- ***SURFACE WATER***
- *GROUND WATER*
- ***DISCHARGE***
- *HYDROMETRY*
- ***METEOROLOGY***
- *SEWAGE*
- ***WATER QUALITY***
- *HYDRO-GEOLOGY*
- ***FLOOD CONTROL***
- *SOFTWARE*
- ***FLOW MEASUREMENT***
- *MOBILE SYSTEMS*

HİDRO
HYDROMETRY

HİDRO ELEKTRONİK A.Ş.

...for **water** management

We have ISO Certificate since 2018

TÜV

We are certified

ISO 9001:2018

Certificate No: 01 100 083478

Quality is our standard

CE

HIDRO ELECTRONIC is the official representative of DELTA OHM in Turkey and neighbor countries.

Delta OHM

HIDRO ELECTRONIC is the official representative of SOMMER MESS-SYSTEMTECHNIK in Turkey and neighbor countries.

sommer MESS-SYSTEMTECHNIK

HIDRO ELECTRONIC is the official representative of RITTMEYER in Turkey and neighbor countries.

rittmeyer BRUGG

ABOUT US

HİDRO ELEKTRONİK A.Ş.

HIDRO ELECTRONIC is one of the leading companies in manufacturing, developing and distributing high quality systems for Hydrometry, Meteorology and Hydro-Geology measurement instruments.

HIDRO ELECTRONIC's products are known throughout the World for Reliability, Accuracy and Longevity since 20 years.

As well as producing **"Data Loggers"**, we supply our customers key turn projects about **"Water Flood Alert Systems", "Early Warning Systems"** and **"Online Surface Water and Ground Water Monitoring Stations".**

YERLİ ÜRETİM

MİLLİ MARKA

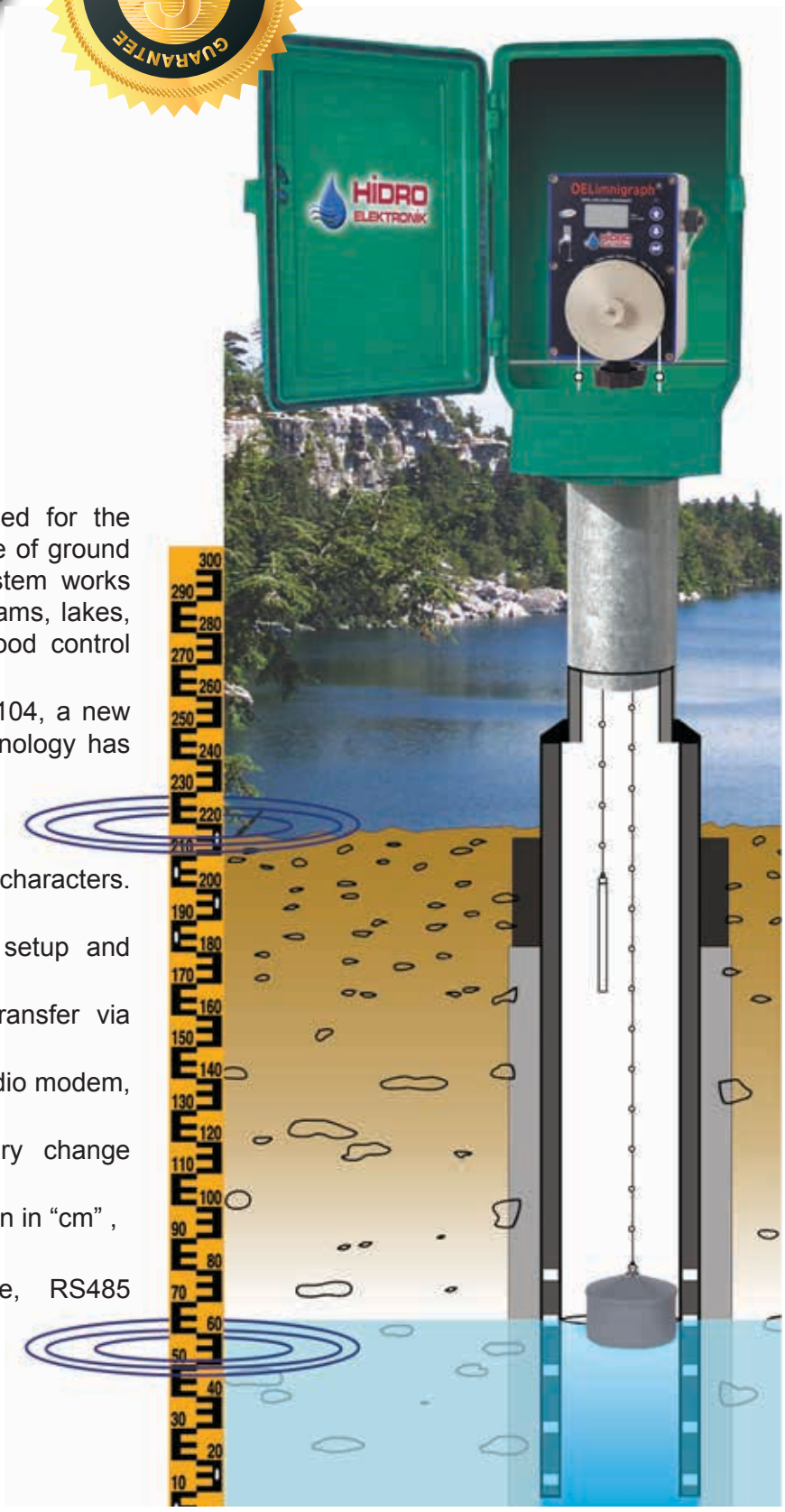
WATER LEVEL RECORDER WITH SHAFT ENCODER

OEL-104

Water Level Recorder (OEL-104) is used for the continuous monitoring, logging and storage of ground water level and surface water level. (System works accurately on rivers, irrigation channels, dams, lakes, land drainage, ground-water wells and flood control monitoring).

With a float-operated shaft Encoder OEL-104, a new generation in water-level measuring technology has been achieved.

