CHRONOS METER

system solutions for utility accounting

www.chronosmeter.com

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CHRONOS METER TODAY

ON THE MARKET	PRODUCED	EQUIPPED	WE WORK IN
20	**3 m.**	**1,900**	**9**
YEARS	DEVICES	OBJECTS	COUNTRIES

COMPREHENSIVE SOLUTIONS

TO DEVELOPERS	TO WATER UTILITIES COMPANIES	TO PROPERTY MANAGEMENT COMPANIES

FULL PRODUCTION CYCLE

CREATING AN IDEA — 1
DEVELOPMENT — 2
MANUFACTURING — 3
PRODUCT SALE — 4
SUPPORT — 5
UPDATE — 6

EXHAUSTIVE RANGE OF PRODUCTS

SMART METERS | SENSORS	TELE-COMMUNICATION EQUIPMENT	SOFTWARE

CHRONOS METER ADVANTAGES

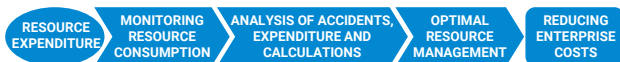DEVELOPMENT AND PRODUCTION IN RUSSIA

TIGHT DELIVERY TIME

FREE HARDWARE AND SOFTWARE TESTING

FREE 24/7 TECH SUPPORT AND SOFTWARE UPDATES

100% INTEGRATION WITH THIRD PARTY SOFTWARE AND HARDWARE

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COMPLEX SOLUTIONS

RESOURCE EXPENDITURE → MONITORING RESOURCE CONSUMPTION → ANALYSIS OF ACCIDENTS, EXPENDITURE AND CALCULATIONS → OPTIMAL RESOURCE MANAGEMENT → REDUCING ENTERPRISE COSTS
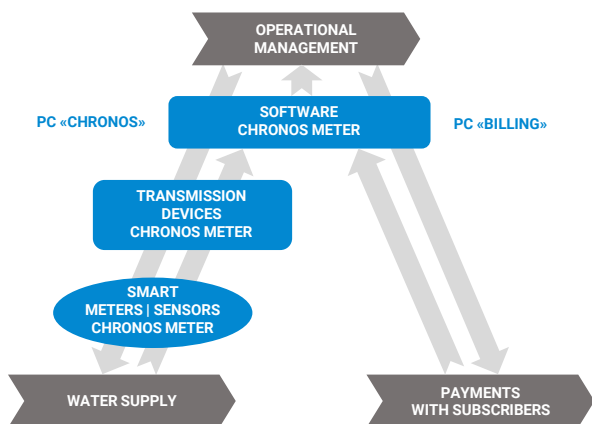
CHRONOS METER PRODUCES ALL NECESSARY COMPONENTS FOR DEPLOYING FULLY AUTOMATED UTILITY ACCOUNTING SYSTEMS AT CUSTOMER'S FACILITIES
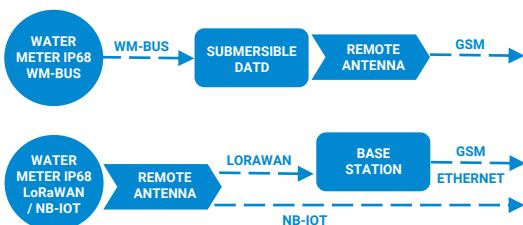
METERS SENSORS → TRANSMISSION DEVICES → SOFTWARE → ANALYTICS BY MANAGEMENT OBJECT

CHRONOS METER OFFERS COMPLEX SOLUTIONS:

FOR WATER SUPPLY COMPANIES

HARDWARE AND SOFTWARE COMPLEX
«DIGITAL WATER SUPPLY»

OPERATIONAL MANAGEMENT

PC «CHRONOS»

SOFTWARE CHRONOS METER

PC «BILLING»

TRANSMISSION DEVICES CHRONOS METER

SMART METERS | SENSORS CHRONOS METER

WATER SUPPLY

PAYMENTS WITH SUBSCRIBERS

FOR FLOODED WELLS

WATER METER IP68 WM-BUS → WM-BUS → SUBMERSIBLE DATD → REMOTE ANTENNA → GSM

WATER METER IP68 LoRaWAN / NB-IOT → REMOTE ANTENNA → LORAWAN → BASE STATION → GSM / ETHERNET
NB-IOT

SOFTWARE

THE COMPANY HAS DEVELOPED A SERIES OF SOFTWARE PRODUCTS FOR PROCESS AUTOMATION:

- COLLECTION AND PROCESSING OF DATA FROM METERING DEVICES;
- ENSURING THE OPERABILITY OF THE UTILITY INFRASTRUCTURE;
- SETTLEMENTS WITH SUBSCRIBERS.

