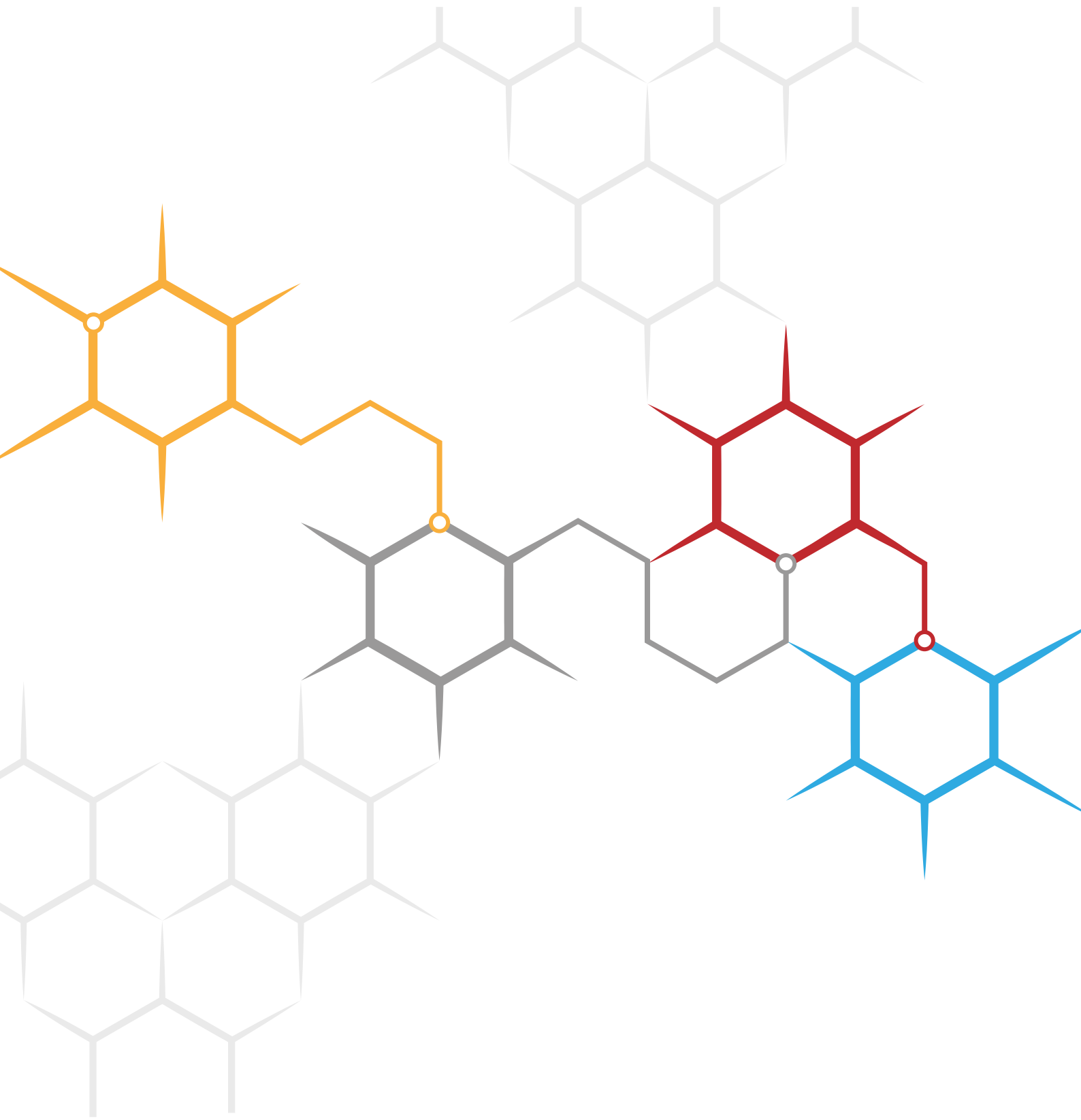


# TEKSAN





## Company Profile

We have been giving service as TEKSAN brand in the water meter industry since 1955.

Our institution that has brought so many new innovation to its sector is also the first national water meter manufacturer of Turkey. TEKSAN, which gave support in national industry and economy by commencing national production and also made contribution in scientific basis of the metering systems in Turkey by its legal regulation in 60s when turmoil and economic crisis in the world had been felt densely, has brought domestic industry with so many the firsts up to date. Our company that manufactures water and heat meter by combining its knowledge and experiences dating back with technological opportunities of the era carries out its facilities in its factory located in Cekmekoy, Istanbul today.

In our company; we manufacture as having TSE document and European Union technical specifications, ISO IEC 17025 Laboratory Accreditation Adequacy, ISO 4064, MID directive 2004/22EC, OIML R49 and EN 14154 certificates and in accordance with these documents. As well as its high sense of quality, we also closely follow measurement systems' technology in the world, thanks to our R&D department and within this point of view we continuously do richening studies for our product range.

TEKSAN that approaches to the responsibilities which its geography and social life has brought with a high sensitivity through its "The road of success, through human" philosophy put these responsibilities under taking with TS-EN, ISO 14001, ISO/IEC 27001, Environmental Management System and OHSAS 18001 Occupational Health and Safety Certification Systems.

As Teksan Company, our primary goal is to have an important place in measurement technologies sector world-wide by combining its experience with technological developments and adding the new products to our product range every day.

# Heat Meters





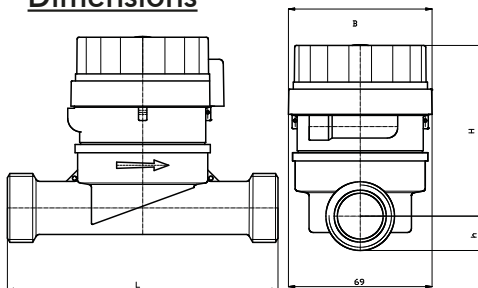
- ▼ Mechanical heat meter
- ▼ Fully electronic calculator and display
- ▼ Electronic sensor control for recording flow rate
- ▼ Lithium battery lifetime 10 years
- ▼ Reading date for billing
- ▼ Single-line-8-digit display for easy meter reading
- ▼ Optional pulse, M-bus, Radio frequency output
- ▼ Sealed electronic unit (IP54)
- ▼ Brass housing
- ▼ Water temperature up to 90°C

## Technical Specification

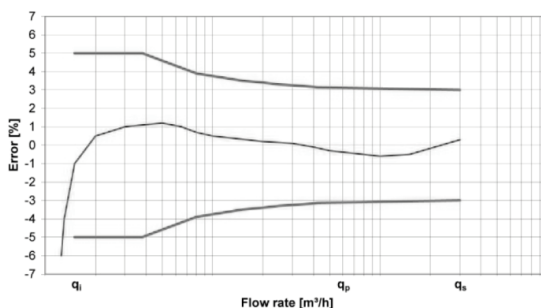
			15	20
Nominal diameter	DN	mm		
Nominal flow rate	$Q_n$	m <sup>3</sup> /h	1,5	2,5
Maximum flow rate	$Q_s$	m <sup>3</sup> /h	3	5
Minimum flow rate	$Q_i$	l/h	30	50
Temperature range	°C		5 - 95 °C	5 - 95 °C
Max. ambient operating temperature	°C		55°C	55°C
Nominal pressure	PN	bar	16	16
Mounting position			H	H
Measuring range ( $q_1/q_2$ )			Class 3	Class 3
Pressure loss at $q_n$	$\Delta P$	bar	0,25	0,25
Temperature sensor type			Pt1000/2-wire	Pt1000/2-wire
Max. temperature difference	$\Delta\theta$	K	90	90
Min. temperature difference	$\Delta\theta$	K	5	5
Absolute temperature measurement range	$\theta$	°C	5..90	5..90
Connection thread of meter		Inch	G3/4B	G1B
Connection thread of coupling		Inch	G1/2B	G3/4B
Overall length	L	mm	110	130
Height of centerline (low)	H	mm	20	20
Height of centerline (high)	H <sub>1</sub>	mm	100	100
Width			75	75