- Proven **HIDRO ELECTRONIC** quality with competing prices.
- 3-lines, dot matrix LCD display, each 12 characters. (Water Level,
  time, date, battery-status, alarm status, setup and measured values)
- RS232 interface for bi-directional data transfer via serial modem,
- GSM data modem, GPRS data modem, radio modem, flash card, Palm top, satellite, etc.
- Battery life-time > 10 years. No battery change necessary.
- Built-in LCD display for water-level indication in “cm” , “mm” or “inches”
- Communication Ports: RS232 interface, RS485 interface SDI-12 interface and USB.
- 16 GB Ring Memory, EEProm
- Keypad or remote setup
- Windows Data Management Software
- Easy installation
- 3 years warranty



Data Logger OEL-104

Type	Floating
Memory	**16 GB** (Ring Memory), **EEProm**
Memory Storage Mode	Circle Mode (cyclic over writing old data)
Memory Storage Capacity	Storage capacity of data over approximately 15 years at a storage interval of 1 hour
Storage of	Water Level, Real time and date, alarms, manual correction of data (observer) with time and date, observer records. During readout, the sampling process is not interrupted
LCD Display	3-lines dot matrix LCD Display, each 12 characters. Displays actual water level, date/time, Level alarms, storage memory, sampling interval,min./max. value, last battery change, last readout and setup parameters, error messages and measured values. 15 sec. auto shut off
Keypad	3 keys. Built - in touch keypad for operation and set up over keypad
Data Transfer Rate	19200 bps (9600 bps selectable) Flash card Option: 115200 bps
Communication	RS 232 interface via:Desktop Computer, Notebook, Telephone Line Modem, GSM Data Modem, GPRS Data Modem (TCP/IP), Palm top, Flash Card (2 MByte), RF modem (optional) and Satellite (optional)
Communication Ports	RS232 Interface, RS485 Interface , SDI-12 Interface and USB
Power Supply	Single 3.6 Volt DC, 8500 mAh. C size Lithium Battery
Battery Life - Time	> 10 years (No battery change necessary)
Sensor Access	24 hour time, accuracy approx. ± 1 minute per month
Real Time Clock	Quartz - controlled real-time clock. Automatic leap year calculation
Interval time	The sampling and logging intervals can be preset (from 1 minute to 24 hours)
*** SMS Alarm Signals**	High level alarm, Low Level alarm, rate alarm and battery alarms by SMS messages sent to GSM cellphones and PC's (incoming alarms are automatic from measuring stations)
*** SMS Messager**	Text "Hidro LEVEL" and send to Limnigraph side to Cellphones modem and receive "SMS LEVEL" on your cellphone
Read Out Unit	4...20 mA, 0 - 5 V, 0 -10 V outputs
Protected Data	No data loss even if Battery fails, data stored in EEProm memory.
Protection	Not affected by humidity and dust (IP67 protection)
Working Temperature	- 30 °C to + 80 °C
Storage Temperature	- 40 °C to + 85 °C
Humidity	98 % relative

* GSM /GPRS Modem Function

Optic / Shaft Encoder

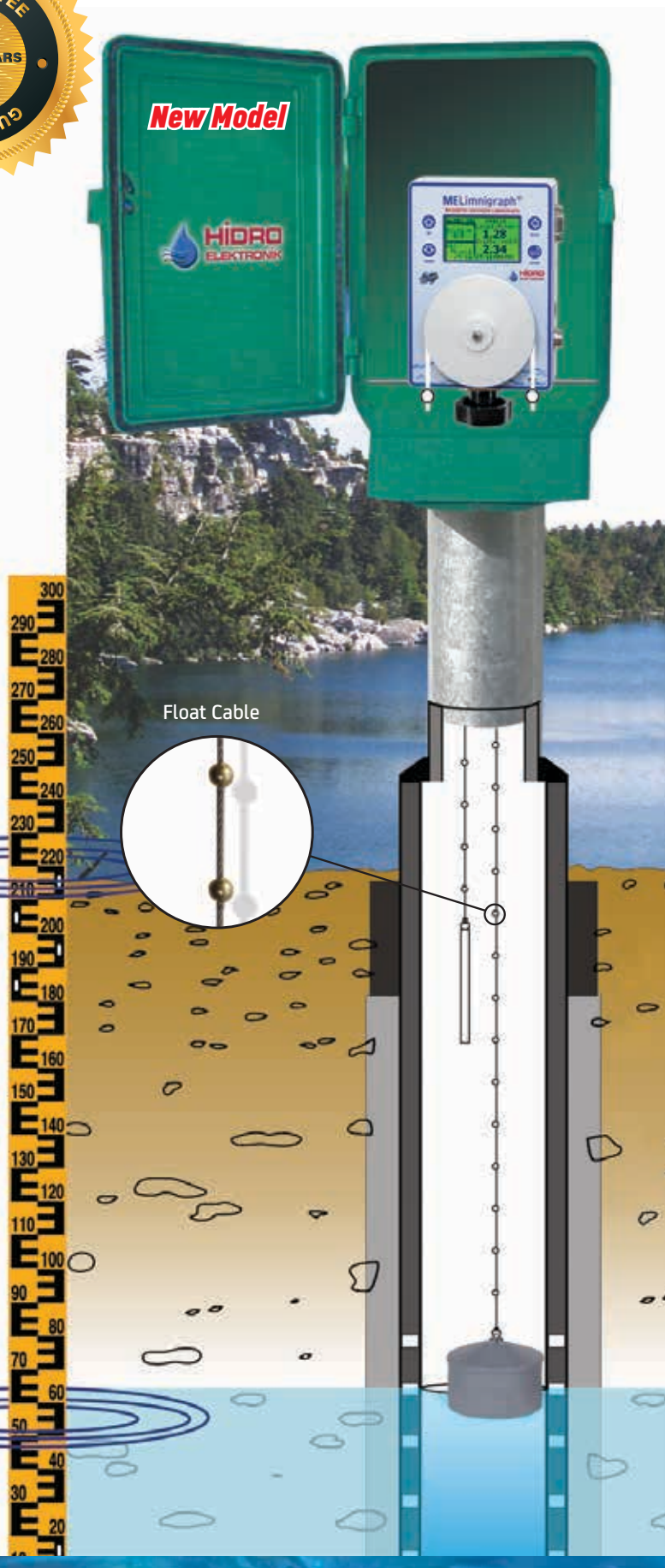
Sensor	Light Pulse Scan Optical Encoder. Accurate and incremental reading on logger. 128 definable sectors and 7 tours
Principle	Optical scanning 1 turn absolute, multiple turns summing
Light Source	IR LED Array
Resolution	1 mm (2 mm, 1 cm-scalable)
Measuring Range	0 to 655 m max. 1 mm for 0-130 m range 1 cm for 0-655 m range
Accuracy	± 1 mm
Wheel perimeter	256 mm = 25.6 cm per turn
Shaft diameter	7 mm
Shaft - Load	Radial = 5 kg (50 N) Axial = 1 kg (10 N)
Switchable	Built in LCD Display for water level indication in "cm" or "mm" (scalable)
Sense of rotation	Left-hand or right-hand rising view on display
Working Temperature	- 30 °C ile + 80 °C
Storage Temperature	- 40 °C ile + 85 °C
Case	Pressure Cast Aluminium, size: (170x120x55mm)
Housing of shaft Encoder	IP67 protection.(humidity and dust)
Humidity	98 % relative
Weight	Approx. 1,5 kg.