SOFTWARE PACKAGE «CHRONOS»

PC «CHRONOS» IS DESIGNED FOR DISPATCHING:

- COLLECTING AND PROCESSING DATA FROM METERING DEVICES;
- ENSURING THE OPERABILITY OF THE UTILITY INFRASTRUCTURE.

- Collection of readings from metering devices, event sensors
- Remote resource restriction
- Emergency monitoring
- Data storage
- Generating custom reports
- Integration with related software products
- Open API

SOFTWARE PACKAGE «BILLING»

PC «BILLING» IS DEVELOPED TO AUTOMATE PAYMENTS WITH SUBSCRIBERS AT A NEW TECHNOLOGICAL LEVEL

- Maintaining a database of personal accounts with the necessary data set
- Maintaining a database of contracts and accounting points
- Accounting for accruals, payments and debts
- Collection of payments
- Debt recovery
- Business planning and management reporting

APARTMENT WATER METERS
WITH WIRED / RADIO INTERFACES

INTERFACE RS-485 M-Bus	NB-IoT LoRaWAN wM-Bus
Dn Dn15 Dn20	**MC** B C
BOX IP54	**WARRANTY** 60 mo.

- Simplicity of setting up and exploitation
- Open exchange protocol (compatible with leading manufacturers of devices and software)
- Extended archive of indications and emergency situations
- Fixation of external magnetic field impact
- Determining the flow direction
- Built-in check valve

WATER METERS FROM IP68
FOR FLOODED WELLS

INTERFACE	NB-IoT LoRaWAN wM-Bus
Dn Dn15 Dn20	**MC** B C
BOX IP68	**WARRANTY** 60 mo.

Used to build data collection systems from flooded wells
- Remote antenna up to 5 meters
- Open exchange protocol (compatible with leading manufacturers of devices and software)
- Extended archive of indications and emergency situations
- Fixation of external magnetic field impact
- Determining the flow direction
- Built-in check valve

APARTMENT WATER METERS
ULTRASONIC

INTERFACE RS-485 M-Bus	NB-IoT LoRaWAN wM-Bus
Dn Dn15 Dn20	**MC** B C
BOX IP54	**WARRANTY** 60 mo.

- Simplicity of setting up and exploitation
- Open exchange protocol (compatible with leading manufacturers of devices and software)
- Extended archive of indications and emergency situations
- Fixation of external magnetic field impact
- Determining the flow direction
- Built-in check valve

READING READERS
FOR MECHANICAL WATER METERS

INTERFACE	NB-IoT LoRaWAN
ANTENNA I-ANT	**MC** B C
ARCHIVE 14 yr.	**WARRANTY** 60 mo.

Installed on apartment water meters with a modular disk (without an interface for transmitting readings).
- Fixation of accidents (leakage, breakthrough, dismantling of the reader)
- Extended archive of indications and emergency situations
- Fixation of external magnetic field impact
- Determining the flow direction

INDUSTRIAL MULTI-JET WATER METERS WITH PULSE AND DATA MODULE

INTERFACE	
O-PUL RS-485 M-Bus	NB-IoT LoRaWAN wM-Bus

Dn		MC	
	Dn25-Dn50		B C

BOX		WARRANTY	
	IP54 IP68		54 mo.

- On request, complete with non-return valve and installation kit
- Version M for immersion in water
- Fixation of external magnetic field impact
- Simplicity of setting up and exploitation
- Extended archive of indications and emergency situations
- Open exchange protocol (compatible with leading manufacturers of devices and software)

INDUSTRIAL TURBINE WATER METERS WITH PULSE AND DATA MODULE

INTERFACE	
O-PUL RS-485 M-Bus	NB-IoT LoRaWAN wM-Bus

Dn		MC	
	Dn50-Dn150		A-C

BOX		WARRANTY	
	IP54 IP68		54 mo.

Designed for measuring the volume of cold water: pipelines, apartment buildings, industrial facilities (enterprises) with high flow rates.

- Simplicity of setting up and exploitation
- Extended archive of indications and emergency situations
- Open exchange protocol (compatible with leading manufacturers of devices and software)

APARTMENT HEAT METERS
WITH WIRED / RADIO INTERFACES

INTERFACE RS-485 M-Bus	NB-IoT LoRaWAN wM-Bus
Dn **Dn15 Dn20**	Qn **0,6 1,5 2,5**
MC **2**	BOX **IP54**

- There is a modification with 4 pulse inputs for connecting water meters with a pulse output
- Resistant to magnetic fields
- Self-diagnostics function
- Open exchange protocol (compatible with leading manufacturers of devices and software)
- Extended archive of indications and emergency situations

HEAT DISTRIBUTION METERS
WITH RADIO INTERFACES

INTERFACE	NB-IoT LoRaWAN
BOX **IP54**	T_{MAX} **105°C**
CHECKING **10 yr.**	WARRANTY **60 mo.**

The heat energy distributor meter (URTE) is installed on heating equipment (radiators and convectors) in systems in which heat meters cannot be installed.