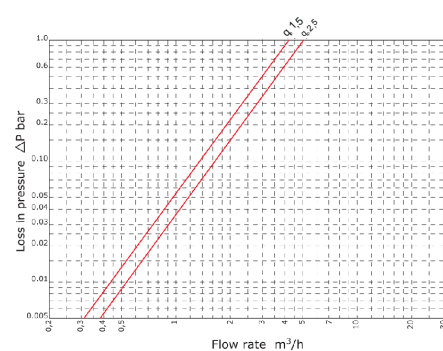
## Dimensions



## Error Curve



## Pressure Loss



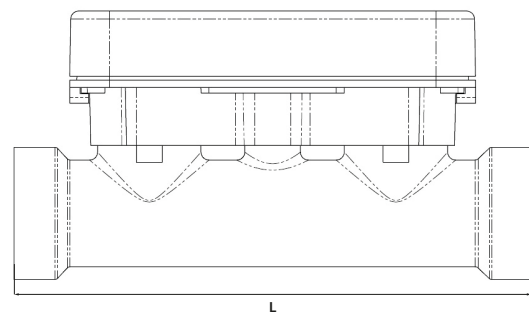
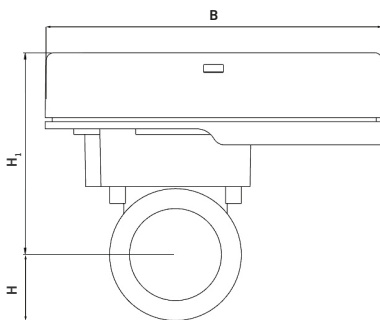
- ▣ Ultrasonic heat meter
- ▣ Heating and cooling applications
- ▣ Installation warmer and colder line options
- ▣ No moving parts allows accurate measurement over the entire product life
- ▣ Low pressure drop
- ▣ No metering of air
- ▣ Air and leak detection
- ▣ Any position installation
- ▣ Instantaneous flow rate indicator
- ▣ Battery alarm
- ▣ Back flow detection
- ▣ High and low temperature alarm



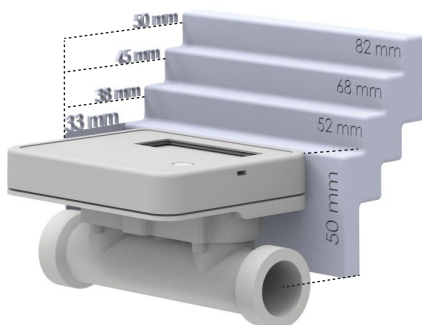
## Technical Specification

Nominal diameter	DN	mm	<u>15</u>	<u>20</u>	<u>25</u>	<u>32</u>	<u>40</u>
Nominal flow rate	$Q_p$	m <sup>3</sup> /h	1,5/1/0,6	2,5/1,5	3,5	6	10
Maximum flow rate	$Q_s$	m <sup>3</sup> /h	3/2/1,2	5/3	7	12	20
Minimum flow rate	$Q_i$	l/h	15/10/6	25/15	35	60	100
Temperature range	°C		5-90	5-90	5-90	5-90	5-90
Max. ambient operating temperature	°C		55°C	55°C	55°C	55°C	55°C
Nominal pressure	PN	bar	16	16	16	16	16
Mounting position			H+V	H+V	H+V	H+V	H+V
Measuring range ( $q_v/q_t$ )			Class 2	Class 2	Class 2	Class 2	Class 2
Pressure loss at $q_p$	$\Delta P$	bar	0,25	0,25	0,25	0,25	0,25
Temperature sensor type			Pt1000/2-wire	Pt1000/2-wire	Pt1000/2-wire	Pt1000/2-wire	Pt1000/2-wire
Max. temperature difference	$\Delta \theta$	K	90	90	90	90	90
Min. temperature difference	$\Delta \theta$	K	3	3	3	3	3
Absolute temperature measurement range	$\theta$	°C	5..90	5..90	5..90	5..90	5..90
Connection thread of meter		Inch	G3/4B	G1B	G1 1/4B	G1 1/2B	G2B
Connection thread of coupling		Inch	G1/2B	G3/4B	G1B	G1 1/4B	G1 1/2B
Overall length	L	mm	110	130	160	180	200
Height of centerline (low)	H	mm	20	20	25	30	35
Height of centerline (high)	H <sub>1</sub>	mm	50	50	55	60	60
Width	B	mm	85	85	85	85	85

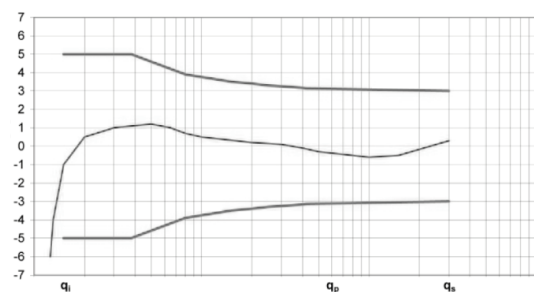
## Dimensions



## Size compared to its competitors



## Error Curve



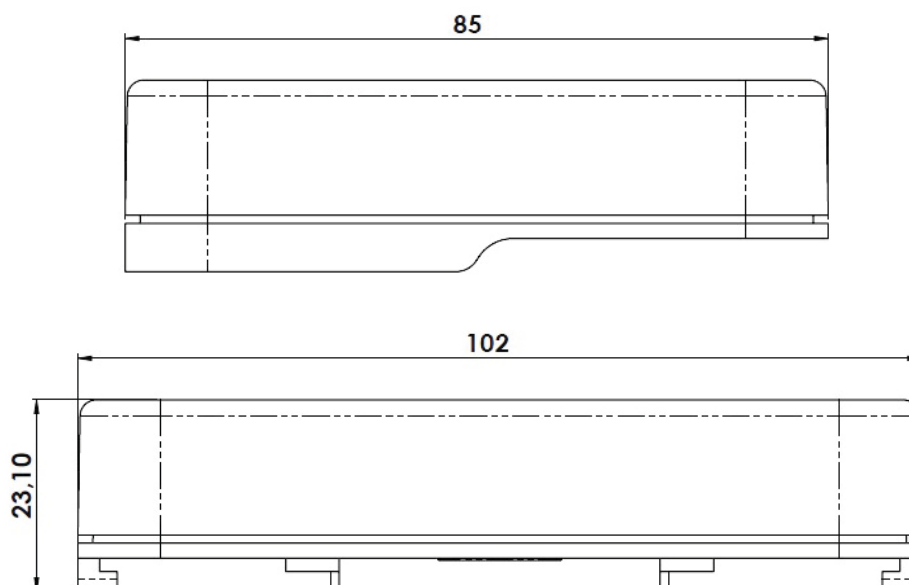


- ▀ Heat calculator
- ▀ Heating and cooling calculation
- ▀ Energy calculator for universal use in systems for heating and cooling measuring.
- ▀ 10 years battery lifetime
- ▀ Individual remote reading (AMR) with add on modules Plug & Play
- ▀ Optional pulse, radio frequency and MBUS output
- ▀ Passive analogue outputs for 4 ... 20 mA

## Technical Specification

Application	Heating - cooling		
Battery supply	3.6 VDC A-cell 10 years lifetime		
Mains supply	24 VAC; 230 VAC / 0.15 W		
Volume pulse input frequency	Max. 200 Hz; pulse durance > 3 ms		
Ambient class	Class E2+M2		
Ambient temperature	°C	°C	0 ... 55 °C
Ambient storage temperature	°C	°C	-25 ... +60 (>35 °C max. 4 weeks)
Communication	Pulse, M-Bus, Radio frequency output		
Temperature range heating	°C	°C	Θ: 0 ... 180   ΔΘ: 3 ... 177
Temperature range cooling	°C	°C	Θ: 0 ... 90   ΔΘ: 3 ... 87
Temperature range heating with cooling tariff	°C	°C	Θ: 0 ... 105   ΔΘ: 3 ... 102
Display indication	LCD, 8-digit		
Units	MWh - kWh - GJ - Gcal - MBtu - gal - GPM - °C - °F - m <sup>3</sup> - m <sup>3</sup> /h		
Total values	99,999,999 - 9,999,999.9 - 999,999.99 - 99,999.999		
Values displayed	Energy - Power - Volume - Flow rate - Temperature and more		
Starting temperature difference	ΔΘ	K	0,3
Min. temperature difference	ΔΘ <sub>min.</sub>	K	3
Max. temperature difference	ΔΘ <sub>max.</sub>	K	177
Absolute temperature measuring range	Θ	°C	-20 ... 190
Overall lenght	L	mm	100
Width of calculator	B	mm	85
Height	H	mm	30