Accessories

Float	Diameter:120 mm,Length:100 mm,Weight:540 gr.
Counter Weight	Diameter:20 mm, Length:90 mm, Weight:180 gr.
For Float Cable	Diameter:1 mm. Stainless steel float cable. Converts water level changes into a rotation

WATER LEVEL RECORDER WITH MAGNETIC ENCODER

MEL-200



- **MEL-200** Limnigraph is used in rivers, dams, lakes, irrigation canals, flood controls, waste water management, coastal design, underground wells and environmental studies for water level measurements.
- **MEL-200** automatically stores water level measurement in the desired recording interval and also MEL-200 has USB, RS-485, 4...20 mA and RS-232 outputs. The data can be transferred from the RS-232 port and USB port of the Limnigraph to the computer in excel, xml and text file formats. If the modem is connected, it can be transferred to remote computer in excel, xml and text file formats. This data can be viewed graphically through the program.
- Data logger's LCD display shows water level, date and battery values instantly. Parameter values can be changed and offset values can be adjusted via keypad.
- When the display is activated by pressing the up button, the display shows the instantaneous water level value. Flow and volume information can be reached with up and down keys.
- With the laptop, modem and keypad: Station Number, Station Name, Basin Number, Zone Number, Equal Level, Date and Time, Data Record Interval identification operations can be performed. The Level vs. Flow table can be copied to the datalogger memory.
- The system uses solar panel and gel battery as power source. It continues to work with solar energy for years without the need for an external power source. The system can also be used directly with mains power.
- In case of power failure in the system, it stores the data in the Data Logger memory. When the energy is restored, old data can be retrieved in a healthy way. In the event of a power failure in the Data Logger, no deviation in date and time occurs. The backup battery in the Data Logger allows the date and time to proceed normally. When the energy is restored, it continues to record from where it left off.
- It is an ideal system for all applications in level or level-related flow and volume measurement in water and wastewater treatment plants. The error rate is quite low compared to other systems.

Data Logger MEL-200

Type	Floating
Memory	16 GB (16384 MB) Ring Memory
Operation Temp.	-40°C ... +80°C
Accuracy	±1 mm
Resolution	1 mm
Monthly Time Deviation	±1 min/month Automatic leap year calculation
Data Recording Interval	Data Recording Interval can be chosen as (1', 5', 10', 15', 30', 60' and multiples)
LCD Display	128x64 Graphic Dot Matrix / with back light
Keypad	4 Button Keypad (Battery, Instant Level, Instant Date, Flow and Setup information can be displayed on the screen at the same time.)
Level Changing Detection	Detect and record minimum 25.6 cm/sec level changes
Magnetic Encoder Level Measuring Range	0 cm ... 9999.999 m.
Setup	Full installation and data collection can be done via GPRS modem (remote access) or it can be done by computer via USB or RS-232.
Interface Ports	RS-232, RS-485, USB 4...20 mA. Analog Output
Back up Battery	3.6 V. Lithium for RTC (Life time of battery 10 years)
Data Recording Systems	2 Type, Instantaneous and Minute Average. (No data loss even if battery fails)
Alarm Status	Flood and Low Level Alarm
Parameters of measurement changes	Level information can be changed optionally (mm., cm., meters, etc.) Also flow information can be changed optionally.(l / sec, m3 / sec, l / min, m3 / min etc.)
Water Level, Discharge and amount monitoring	Water level, Flow and Volume can be calculated, recorded and monitored on the screen by using level information and Level vs. Flow table.
Installation Width	Min. 10 cm. up to 100 cm. (Mounting Pipe Diameter)
Shaft Encoder Compatibility	The shaft encoder is compatible with the MEL-200 limnigraph.
Data Transfer Speed	115200 bps, USB: Automatic Boud Rate(ABR)
Box	Pressurized Aluminum(170x120x55) mm.
Accessories	Float, Counterweight and 20 m. beaded rope included

External Accessories	Hidro 4,5 G GPRS, RF Modem	**Weight**	~1,5 kg.
Power Supply	5,5...35 V. (External)	**Protection**	IP-67
Device Warranty	3 Years	**Service Warranty**	Lifetime

