECIFICATIONS

Nominal size(DN)	15~2200
Operating Pressure	4.0(MPa)(DN15~DN80);1.6(MPa)(DN100~DN150) 1.0(MPa)(DN200~DN1000);0.6(MPa)(DN1200~DN2200)
Accuracy	±0.5% / ±1% / ±2%
Repeatability	±0.25%
Power supply	Current:110V/220V; Frequency:60HZ
Application	Water treatment, Water Distribution Network, Irrigation, Waste water treatment, Industrial water applications, such as rawwater, clean water, sewage water, allfluids with conductivity $\geq 5 \mu\text{S/cm}$.
Flow range	0.2~15m/s
Current output	4-20mA.DC(Load<750Ω) Errors : 0.1%FS
Frequency output	Between 1~5000HZ
Pulse output	0.001L~1.0m3
Digital output	RS-485 (Modbus RTU)
Damping time	0~50Sec.
Ambient temperature	-20°C~+60°C
Ambient humidity	5%~90%RH
Flange material	Carbonsteel; StainlessSteel
Medium Temperature	Ne : <65°C, PUNE : <65°C, PTFE : <120°C, F46 : <180°C
Lining material	Neoprene(NE), polyurethane(PUNE), Polytetrafluoroethylene(PTFE), F46
Electrode material	SUS316L, HastelloyC(B), Tantalum, Titanium, Platinum
Protection rate	Converter with Ip67 rating,Transmitter with IP68 rating.
Output signal	4-20mA; pulse output; RS-485 (Modbus)
Alarm	Empty pipe, upper/ lower flow, excitation



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Smart Ultrasonic Flow Meter (Clamp-on)



The US Clamp-on Ultrasonic Flow Meter is designed for pipe size ranging from 2" to 24". The clamp-on design is ideal for these applications where it is difficult to install insertion or in-line flow meters. It is not necessary to shut down flow or penetrate pipe in any way when installing US Ultrasonic Flow Meter.

ENHANCED MEASURING PERFORMANCE

US Ultrasonic Flow Meter provides sensitive transducers that operate at various frequencies that match the acoustic properties of the pipes. This proprietary design allows for strong stable flow measurement signals and minimizes the effect of noise.

SUITABLE FOR RETROFIT INSTALLATIONS

Install the ultrasonic flow meter in existing systems at any time without disrupting flow.

HIGHLY ACCURATE OVER A WIDE FLOW RANGE

$\pm 2\%$ of reading flow measurement accuracy from 0.1 to 20 m/sec velocity. Matched transducers and a built-in auto zero function ensure excellent low flow performance.

SIMPLIFIED INSTALLATION AND COMMISSIONING

Each ultrasonic flow meter is fully configured and programmed before it leaves the factory and is ready for use upon delivery.

APPLICABLE FLUID

Tap water / Portable water / Cooling water / Hot water / Sea water / Raw water / Oil / Waste water / Food / Beverage

COMMUNICATIONS

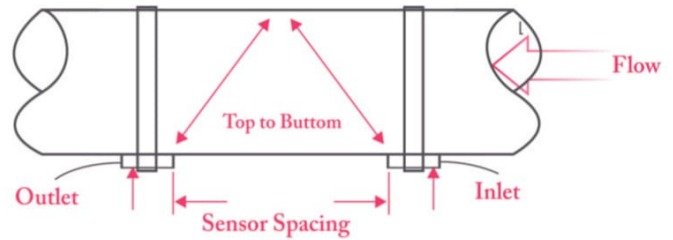
The US ultrasonic flow meter is provided with a single RS485 connection for use with Modbus RTU networks, 4-20 mA and Pulse connection.

SENSOR INSTALLATION

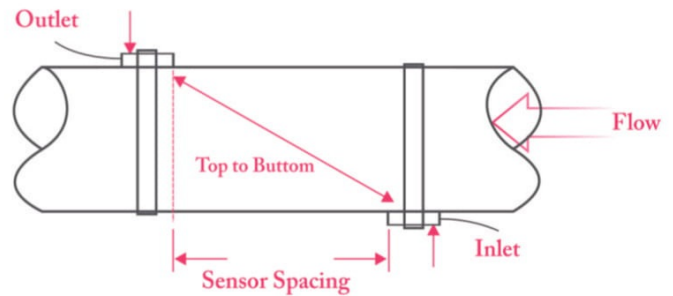
Transducers should be installed by different ways (Type: V and Z) based on the size of pipes.

Pipe Installation Diagram

(1) Type V- pipe size range from 50mm to 300mm



(2) Type Z - pipe size rangeu from 300mm to 600mm



Installation	Clamp-on	Temp. range	-100~300°C with 0.1°C
Measure Principles	Time Transit	Power consumption	<2W
Flowrange	±0.1~20m/s	Instant Flow	Instant flow, velocity, timetransit
Accuracy	±2%	Totalizer Unit	Forward/Reverse/Total Metric/Imperial
Response Time	<1second	Power	AC100~240V
Resolution	0.0001m/s	Display	English · 128X64LCD
Digital output	RS-485 (ModbusRTU)	Operation	4key-pad
Communication distance	1000m(Standard)/ 2km(High-Volt)	Safety	Lockable keypad, offline data protection
Analogue output	4~20mA · Pulse (Forward)	Case	ABS · 145X90X45mm



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