## Dimensions



# **Electronic Water Meters**



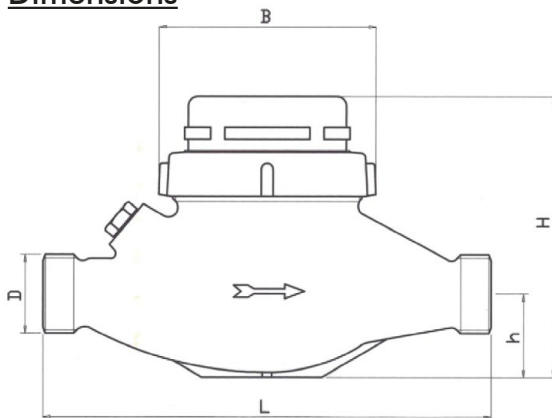


- ▣ Water treatment
- ▣ Water distribution network
- ▣ Irrigation
- ▣ Filtration plant
- ▣ Industrial water applications
- ▣ Flow sensors works with 9-24 V DC
- ▣ Various pulse outputs
  - between 0.25, 0.50, 1, 10, 100, 1000 lt/pulse
- ▣ Optional 90°C / Standard 50°C

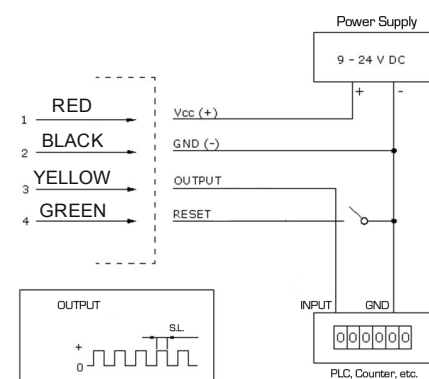
### Technical Specification

Nominal diameter	DN	mm	20	25	40	50
Nominal flow rate	$Q_3$	m <sup>3</sup> /h	2,5	6,3	16	25
Maximum flow rate	$Q_4$	m <sup>3</sup> /h	3,125	7,8	20	31,25
Minimum flow rate	$Q_1$	l/h	31,2/25/15,6	78,7/63/39,3	200/160/100	312,5
Transitional flow rate	$Q_2$	l/h	50/40/25	126/100,8/63	320/256/160	500
Maximum working pressure	$P_{max}$	bar	16	16	16	16
Pressure loss ( $max. Q_3$ )	$\Delta P$	bar	0,4	0,63	0,63	0,63
Maximum working temperature	$T_{max}$	°C	50/90	50/90	50/90	50/90
Overall length	L	mm	190	260	300	350
Width	B	mm	95	98	133	160
Total height	H	mm	112	140	170	205
Height to pipe axis	h	mm	34	41	51	75

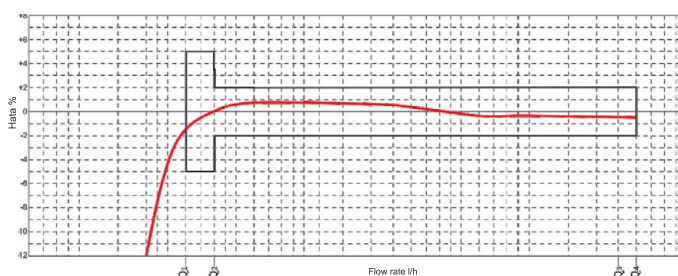
### Dimensions



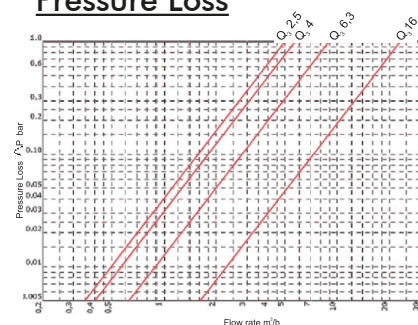
### Connection Diagram (NPN)



### Error Curve



### Pressure Loss



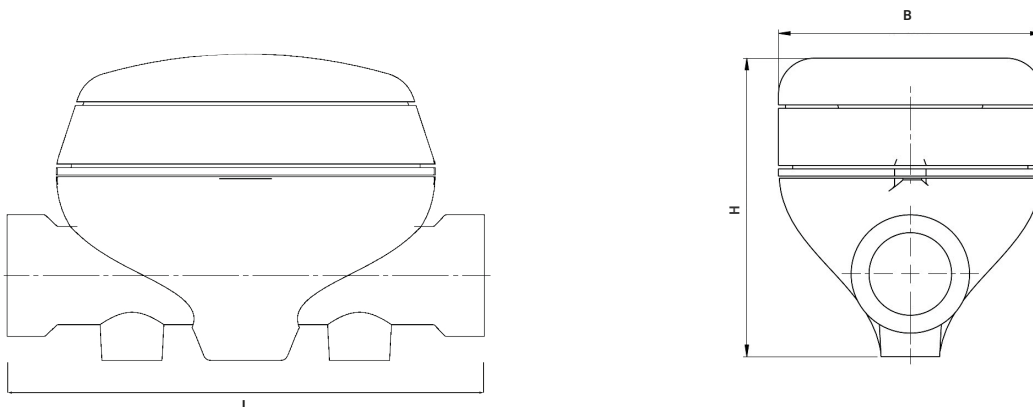


- ▣ Ultrasonic type cold / hot water meter
- ▣ Display on 5 digits m<sup>3</sup> and 4 digits for litres
- ▣ Measuring range up to R630
- ▣ Optional pulse, M-bus, Radio frequency output
- ▣ Hermetically sealed register (IP68)
- ▣ Brass housing
- ▣ Water temperature up to 50°C / 90°C
- ▣ No moving parts allows accurate measurement over the entire product life
- ▣ Low pressure drop
- ▣ No metering of air
- ▣ Leak and air detection
- ▣ Any position installation
- ▣ Current flow rate
- ▣ Back flow detection
- ▣ Battery alarm
- ▣ Low and high temperature alarm

### Technical Specification

	DN	mm	15	15	20	20	25	32	40
Nominal diameter	DN	mm	15	15	20	20	25	32	40
Nominal flow rate	Q <sub>3</sub>	m <sup>3</sup> /h	1,6	2,5	2,5	4	6,3	10	16
Maximum flow rate	Q <sub>4</sub>	m <sup>3</sup> /h	2	3,125	3,125	5	7,8	12,5	20
Minimum flow rate	Q <sub>1</sub>	l/h	6	6	6	10	12,5	16	25
Maximum working pressure	P <sub>max</sub>	bar	16	16	16	16	16	16	16
Pressure loss (max.Q3)	ΔP	bar	0,4	0,4	0,4	0,63	0,63	0,63	0,63
Maximum working temperature	T <sub>max</sub>	°C	50/90	50/90	50/90	50/90	50/90	50/90	50/90
Measuring range	Q <sub>3</sub> /Q <sub>1</sub>	R	160...250	160...400	160...400	160...630	160...630	160...630	160...630
Overall length	L	mm	110	110	130	130	160	180	200
Maximum register indication		m <sup>3</sup>	99.999	99.999	99.999	99.999	99.999	99.999	99.999
Verification scale interval		l	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Width	B	mm	85	85	85	85	85	85	85
Total height	H	mm	85	85	85	85	90	95	105
Connection thread of meter	-	-	G3/4B	G3/4B	G1B	G1B	G1 1/4B	G1 1/2B	G2B
Nominal size	DN	mm	15	15	20	20	25	32	40
Pipping dimensions	-	-	G1/2B	G1/2B	G3/4B	G3/4B	G1B	G1 1/4B	G1 1/2B
Installation position			H+V	H+V	H+V	H+V	H+V	H+V	H+V

### Dimensions



- ▼ Cold Pre-paid water meter
- ▼ Multi-jet dry type
- ▼ Hermetically sealed register (IP68)
- ▼ Backlight LCD display
- ▼ Display on 5 drums m<sup>3</sup> and 3 drums litres for mechanical in register
- ▼ Optional check valve
- ▼ Magnetic field protection
- ▼ Measuring range up to R160
- ▼ 10 years battery life time
- ▼ Brass housing
- ▼ Water temperature up to 50°C - optional 90°C