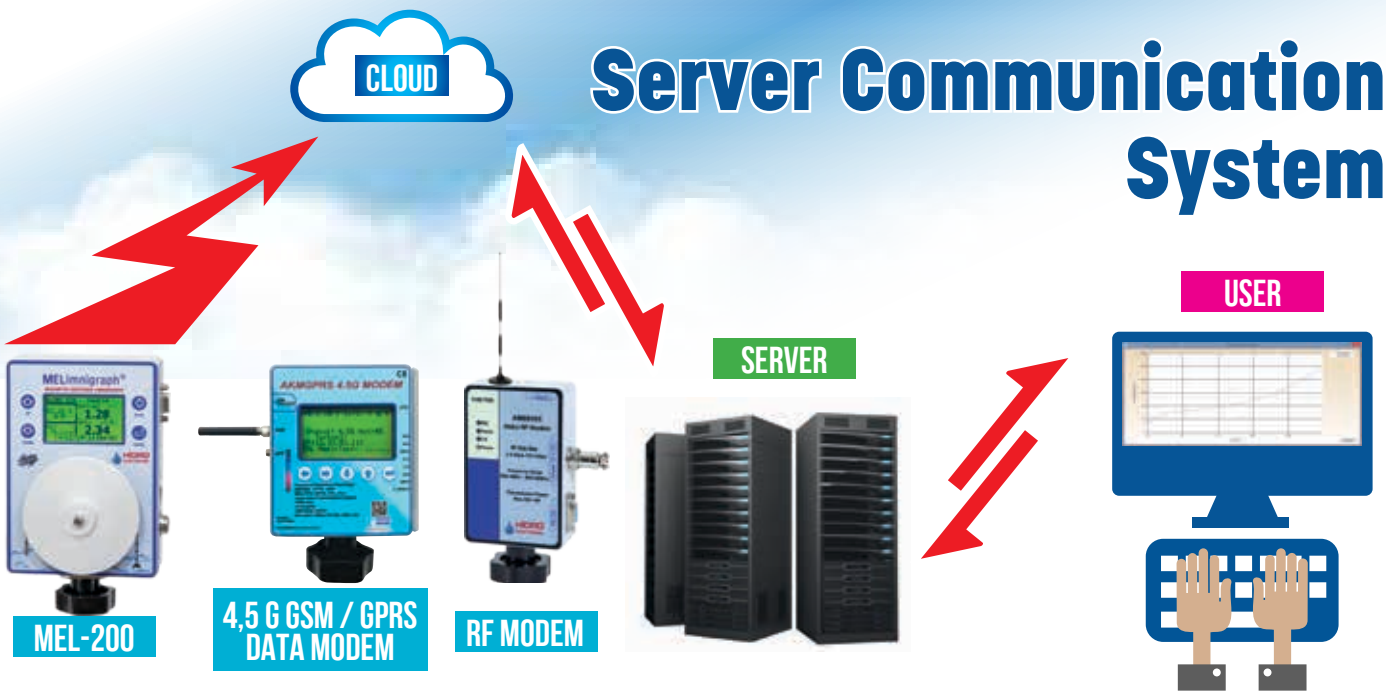
Magnetic Shaft Encoder

Sensor	10-Bit 360º Programmable Magnetic Rotary Shaft Encoder
Principle	Magnetic scanning 1 turn absolute, multiple turns summing
Source	N-S partially magnet
Accuracy	±1 mm
Resolution	0.1 mm (1 mm, 1 cm can be selected)
Measuring range	0 cm to ... 9999.999 m
Wheel Perimeter	256 mm = 25.6 cm per turn
Wheel Diameter	90 mm
Shaft Diameter	7 mm
Shaft - Load	Radial = 5 kg (50 N) Axial = 1 kg (10 N)
Data Entry Unit	Select "mm" "cm" or "m" from Setup
Magnetic Encoder Scanning	Denotes water level change.
Case	Pressure Cast Aluminum, Size: (170x120x55 mm)
Housing of Shaft Encoder	IP67 protection.(humidity and dust)
Working Temp.	- 30 °C ... + 80 °C
Storage Temp.	- 40 °C ... + 85 °C
Humidity	98 % relative
Weight	~1,5 kg.

Accessories

Float (Copper)	Diameter:120 mm,Length:100 mm, Weight:540 gr.
Counter Weight (chromium)	Diameter:20 mm, Length:90 mm, Weight:180 gr.
For Float Cable	Diameter:1 mm. beaded stainless steel float cable. Converts water level changes into a rotation