By measuring the temperature differences between the radiator itself and the external environment, it determines the amount of heat generated. The use of URTE is most effective in metering systems for thermal energy consumption in apartment buildings in the presence of building metering devices.

APARTMENT COLD METERS
WITH WIRED / RADIO INTERFACES

INTERFACE RS-485 M-Bus		NB-IoT LoRaWAN wM-Bus	
Dn	Dn15 Dn20	Qn	0,6 1,5 2,5
MC	2	BOX	IP54

- Resistant to magnetic fields
- Self-diagnostics function
- Simplicity of setting up and exploitation
- Open exchange protocol (compatible with leading manufacturers of devices and software)
- Extended archive of indications and emergency situations

GAS METERS ULTRASONIC / JET
WITH RADIO INTERFACES

INTERFACE		NB-IoT LoRaWAN wM-Bus	
Dn	Dn15-Dn32	Qn	1,6-6,0
MC	1 1,5	WARRANTY	36 mo.

- In operation, meters are not a source of noise, electromagnetic interference, vibration and gas pollution
- Fixation of external magnetic field impact
- Leaks and ruptures fixation
- Temperature control inside the counting mechanism
- Charge control of the built-in battery
- Open exchange protocol (compatible with leading manufacturers of devices and software)

PULSE COUNTERS WITH WIRED INTERFACES

OUTPUT		RS-485 M-Bus
INPUT I-PUL 2 - 16		**POWER** I-POW 12 лет
BOX DIN IP65		**LIFETIME** 12 yr.

Count the number of pulses coming from several pulse meters, followed by data transmission via wired interfaces.
- Modifications available with connection according to the NAMUR scheme
- Operation in the absence of external power supply
- Open exchange protocol
- Remote configuration and software update
- Entered in the register of measuring instruments

PULSE COUNTERS WITH RADIO INTERFACES

OUTPUT	GSM NB-IoT wM-Bus LoRaWAN
INPUT I-PUL 4 - 16	**POWER** I-POW E-POW
BOX DIN IP65 IP68	**ANTENNA** I-ANT E-ANT SMA

Count the number of pulses coming from several pulse meters, followed by data transmission via radio interfaces.
- IP68 version available (for flooded wells)
- Increased depth of non-volatile archive
- Open exchange protocol
- Remote configuration and software update
- Entered in the register of measuring instruments

INTERFACE CONVERTERS
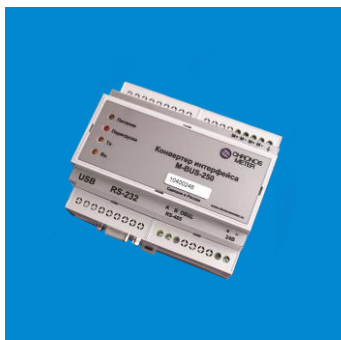
OUTPUT	RS-485 RS-232 USB
INPUT	M-BUS 50 | 100 | 250

MODE	WARRANTY
-30°C +50°C	36 mo.

Interface converters are designed to convert signal levels of the M-Bus interface into signal levels of RS-232, RS-485 and USB interfaces.

- Design variants 150, 250, 500 мА
- Short circuit protection
- Easy to set up
- Works with any types of metering devices

MODEMS

OUTPUT	GSM
INPUT	RS-485 RS-232 CAN

MODE	BOX
-40°C +70°C	DIN IP53

Modems are designed to collect information from metering devices and transmit data to the server.

- Design variant with RS-485 (до 32 devices)
- Design variant with CAN (до 32 devices)
- Data buffers for systems with "three-wire" interface (RxD, TxD)
- Getting in touch on a set schedule
- Operation in transparent channel mode
- Remote configuration and software update

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DEVICES DATA COLLECTION AND TRANSMISSION

OUTPUT		GSM
	NB-IoT	Ethernet
	wM-Bus	LoRaWAN

INPUT	I-PUL	RS-485
	CAN	RS-232
	SL	

BOX		WARRANTY
DIN	P65	60 mo.
	IP68	

Designed for automated collection, accumulation of readings from metering devices and data transfer to the server.
- IP68 version available (for flooded wells)
- Modifications available with connection according to the NAMUR scheme
- Presence of a case opening detector
- Open exchange protocol (compatible with leading manufacturers of devices and software)