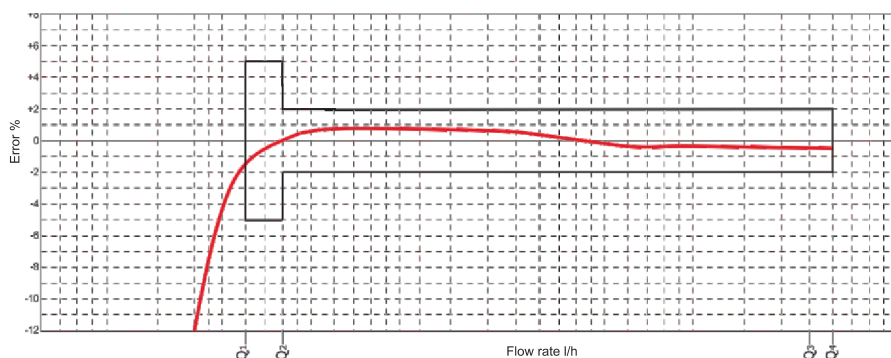


## Technical Specification

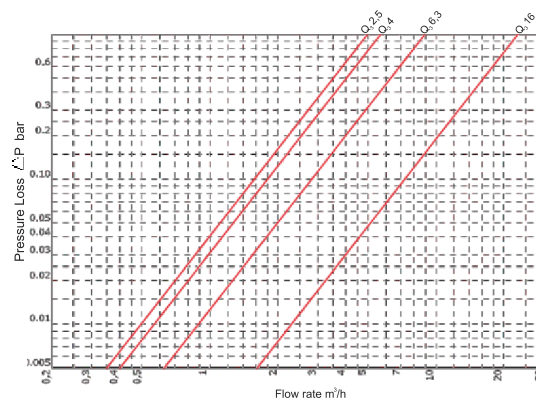
	DN	mm	15	20	20
Nominal diameter	DN	mm	15	20	20
Nominal flow rate	Q <sub>s</sub>	m <sup>3</sup> /h	2,5	2,5	4
Maximum flow rate	Q <sub>s</sub>	m <sup>3</sup> /h	3,125	3,125	5
Minimum flow rate	Q <sub>i</sub>	l/h	31,2/25/20/15,6	31,2/25/20/15,6	50/40/32/25
Transitional flow rate	Q <sub>z</sub>	l/h	50/40/32/25	50/40/32/25	80/64/51,2/40
Maximum working pressure	P <sub>max</sub>	bar	16	16	16
Pressure loss (max.Q <sub>s</sub> )	ΔP	bar	0,63	0,63	0,63
Maximum working temperature	T <sub>max</sub>	°C	50	50	50
Measuring range	Q <sub>s</sub> /Q <sub>i</sub>	R	80/100/125/160	80/100/125/160	80/100/125/160
Overall length	L	mm	165	190	190
Maximum register indication		m <sup>3</sup>	99.999	99.999	99.999
Verification scale interval	-	l	0,01	0,01	0,01
Climatic classes	-	-	+5..+55	+5..+55	+5..+55
Protection rating	-	IEC60529	IP54	IP54	IP68
Mechanical environment classes	-	-	M1	M1	M1
Electromagnetic classes	-	-	E1	E1	E1
Width	B	mm	100	100	100
Total height	H	mm	114	114	114
Height to pipe axis	h	mm	37	37	37
Connection thread of meter	-	-	G3/4B	G1B	G1B
Nominal installation diameter	DN	mm	15	20	20
Piping dimensions	-	-	G1/2B	G3/4B	G3/4B
Weight	-	kg	1,600	1,600	1,600
Installation position	-	-	H	H	H



## Error Curve



## Pressure Loss





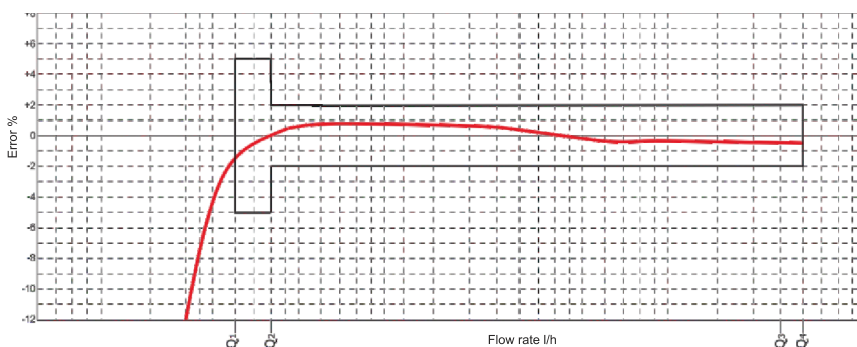
- ▣ Cold Pre-paid water meter
- ▣ Multi-jet dry type
- ▣ Hermetically sealed register (IP68)
- ▣ Backlight LCD display
- ▣ Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- ▣ Optional check valve
- ▣ Optional radio frequency output (868 MHz)
- ▣ Magnetic field protection
- ▣ Measuring range up to R160
- ▣ 10 years battery life time
- ▣ Brass housing
- ▣ Water temperature up to 50°C - optional 90°C

### Technical Specification

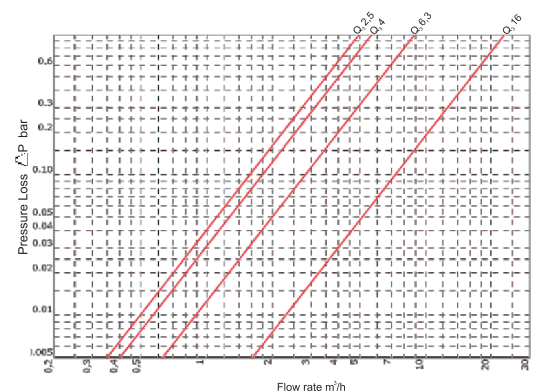
			<u>15</u>	<u>20</u>	<u>20</u>
Nominal diameter	DN	mm	15	20	20
Nominal flow rate	Q <sub>s</sub>	m <sup>3</sup> /h	2,5	2,5	4
Maximum flow rate	Q <sub>4</sub>	m <sup>3</sup> /h	3,125	3,125	5
Minimum flow rate	Q <sub>i</sub>	l/h	31,2/25/20/15,6	31,2/25/20/15,6	50/40/32/25
Transitional flow rate	Q <sub>2</sub>	l/h	50/40/32/25	50/40/32/25	80/64/51,2/40
Maximum working pressure	P <sub>max</sub>	bar	16	16	16
Pressure loss (max.Q <sub>3</sub> )	ΔP	bar	0,63	0,63	0,63
Maximum working temperature	T <sub>max</sub>	°C	50	50	50
Measuring range	Q <sub>s</sub> /Q <sub>i</sub>	R	80/100/160	80/100/160	80/100/160
Overall length	L	mm	190	190	190
Maximum register indication		m <sup>3</sup>	99.999	99.999	99.999
Verification scale interval		l	0,01	0,01	0,01
Climatic classes			+5..+55	+5..+55	+5..+55
Protection rating		IEC60529	IP54	IP54	IP68
Mechanical environment classes			M1	M1	M1
Electromagnetic classes			E1	E1	E1
Width	B	mm	102	102	102
Total height	H	mm	144	144	144
Height to pipe axis	h	mm	37	37	37
Connection thread of meter			G3/4B	G1B	G1B
Nominal installation diameter	DN	mm	15	20	20
Pipping dimensions			G1/2B	G3/4B	G3/4B
Weight		kg	1,350	1,350	1,350
Installation position			H	H	H



### Error Curve



### Pressure Loss



# Mechanical Water Meters



## TR - Multijet Dry Type Cold Water Meter

- Multi-jet dry type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Optional check valve
- Magnetic field protection
- Measuring range up to R160
- Optional pulse, M-bus, Radio frequency output
- Brass housing
- Water temperature up to 50°C
- 90°C version available



## TR - Multijet Dry Type Cold Water Meter

- Multi-jet dry type
- Powder coating ensures maximum corrosion protection
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Magnetic protection
- Measuring range up to R160
- Optional pulse, M-bus, Radio frequency output
- GG25 Cast iron body
- Water temperature up to 50°C
- 90°C version available



## DK - Multijet Dry Type Cold Water Meter

- Multi-jet dry type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Optional check valve
- Measuring range up to R160
- Optional pulse, M-bus, Radio frequency output
- Forged brass housing
- Water temperature up to 50°C



## CH - Multijet Semi Dry Type Cold Water Meter

- Multi-jet semi-dry type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Optional check valve
- Measuring range up to R160
- Optional pulse, M-bus, Radio frequency output
- Brass housing
- Water temperature up to 50°C
- Glycerin filled register unit