Server Communication System



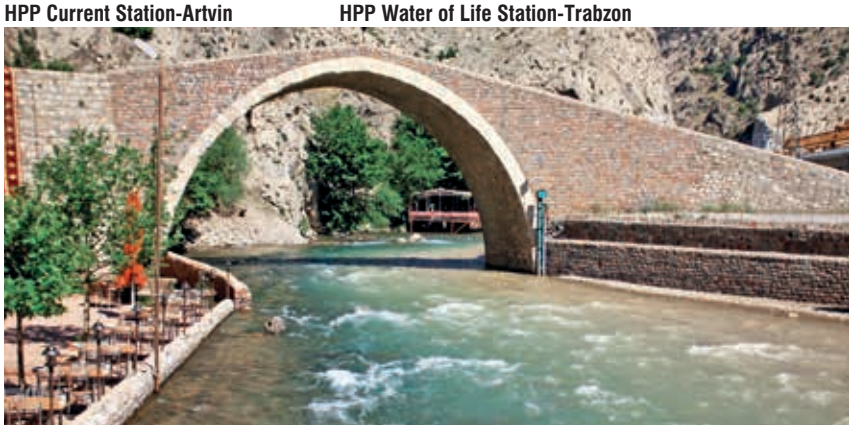
Station Examples

Çatalan Dam Adana-TURKEY

Irrigation Channel (TS1) Tarsus-TURKEY

HPP Current Station-Artvin

HPP Water of Life Station-Trabzon



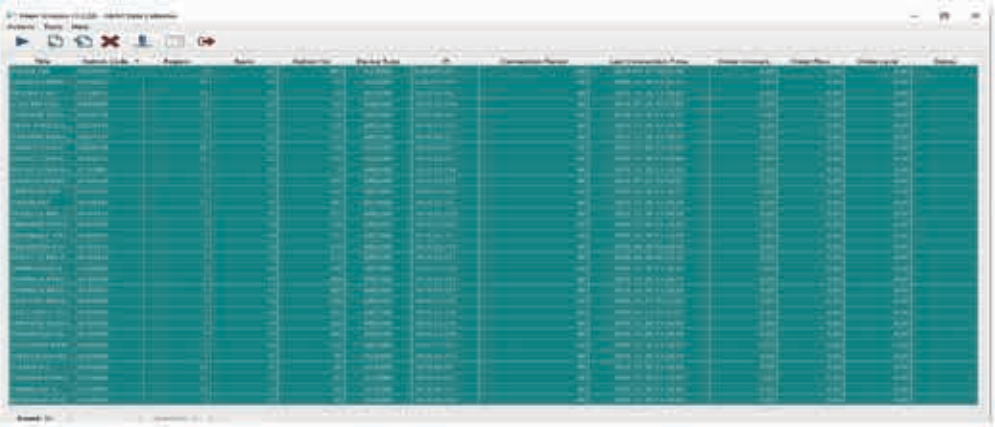
Çakıt River Pozantı- Adana-TURKEY

Irrigation Channel Samsun-TURKEY

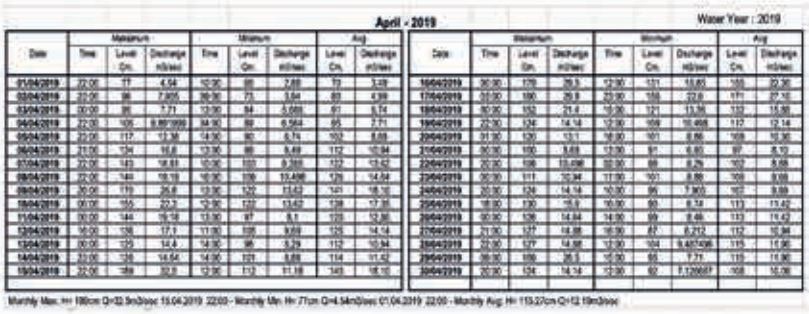
DATA ANALYSES PROGRAM

HIDRO-MCD-500 - 1.2

Program Main Window

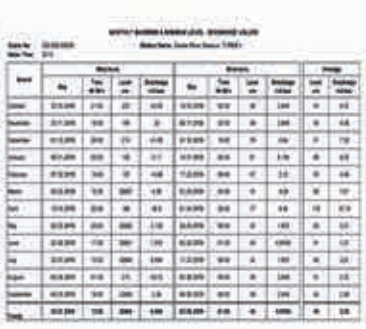


Online Automatic Data Collection

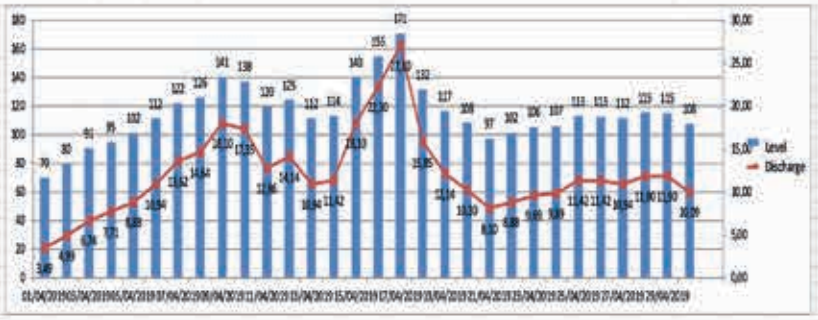


Automatic Excel Table Creation

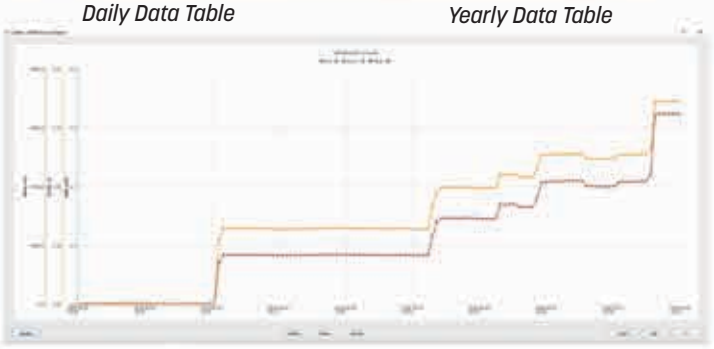
Daily Data Table



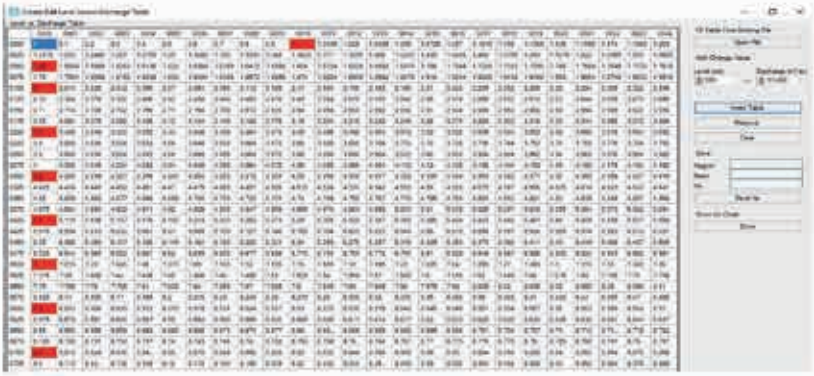
Yearly Data Table



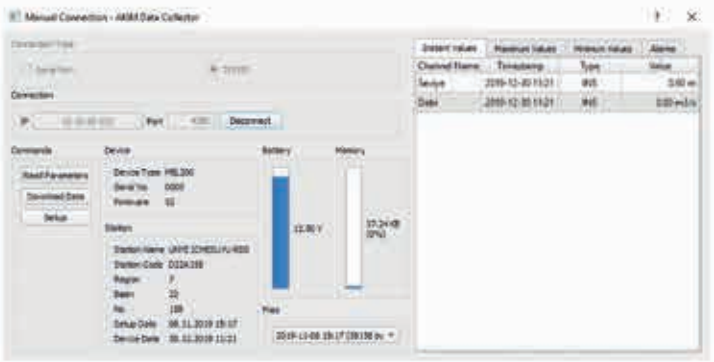
Automatic Excel Table Creation



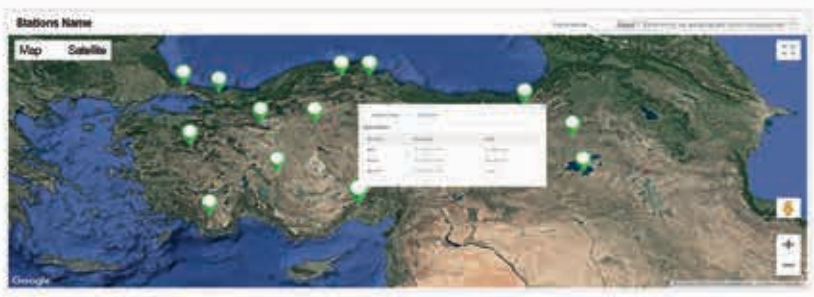
Graphical Representation



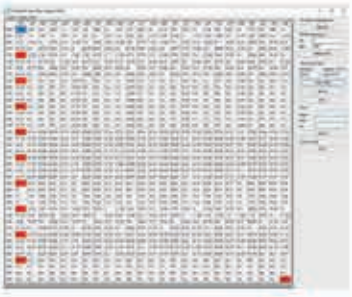
Online Automatic Data Collection Map Display