AUTOMATION SHIELDS

OUTPUT		GSM
		Ethernet
		wM-Bus

INPUT	I-PUL	RS-485
	CAN	RS-232
		M-BUS

BOX	ANTENNA
P-BOX	E-ANT
M-BOX	SMA

The automation panel is designed to collect information from resource metering devices and transfer data to the server. Automation shield includes Device data collection and transmission, M-Bus interface converter, power supply.
- Presence of a case opening detector
- Подключение by RS-485 up to 750 devices
- Design variant with M-Bus (up to 500 devices)
- Design variant with CAN (up to 110 devices)
- Open exchange protocol (support for more than 350 devices)

BASE STATIONS

OUTPUT	GSM Ethernet
INPUT	LoRaWAN 8

MODE	-40°C +70°C	BOX	IP55

Base stations are designed to collect readings from metering devices and telecommunications equipment via radio channels and transmit data to the server.
- POE adapter included
- InDoor version available (for indoor installation)
- Open exchange protocol (compatible with leading manufacturers of devices and software)

ANTENNAS

INTERFACE	GSM LoRaWAN wM-Bus
dBi	3 - 12,5	CONNECTOR	N SMA
BOX	IP55 IP65	WARRANTY	36 mo.

Antennas are designed to enhance the reception/transmission of signals from telecommunication equipment transmitted over radio channels.
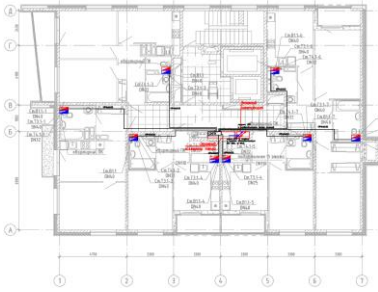
OTHER EQUIPMENT

On the CHRONOS METER website you can see other products, including: Home stations, Mounting accessories, Interface repeaters, Interface splitters, Power supplies, ...

DESIGN OF TELEMETRY SYSTEMS

AT THE CUSTOMER'S REQUEST, WE DESIGN EQUIPPING OBJECTS WITH SMART METERING DEVICES FOR BUILD AN INTELLIGENT AUTOMATED TELEMETRY AND DISPATCHING SYSTEM

LEAD TIME

7

WORKING DAYS

OEM PRODUCTION OF METERING DEVICES

UPON REQUEST, WE MANUFACTURE OUR METERING DEVICES AND TELECOMMUNICATION EQUIPMENT UNDER THE CUSTOMER'S TRADEMARK

OEM
Original Equipment Manufacturer
Contract Manufacturing

ODM
Original Design Manufacturing
Conception - Development
Design - Production

ODM ELECTRONICS ASSEMBLY
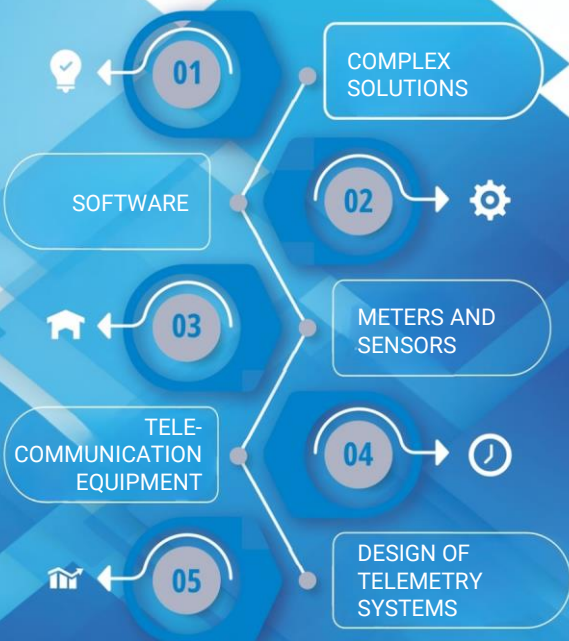
ON REQUEST, WE ASSEMBLE CUSTOMER'S ELECTRONICS

• Optimal manufacturing and development time
• Competitive prices
• High quality standards
• SMD installation with a capacity of up to 70 thousand components per hour
• Installation of microcircuit packages: BGA, QFN, QFP, CSP
• Fabrication of tooling for any type of circuit boards
• Maximum component height up to 15 mm
• Board dimensions (up to 457x457 mm)
• Installation accuracy up to 20 μm
• Automatic optical inspection
• Diagnostics and firmware of microcircuits
• Battery diagnostics

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