## DG - Multijet Semi Dry Type Cold Water Meter

- Multi-jet semi-dry type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Optional check valve
- Measuring range up to R160
- Optional pulse, M-bu Radio frequency output
- Forged brass housing
- Water temperature up to 50°C
- Glycerin filled register unit



## DE - Multijet Wet Type Cold Water Meter

- Multi-jet wet type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Optional check valve
- Measuring range up to R160
- Brass housing
- Water temperature up to 50°C



## DY - Multijet Wet Type Cold Water Meter

- Multi-jet wet type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Optional check valve
- Measuring range up to R160
- MID certificate
- Forged brass housing
- Water temperature up to 50°C



## TH - Volumetric Cold Water Meter

- Volumetric dry type
- 360° rotatable cover
- Display on 5 drums m<sup>3</sup> and 4 pointers for litres
- Magnetic field protection
- Optional check valve
- Measuring range up to R160
- Optional pulse, M-bus, Radio frequency output
- Brass housing
- Water temperature up to 50°C





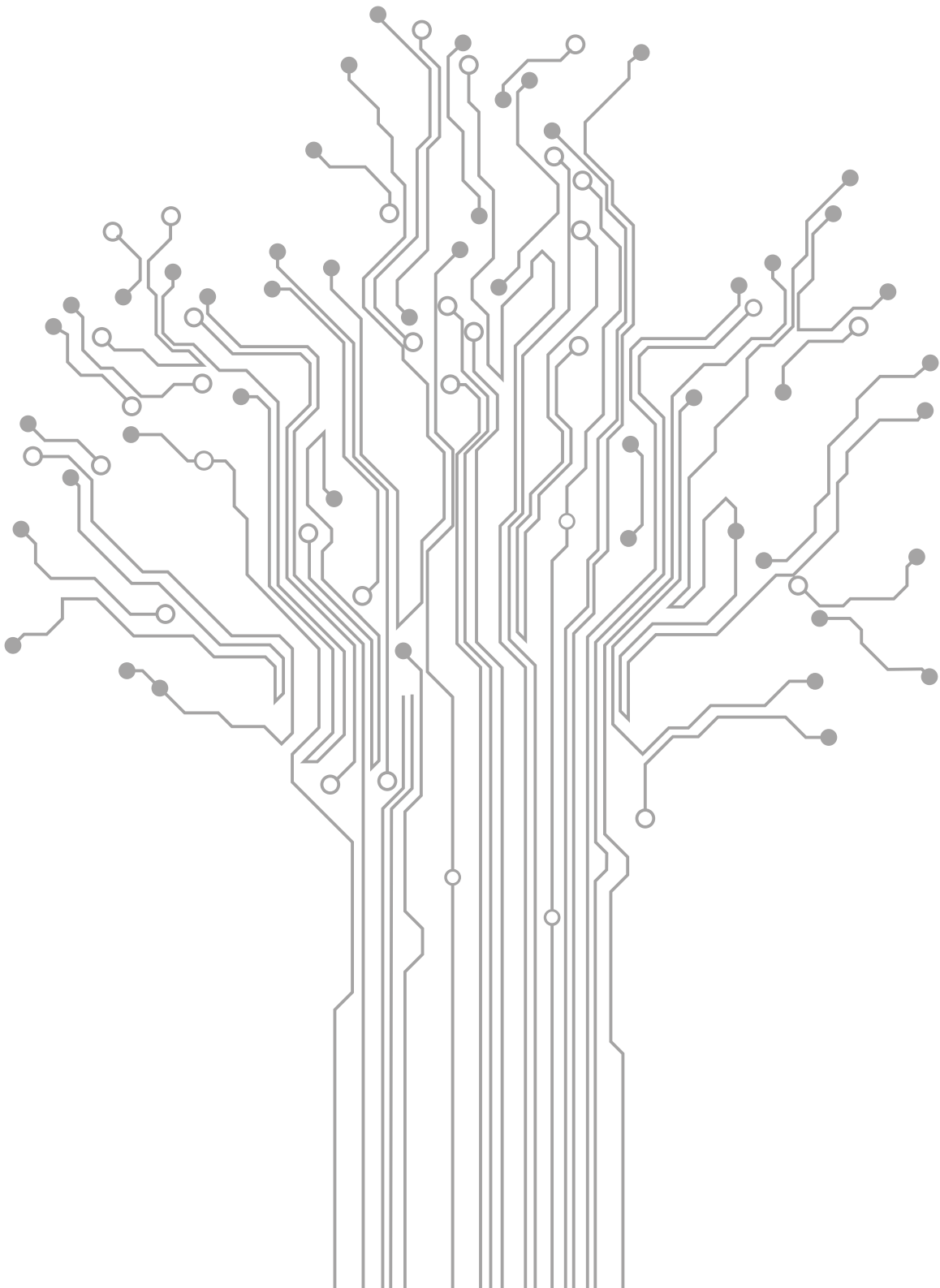
**AWS - Turbine Cold Water Meter**

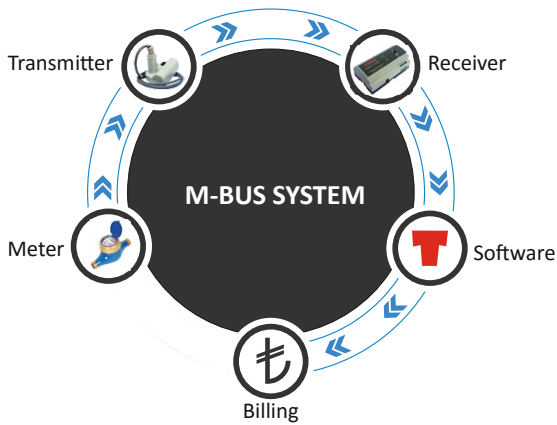
- ▀ Turbine water meter
- ▀ Hermetically sealed register (IP68)
- ▀ Powder coating ensures maximum corrosion protection
- ▀ Optional pulse, M-bus, Radio frequency output
- ▀ Display on 7 drums for m<sup>3</sup>
- ▀ Magnetic protection
- ▀ DN50 - DN200
- ▀ Register maybe rotated through 360°
- ▀ GG25 Cast iron housing
- ▀ Low head loss
- ▀ Water temperature up to 50°C



<b>DN / L (mm)</b>	<b>AWS</b>
<b>50 / 200</b>	✓
<b>65 / 200</b>	✓
<b>80 / 225</b>	✓
<b>100 / 250</b>	✓
<b>125 / 250</b>	✓
<b>150 / 300</b>	✓
<b>200 / 350</b>	✓