Manuel Connection via GSM/GPRS



Level-Discharge Table Creation

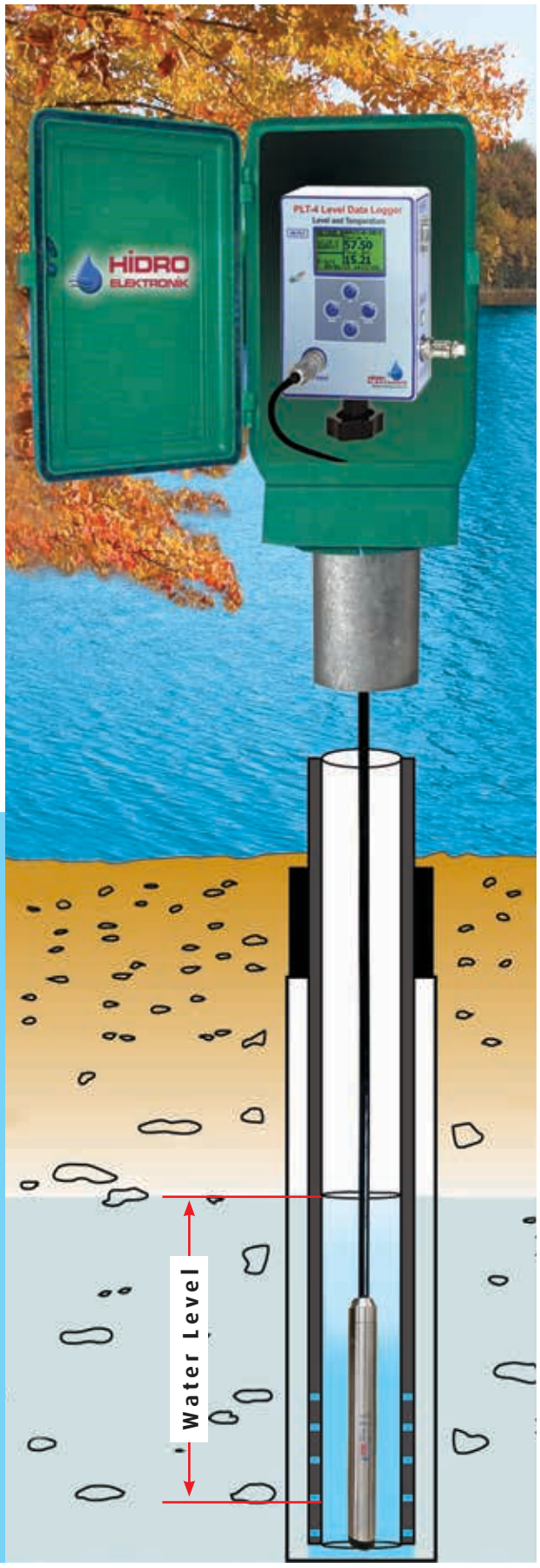


Dam Capacity Volume Table

Online GPRS Modem Setup

WATER LEVEL AND TEMPERATURE RECORDER WITH PRESSURE PROBE

PLT-04



Water Level

PLT-04 Water Level and Temperature Recorder with Hidro TP-01 Piezoresistive Pressure Probe is especially designed for the continuous Water Level and Temperature recording in:

- Dams, Lakes and Rivers
- Underground Wells
- Water Tanks
- In pipes and bore holes of small dia. (2")
- In not exactly vertical or curled bore holes or pipes
- In deep waters (up to 500 m.)
- 16 GB Ring Memory
- 128x64 Graphic Dot Matrix LCD display
- Battery life time >10 years
- Measuring Pressure Range: 0…300 mH²O
- Resolution: 1 mm.
- Remote data collection with GSM/GPRS Modem
- Compact and robust design
- High quality pressure probe cable with pressure compensation capillary tube for the atmospheric pressure
- Communication Ports: RS232 interface, RS485 interface and USB
- Windows Data Management Software
- 3 years warranty

Data Logger PLT-04

Type	Level + Temperature Sensor
Memory	**16 GB (Ring Memory)**
Memory Storage Mode	Circle Mode (cyclic over writing old data)
Memory Storage Capacity	Storage capacity of data over approximately 100 years at a storage interval of 1 hour
Storage of	Instant Values and Instant Min./Max. Values, Daily Average Values and Daily Min./Max. Values are recorded
LCD Display	128x64 Graphic Dot Matrix (Displays actual water level and temperature, date/time, Level alarms, storage memory, sampling interval, min./max. value, last battery change, last read-out and setup parameter, 15 sec. auto shut off)
Keypad	4 keys. Built - in touch keypad for operation and set up over keypad
Data Transfer Rate	115.200 bps
Communication	RS 232 and USB interface via: Desktop Computer, Notebook, GSM/GPRS Data Modem (TCP/IP), , RF modem (optional) and Satellite (optional)
Communication Ports	RS232 Interface, RS485 Interface and USB, 4..... 20 mA.
Power Supply	5,5 ....32 V. External
Real Time Clock	Quartz - controlled real-time clock. Automatic leap year calculation
Interval time	The sampling and logging intervals can be preset (from 1 minute to 24 hours) Back up Battery:3.6 V. Lithium internal (10 YEARS)
* **SMS Alarm Signals**	High water level alarm and Low Level alarm by SMS messages sent to GSM cellphones and PC's (incoming alarms are automatic from measuring stations)
* **SMS Messager**	Text "Hidro" and send to Limnigraph side to Cellphones modem and receive "SMS LEVEL" on your cellphone
Read Out Unit	4...20 mA Analog output and RS-485
Protected Data	No data loss when battery is out or dead. Continues recording when it is connected to energy
Protection	IP 65
Working Temperature	- 40 °C to + 80 °C
Storage Temperature	- 40 °C to + 80 °C
Humidity	95 % relative
Weight	Approx. 1,5 kg.

* GSM /GPRS Modem Function

Pressure Probe KELLER PR-36 XW

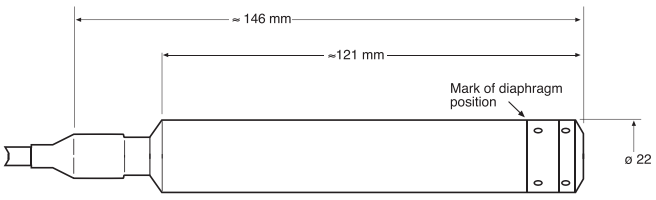
	(digital)	(analog)
Output	**RS 485**	**4...20 mA** (2-wire)
Supply (U)	8...28 Vcc	8...28 Vcc
Accuracy, Error Band[1] **(0...50 °C)**	0,1 %FS	0,15 %FS

[1] Linearity + Hysteresis + Repeatability + Temp. Coeff. + Zero + Span Tolerance

Linearity (best straight line)	0,025 %FS
True Output Rate	100 Hz
Resolution	0,002 %FS
Long Term Stability typ.	Range ≤ 1 bar: 1 mbar Range > 1 bar: 0,1 %FS
Load Resistance (Ω)	< (U - 7 V) / 0,02 A (2-wire)
Electrical Connection	Cable: Polyethylene (PE), vented
Insulation	> 100 MΩ / 50 V
Storage/Operating Temperature Range	-20...80 °C
Pressure Endurance	10 Million Pressure Cycles 0...100 %FS at 25 °C
Vibration Endurance, IEC 68-2-6	20 g (5...2000 Hz, max. amplitude ± 3 mm)
Shock Endurance	20 g (11 ms)
Protection	IP 68, iceproof
CE-Conformity	EN 61000-6-1 to -6-4
Material in Contact with Media	Stainless Steel 316L (DIN 1.4435) / Viton® / PE
Weight (without cable)	≈ 200 g
Dead Volume Change	< 0,1 mm³

Electrical Connections

Output	Function	Wire Color
4...20 mA	OUT/GND	White
2-wire	+Vcc	Black
0...10 V	GND	White
3-wire	OUT	Red
	+Vcc	Black
Program-	RS485A	Blue
ming	RS485B	Yellow



WATER LEVEL RECORDER WITH RADAR SENSOR

WLR-03

WLR-03 Water Level Recorder with VEGA Radar Sensors is a Contact Free Measuring System with high accuracy