# Systems



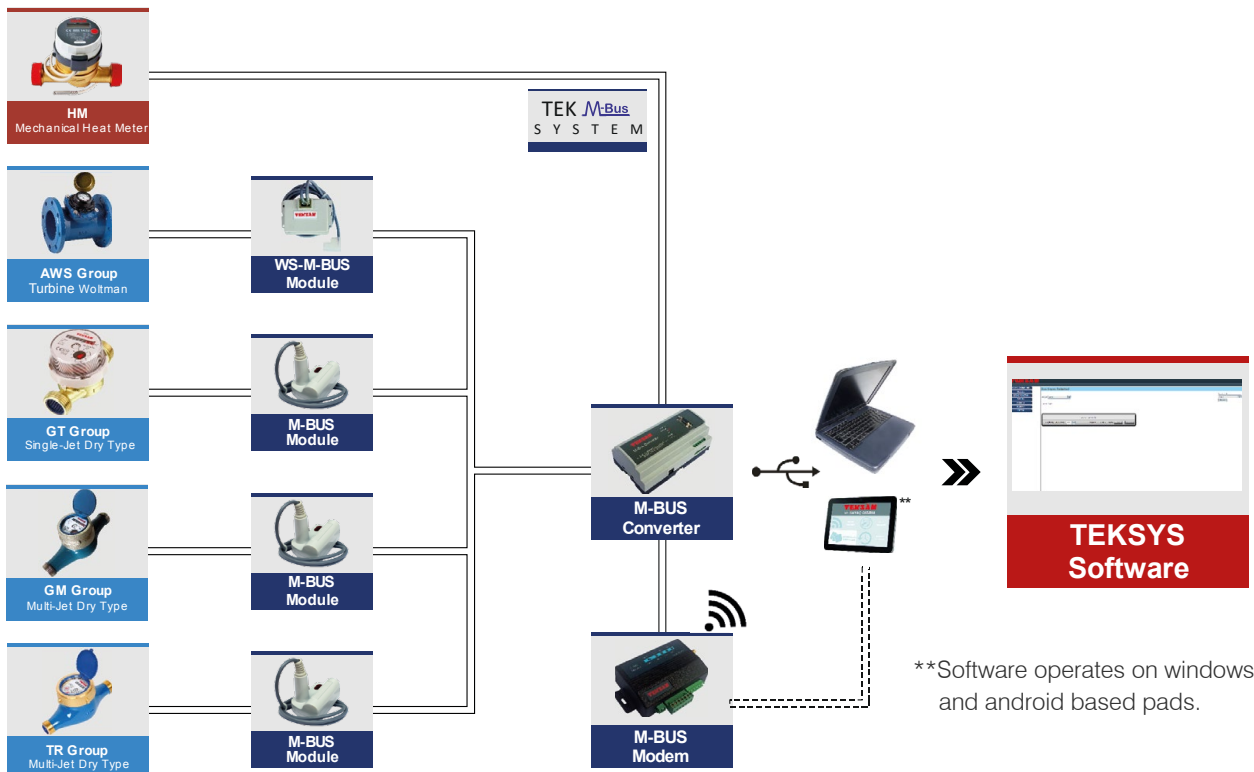
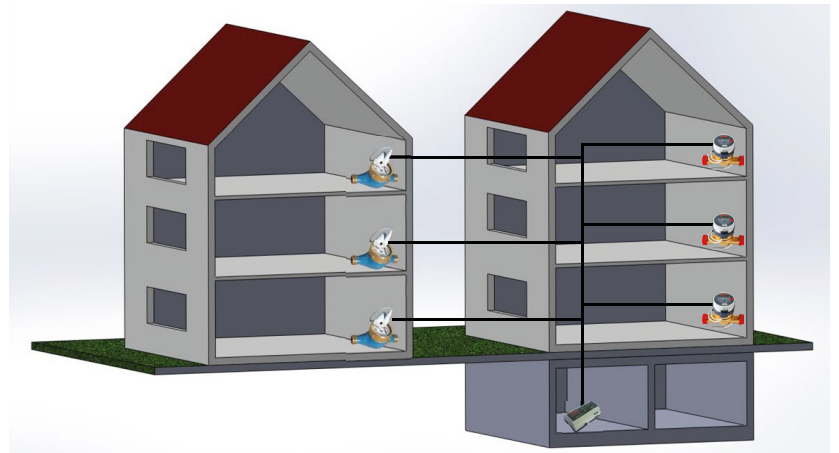


TEKMBUS modules are designed to meet remote data reading requirements of management utilities. TEKMBUS network allows the remote data collection of up to 250 different water meters within a single TEKMBUS Central Unit.

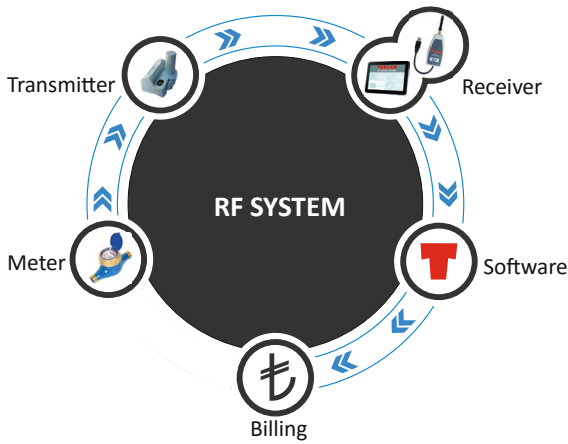
TEKMBUS System facilitates the integration of all meters into an MBUS network and collection of data in one center, thus eliminating the need of MBUS signal converting or pulse emitting devices.

In the TEKMBUS system, TEKSAN provides the following system modules.

- HM, UH, US and GE meters
- HC Heat Calculator
- TEKMBUS Module
- TEKMBUS Impulse Adapter
- TEKMBUS building central unit



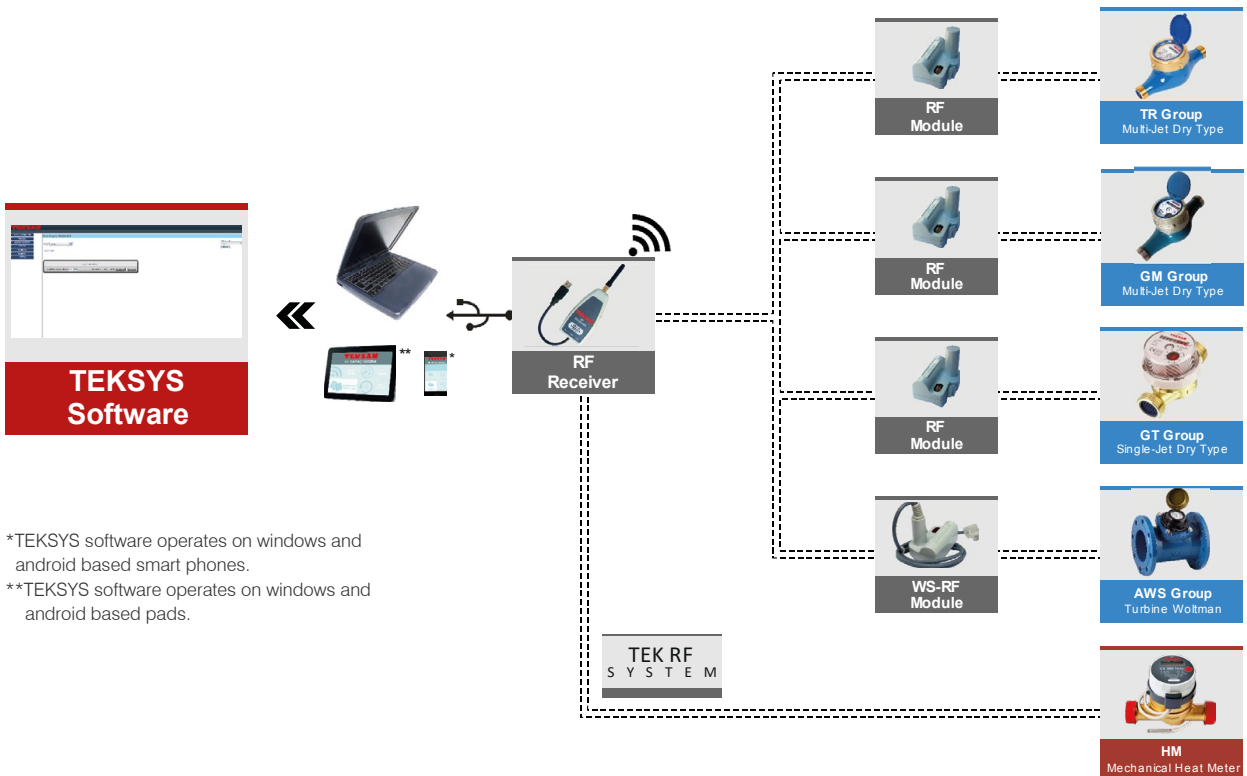
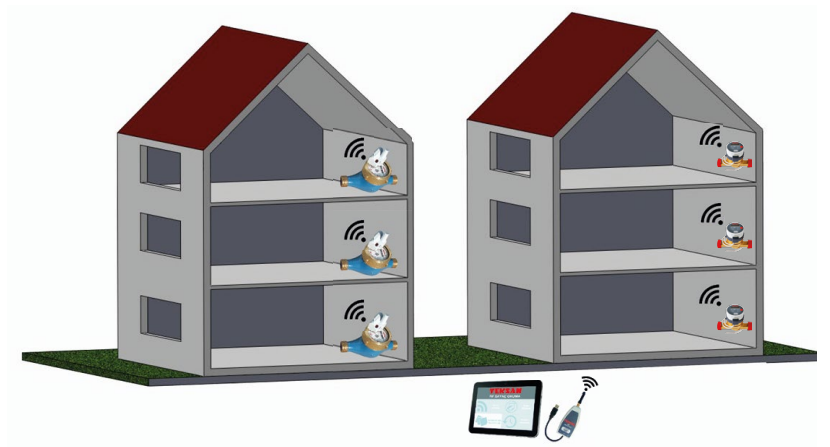
\*\*Software operates on windows and android based pads.



It is the invoicing system in which heat and water consumption can be measured and invoiced as mobile outside of the construction by using the highest standard modern radio technology.

In this system, the terminal which collects the data from informative module on the meter transmits these data to computer, Tablet PC\*\* and smart mobile phones. The data transmitted to the computer are used with the aim of invoicing.

- HM, UH, US and GE meters
- TEK-RF Modules
- TEK RF WS Modules
- TEK RF Receiver



\*TEKSYS software operates on windows and android based smart phones.  
 \*\*TEKSYS software operates on windows and android based pads.

**TEK M<sub>Bus</sub> Module**

- ▾ Detection of direction of rotation
- ▾ Optional leakage detection
- ▾ Magnetic intervention alarm
- ▾ Module dismantling alarm
- ▾ Optional overloading alarm
- ▾ Low battery alarm
- ▾ MBUS EN13757-3 Baud Rate (2400)

**Technical Specification**

**Input:** Pulse(magnetically)

**Output:** Mbus intercommunication protocol

**Intercommunication:** Compatible with MBUS EN 1434-3

**Supply:** 3V6 Battery (10 years lifespan)

**Cable:** 2x0,22 mm multicore

**Cable length:** 1m

**Compatibleness:** TR, GT, CH, TH models of Teksan

**Protection:** IP68

**Mounting:** One-stop screwed

**TEK M<sub>Bus</sub> WS Impulse Adaptor**

- ▾ Used for cold-hot water, gas and electric meters.

**Technical Specification**

**Input:** Pulse

**Output:** MBUS

**Compatible with BMBUS EN 1434-3**

**Ip68 protection**

**10 years battery lifespan**

**The serial number is identified as secondary address.**

**Multicore 1m length cable**

**MBUS EN13757-3 Baud Rate (300, 2400, 9600)**

**Module dismantling alarm**

**Low battery alarm**

- ▾ 50 m indoor intercommunication distance
- ▾ Detection of direction of rotation
- ▾ Optional leakage detection
- ▾ Magnetic intervention alarm
- ▾ Module dismantling alarm
- ▾ Optional overloading alarm
- ▾ Low battery alarm
- ▾ The serial number is identified as secondary address.



### Technical Specification

**Input:** Pulse(magnetically)

**Output:** RF (Radio frequency) intercommunication protocol

**Intercommunication:** Compatible with Wireless MBUS EN 1434-3

**RF Frequency:** 868 MHz

**Compatibleness:** TR, GT, GP, CH, TH models of Teksan

**Supply:** 3x6 Battery(10 years lifespan)

**Protection:** IP68

## TEK RF WS Module

- ▾ Used for cold-hot water, gas and electric meters.



### Technical Specification

**Input:** Pulse(magnetically)

**Output:** RF (Radio frequency) intercommunication protocol

**RF Frequency:** 868 MHz

**Intercommunication:** Compatible with Wireless MBUS EN 1434-3

**Supply:** 3x6 Battery(10 years lifespan)

**Compatibleness:** TR, GT, GP, CH, TH models of Teksan

**Protection:** IP68

**Mounting:** One-stop screwed

## Pulse Output



- ▾ Optional pulse outputs for cold and hot water meter
- ▾ Various pulse outputs between 1lt and 1000lt
- ▾ Various pulse outputs between 10lt and 1000lt
- ▾ Resistant up to 90°C of temperature
- ▾ Simple installation



## Technical Specification

Pulser type			Reed TR	Reed WS
Pulser component			Reed Switch	Reed Switch
Maximum voltage	$U_{max}$	V	24	24
Maximum current	$I_{max}$	A	0,1	0,1
Maximum power	$P_{max}$	W	2	2
Protection			IP68	IP68
Connection cable length	L	m	1	1
Water meter model			TR-GM-GP-GTTH-CH-DE	WS
Pulse option	I/Pulse		1-10-100-1000	10-100-1000
Maximum temperature	T	°C	90	90

## M-Bus Controlled Shut-off Valves



- ▾ MBUS Controlled Shut-off Valves
- ▾ Remote open and close by using MBUS communication
- ▾ Record total volume of water consumed
- ▾ Pulse input from water meter
- ▾ 10 years battery life
- ▾ IP68 protection
- ▾ Sized between DN15 to DN100

## Technical Specification

**Input:** Pulse(magnetically)  
**Output:** Mbus intercommunication protocol  
**Intercommunication:** Compatible with MBUS EN 1434-3  
**Supply:** 3V6 Battery (10 years lifespan)  
**Cable:** 2x0,22 mm multicore  
**Cable length:** 1m  
**Compatibleness:** TR, GT, CH, TH models of Teksan  
**Protection:** IP68

# AMR Devices



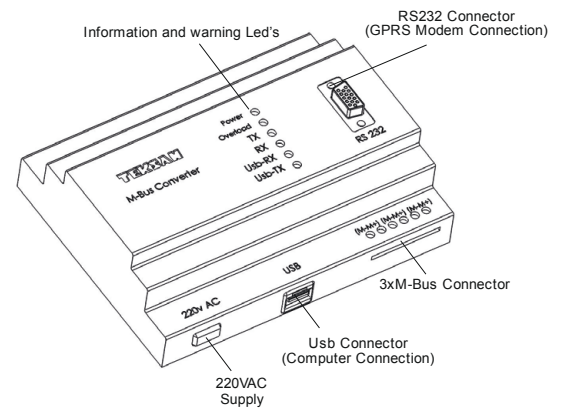
## TEK M-Bus Converter



- Consumption data which are recorded at the place are read by using MBUS cable or optional remote reading.
- At most 250 meters can be connected and read with MBUS Converter. Integration of all meters in the MBUS the network is provided.
- Also there is no need for signal converter or signal transmitter.

### Technical Specification

- 85-265 VAC Universal Input SMPS supply (Isolated supply)
- Max output 15 Watt
- Max 250 M-Bus slaves connections
- 320-2400-9600 Baud Rate Signalling
- Operational temperature range -10, +60 C
- 3x M-Bus Connectors
- 1xRS232, 1x USB Connector
- Short Circuit Protection of MBUS Line
- MBUS line Overload warning (LED flashes when system overloaded)
- Signalling information LED's
- Power, Overload information Led's
- Remote Monitoring(optional) by using GPRS modem
- Optional web Base reading and billing software
- Dimensions 157x91x58 mm
- MBUS EN 1434-3 compatible
- Protection against Network Fluctuating Interference and peak load and inrush conditions load variations



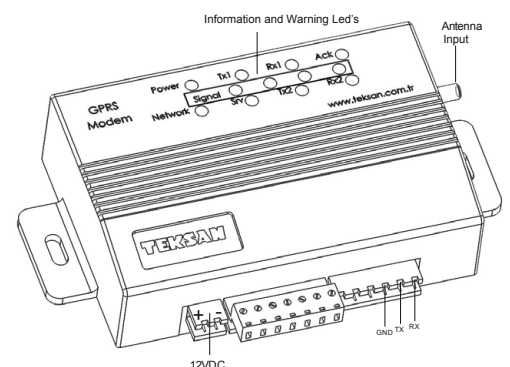
## GPRS Modem

- Fully compatible to work with all models feature meters
- Easy, safe and fast billing
- Accurate and reliable transfer of data from the meter
- Optional hardware and flexible software infrastructure
- The storage capability of the meter usage information
- Ability to create and use graphical analysis facilities
- Billing information by e-mail and SMS
- Follow-up and bill payment facilities via the web
- GPRS, RF, Ethernet, PSTN, PLC, RS232, RS485, USB flexible connectivity with Wi-Fi communication protocols
- Full compliance with all GSM operators for GPRS communication



### Technical Specification

- 220VAC /12VDC supply (with adapter)
- GPRS Communication
- Full compliance with the GSM operators SIM Card
- RS-485 and RS-232 interface support
- "Teksan Cevde" web software support for remote web management
- Retroactive follow-up report on the web
- Optional information via SMS
- 12 LEDs for status and warning information
- Optional rail or wall mounting options
- Dimensions 110x90x30 mm



- It's possible to read meters in the common areas of buildings by RF system TEKWALKER.
- Mobile reading device collects and records radio signals, then transmits to the host system.
- Optionally it's possible to print the bill in the area.