- 16 GB Serial Flash Memory (Ring Memory)
- Process Temperature: -20°C ... +80°C
- Monthly Time Deviation: ±1 min.
- Leap Year backup
- Data Recording Interval can be chosen as (1', 5', 10', 15', 30', 60' and multiples)
- LCD: 128x 64 Graphic Dot Matrix
- Keyboard: 4 keys
- Battery Level, water level, instant temperature values and setup parameters can be read on LCD screen
- Interface: RS-232, RS-485, USB, 4 ... 20 mA
- 4 ... 20 mA analog output for level
- 2 types of recording: Instant Value and Average Value in a minute
- With Laptop, modem and key pad: Station Name and Number, Basin Number, Zone Number and Staff Gauge Level can be entered.
- Data recording interval can be chosen and can be set up.
- Resolution: 1mm.
- Protection Class: IP 68
- Text "SMS" Message and "mail support" with the help of Hidro 4,5 G GPRS Modem and Hidro Data Collector and Recording System
- Application: Surface water (for river, dam, lake and irrigation channel)
- Parameters measured: Water Level / Distance to Water
- Measurement technology: Non-contact Pulse Radar
- Product highlights: Measures water level or depth to water from a bridge, pier or mounting arm
- Measurement range: 0 ... 35 m
- Accuracy: ± 2 mm
- Interface: RS-232, RS-485, 4 ...20 mA/Hart
- Back up Battery:3.6 V. Lithium internal
- Power supply: 5,5 ....32 V. External
- Storage temperature: - 40°C ..... + 80°C
- No data loss in case of battery removal or dead battery
- Flood Alarm setup

Data Logger WLR-03

Type	Radar Sensor
Memory	**16 GB (Ring Memory)**
Memory Storage Mode	Circle Mode (cyclic over writing old data)
Memory Storage Capacity	Storage capacity of data over approximately 100 years at a storage interval of 1 hour
Storage of	Instant Values and Instant Min./Max. Values, Daily Average Values and Daily Min./Max. Values are recorded
LCD Display	128x64 Graphic Dot Matrix (Displays actual water level and temperature, date/time, Level alarms, storage memory, sampling interval, min./max. value, last battery change, last read-out and setup parameter, 15 sec. auto shut off)
Keypad	4 keys. Built - in touch keypad for operation and set up over keypad
Data Transfer Rate	115.200 bps
Communication	RS 232 and USB interface via: Desktop Computer, Notebook, GSM/GPRS Data Modem (TCP/IP), , RF modem (optional) and Satellite (optional)
Communication Ports	RS232 Interface, RS485 Interface and USB, 4...20 mA
Power Supply	5,5 ....32 V. External
Real Time Clock	Quartz - controlled real-time clock. Automatic leap year calculation
Interval time	The sampling and logging intervals can be preset (from 1 minute to 24 hours) Back up Battery:3.6 V. Lithium internal (10 YEARS)
* **SMS Alarm Signals**	High water level alarm and Low Level alarm by SMS messages sent to GSM cellphones and PC's (incoming alarms are automatic from measuring stations)
* **SMS Messager**	Text "Hidro" and send to Limnigraph side to Cellphones modem and receive "SMS LEVEL" on your cellphone
Read Out Unit	4...20 mA Analog output and RS-485
Protected Data	No data loss when battery is out or dead. Continues recording when it is connected to energy
Protection	IP 65
Working Temperature	- 40 °C to + 80 °C
Storage Temperature	- 40 °C to + 80 °C
Humidity	95 % relative
Weight	Approx. 1,5 kg.

* GSM /GPRS Modem Function

Radar Sensors

VEGAPULS WL 61

Measuring range	0 ... 15 m
Process fitting	thread G1½ mounting strap compression flanges from DN 80, 3"
Process temperature	-40 ... +80 °C
Process pressure	-1 ... +2 bar (-100 ... +200 kPa)
Measuring precision	±2 mm

VEGAPULS 61

Measuring range	0 ... 35 m
Process fitting	thread from G1½, 1½ NPT flanges from DN 50, 2"
Process temperature	-40 ... +80 °C
Process pressure	-1 ... +3 bar (-100 ... +300 kPa)
Measuring precision	±2 mm
SIL qualification	optionally up to SIL2

VEGAPULS 62

Measuring range	0 ... 35 m (max)
Process fitting	thread from G1½, 1½ NPT flanges from DN 50, 2"
Process temperature	-200 ... +450 °C
Process pressure	-1 ... +160 bar (-100 ... +16000 kPa)
Measuring precision	±2 mm
SIL qualification	optionally up to SIL2

VEGASON 63 (Ultrasonic Sensor for Continuous Level Measurement)

Measuring range	in liquids: 0.6 ... 15 m in bulk solids: 0.6 ... 7 m
Process fitting	compression flange DN 100 mounting strap
Process temperature	-40 ... +80 °C
Process pressure	-0,2 ... +1 bar (-20 ... +100 kPa)
Measuring precision	±10 mm
SIL qualification	optionally up to SIL2

WATER LEVEL AND TEMPERATURE SENSOR

TP-01

Application

- Water quality monitoring
- Groundwater monitoring during drilling operations involving fracking
- Studies on discharge water from farms
- Wastewater monitoring in mining
- Measurements in estuaries, swampland or moorland
- Tracer studies

Measurements Technology

- Vented pressure cell.

Product Highlights

- Water level and temperature measurement - for use with external data logger.

Internal Data Logger

- No.

Interface

- RS485(MODBUS) , SDI-12 , 4...20mA

- The TP-01 measures water conductivity, level and temperature in both surface and groundwater applications piezoresisitive transducer and a micro-processor electronics with integrated 24 bit A/D converter. Temperature dependencies and non-linearities of the sensor are mathematically compensated.

With the HIDRO software MCD-50 a RS485 converter and a PC (Laptop), the pressure can be displayed, the units changed, a new gain or zero set. The analog output can be set to any range within the compensated range.