### Technical Specification

Input: Pulse(magnetically)

Output: Mbus intercommunication protocol

Intercommunication: Compatible with MBUS EN 1434-3

Supply: 3V6 Battery (10 years lifespan)

Cable: 2x0,22 mm multicore

Cable length: 1m

Compatibleness: TR, GT, CH, TH models of Teksan

Protection: IP68

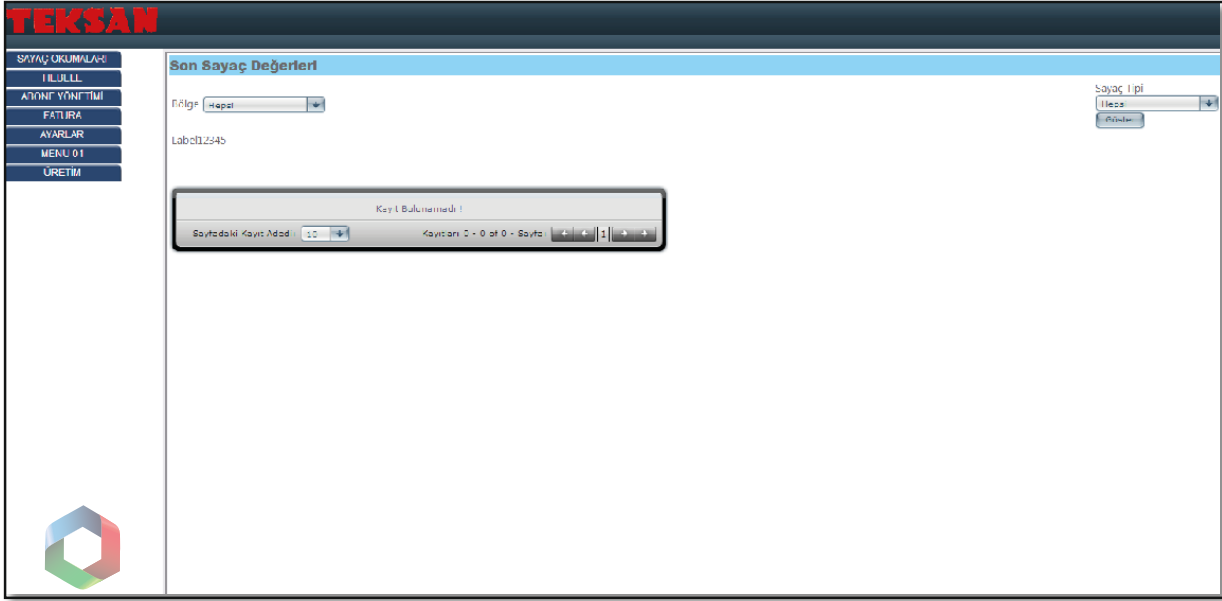
Mounting: One-stop screwed

RF Frequency: 868 MHz



# Softwares





TEKSAN's system solutions for registration of consumption are based on the "modular" principle.

The standardized interfaces and open system architecture of our metering devices allow a choice of equipment that matches the property requirements as well as the direct and expansive integration of additional services.

Another advantage of our systematic approach is that all latter TEKSAN products are compatible with their formers. Metering devices of different generations can be used in parallel within one property with the avoidance of major costs for new ones.

In case of a change of the local conditions or the requirements of performance, a change of system or upgrade within the TEKSAN product family is at hand!

TEKSYS is the new platform where the universal parameters apply for all the software modules of the meters, and meter readout takes place. A standard user-friendly interface ensures easy use. The standard export formats make integration in your billing systems easier. The software is future-proof, simple to use and is light on resources.

Consumption data recording using wireless M-Bus on site, with remote data transmission on request  
No requirement of access to the accommodation unit

TEKMBUS modules are designed to meet remote data reading requirements of management utilities. TEKMBUS network allows the remote data collection of up to 250 different water meters within a single TEKMBUS Central Unit.

TEKMBUS System facilitates the integration of all meters into an MBUS network and collection of data in one center, thus eliminating the need of MBUS signal converting or pulse emitting devices.

**cedvel**

Hoşgeldiniz  
Sayın Ali Veli

ÇIKIŞ

**Teknik Destek**

**Son Sayaç Değerleri**

**Okuma Dosyası Gönder**

**Tüketim Sorgulama**

**Site İşlemleri**

**Abone İşlemleri**

**Fatura İşlemleri**

**Ayarlar**

**YARDIM MERKEZİ**

Bu program sayesinde sisteme kayıtlı olan bütün sayaçlarınızın okumasını yapabilir, son değerlerine bakabilir, fatura işlemlerini gerçekleştirebilir, tüketim bilgilerini sorgulayabilir ve yönetim ile ilgili ayarlamalarınızı yapabilirsiniz.

Cedvel is a software designed by TEKSAN that reads the consumption data of meters of which technical structure is completed and ready to be read collectively and invoices officially.

This software is web-based.

Therefore, it can be used in smart phones, tablets and computers easily.

The use of the software is extremely simple. The user can access to the information easily.

Online access to all counters is possible.

It is possible to log in the system software by different administrations including superintendent, tenant and system administrator.

User changes in the apartment (tenant etc.) are updated quickly in the system.

Users can save and keep reports in pdf and excel formats.

The past invoices are easily accessible.

Thus, user can compare the results periodically.

The user can access consumption data easily from any region of the world via internet thanks to Cedvel that can establish communication with TEKSAN GPRS Modem

The screenshot displays the Teksan Prepayment Software interface. The main window is titled 'TEKSAN SATIŞ BİRİMİ SATIŞ BİRİMİ' and has a menu bar with options: 'ABONE', 'SATIŞ', 'KART', 'RAPORLAMA', 'YÖNETİM', and 'ÇIKIŞ'. Below the menu bar are two tabs: 'Abone Bilgileri' and 'Satış'. The 'Abone Bilgileri' tab is active, showing a form with the following fields:

- Takip No: 2
- Mernis No: [Empty]
- Sicil No: 56546
- Abone No: 54654
- Ana Kredi: 0.0 YÜKLENMEMİŞ
- Yedek Kredi: 0.0 YÜKLENMEMİŞ
- Borç Kredi: 0

Below these fields is a 'SU SATIŞINI ONAYLA' (Confirm Water Sale) window. This window displays the following information:

- 10.0 Kredi
- 76,032 TL
- 10.0 Kredi

At the bottom of the 'SU SATIŞINI ONAYLA' window, there are two buttons: 'TAMAM' (Confirm) and 'IPTAL' (Cancel). Below these buttons is a message: '\* Kontör ve Para miktarını onaylayınız.' (Please confirm the credit and amount). At the bottom of the main window, there is a dropdown menu for 'ÖDEME TÜRÜ' (Payment Type) set to 'NAKİT' (Cash) and a 'YÜKLE' (Load) button. At the very bottom, there are four lines of small text providing instructions and warnings:

- \* Abone kartını oku işleminden sonra gelen abone bilgilerinin güncel olduğuna emin olunuz.
- \* Ödeme tipini Nakit veya Kredi kartı olarak tahsil edebilirsiniz, ayrıca raporlayabilirsiniz.
- \* Ana ve yedek kredi YÜKLENMEMİŞ ibaresi karttaki kredinin sayaca aktarılmadığını belirtmektedir.
- \* Ana ve yedek kredi YÜKLENMİŞ ibaresi karttaki kredinin sayaca aktarıldığını belirtmektedir.

In the structure Teksan prepayment smart card operated systems there are two main servers. One of them is the master and the other is bridge or backup server. System uses Oracle or SQL database on NT system.

In the system main servers on the authority center are always online connected to the Credit Sales Points (POS).

Computers in the system are as follows:

- 1 - Two servers at the authority center
- 2 - Computers at the Credit Sales Centers
- 3 - Computers at the Credit Sales Points (POS)

Main computer is named as "server". All information is stored at main computer and credit sales points and centers are controlled by the servers.

Second computer at the authority center supports the main computer. All sales information is stored in the second computer. These information is transferred to the main computer. Second computer operates as a bridge between main computer and sales points and centers. To provide data flow, second computer has Digiboard multiplexer and other special softwares.

Connection between second computer and terminals are performed by modems that terminals have. All sales terminals have card reader and smart card credit loading unit. Credit loading, credit returning, adding new subscription, subscriber follow-up operations are done by these units. Authority is informed about all the operations.







**TEKSAN TECHNOLOGIC METERING SYSTEMS TRADE & CO.**

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