WATER LEVEL AND TEMPERATURE SENSOR

TECHNICAL DATA TP-01

Water Level Measurement (Pressure)		
Pressure Sensor	**Piozorezistive transducer, temperature-compensated**	
Pressure Sensor	316SS GAUGE SENSOR, temperature compensated	
Measuring Range	0 ...4 m, 0 ...10 m, 0 ...20 m, 0 ...40 m, 0 ...100 m water col.	
Resolution	0.0001 m; 0.01 cm; 0.001 ft; 0.01 mbar; 0.0001 psi	
Accuracy (linearity + hysteresis)	≥ % ± 0.05 FS	
Long-term stability (linearity + hysteresis)	≥ % ± 0.1 % FS	
Zerodrift	≤ % ± 0.1 % FS	
Pressure sensor capability to withstand overloads	≥ 4 x measuring range	
Temperature-compensated operating range	-25 °C ... +70 °C (ice free)	
Units	m, cm, ft, mbar, psi	
Cable lenght	SDI-12, 4 ...20 mA, 1 ...100 m.	RS-485, 1 ...1000 m.
Interface	RS-485 (Modbus), SDI-12 ve 4 ...20 mA	

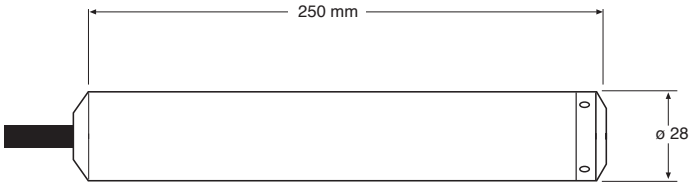
Power consumption	
RS485, SDI-12, sleep-mode	<30 µAV
RS485, SDI-12, active-mode	<32 mA

Ambient conditions	
Storage temperature	-40 °C ... +85 °C
Operating temperature	-20 °C ... +80 °C
Type of protection	Prob:IP 68
Housing material probe	POM, stainless steel, (DIN 1.4539, 904L) resistant to sea water

Temperature Measurement	
Sensor	PT-100
Measuring range	-25 °C ... +70 °C
Calibrated range	-25 °C ... 70 °C
Resolution	0.01 °C
Accuracy	±0.2 °C
Unit	°C, °F

Option	
Standarts	EN IEC 63000:2019, EN 61326-1:2013, EN 61326-2-3:2013, EN 61000-6-2:2005, EN 61000-6-4:2011, TS EN ISO 4373, TS EN 15839
Test Standart / Metod	TS EN ISO 4373/2022

Sensor Info	
Sensor dimension	250 mm x 28 mm
Sensor weight	0,650 kg
Sensor Cable	82 gr/m
EMC Limits	EG 2004/108/EG EN 61326-1:2013



Cable Connections

Output	Function	Wire Color
4…20 mA	OUT/GND	White
2-wire	+Vcc	Black
0…10 V	GND	White
3-wire	OUT	Red
	+Vcc	Black
Program-	RS485A	Blue
ming	RS485B	Yellow

WATER LEVEL, TEMPERATURE AND CONDUCTIVITY SENSOR

TPEC-01

Application

- Water quality monitoring
- Saltwater intrusion monitoring
- Groundwater monitoring during drilling operations involving fracking
- Studies on discharge water from farms
- Wastewater monitoring in mining
- Measurements in estuaries, swampland or moorland
- Tracer studies

Measurements Technology

- Vented pressure cell and 4-electrode graphite conductivity cell.

Product Highlights

- Water level, temperature, and conductivity measurement - for use with external data logger.

Internal Data Logger

- No.

Interface

- RS485(MODBUS) , SDI-12 , 4...20mA

- The TPEC-01 measures water conductivity, level and temperature in both surface and groundwater applications piezoresisitive transducer and a micro-processor electronics with integrated 24 bit A/D converter. Temperature dependencies and non-linearities of the sensor are mathematically compensated.

With the HIDRO software MCD-50 a RS485 converter and a PC (Laptop), the pressure can be displayed, the units changed, a new gain or zero set. The analog output can be set to any range within the compensated range.

WATER LEVEL, TEMPERATURE AND CONDUCTIVITY SENSOR

TECHNICAL DATA — TPEC-01

Water Level Measurement (Pressure)			
Pressure Sensor	**Piozorezistive transducer, temperature-compensated**		
Pressure Sensor	316SS GAUGE SENSOR, temperature compensated		
Measuring Range	0 ...4 m, 0 ...10 m, 0 ...20 m, 0 ...40 m, 0 ...100 m water col.		
Resolution	0.0001 m; 0.01 cm; 0.001 ft; 0.01 mbar; 0.0001 psi		
Accuracy (linearity + hysteresis)	≤ % ± 0.05 FS	**Zerodrift**	≤ % ± 0.1 % FS
Long-term stability (linearity + hysteresis)	≤ % ± 0.1 % FS	**Pressure sensor capability to withstand overloads**	≥ 4 x measuring range
Temperature-compensated operating range	-25 °C ... +70 °C (ice free)	**Units**	m, cm, ft, mbar, psi

Conductivity Measurement			
Calibrated range	0 °C ... 50 °C	**Sensor**	4 graphite electrodes

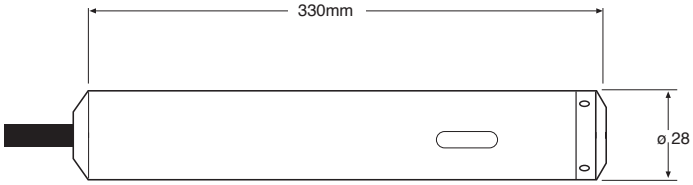
Measuring range 5 ... 2.000 µS/cm		Measuring range 0.1 ... 100 mS/cm
Resolution	1 µS/cm	0.01 mS/cm
Accuracy	± 1 µS/cm or ± measured value ± 0.5 % of (whichever is higher)	± 0.01 mS/cm or measured value ± 1.5 % of (whichever is higher)
Unit	µS/cm , mS/cm , S/cm	mS/cm , S/cm

Temperature Measurement	
Sensor	PT-100
Measuring range	-25 °C ... +70 °C (ice free)
Calibrated range	-25 °C ... +70 °C
Resolution	0.01 °C
Accuracy	± 0.1 °C
Unit	°C, °F
Housing material probe	POM, stainless steel, (DIN 1.4539, 904L) resistant to sea water
Prob dimension	330 mm x 28 mm
Prob weight	0,740 kg

Option	
Standarts	EN IEC 63000:2019, EN 61326-1:2013, EN 61326-2-3:2013, EN 61000-6-2:2005, EN 61000-6-4:2011, TS EN ISO 4373, TS EN 15839
Test Standart / Metod	TS EN ISO 4373/2022
Salinity calculation options	Standart Metod veya USGS2311
Cable jacket	PUR
Cable lenght	SDI-12: 1..... 100 m. RS-485: 1..... 1000 m. 4 ...20 mA: 1..... 100 m.

Power consumption	
RS485, SDI-12, 4 ...20 mA, sleep-mode	<30 µAV
RS485, SDI-12, 4 ...20 mA, active-mode	<32 mA

Ambient conditions	
Storage temperature	-40 °C ... +85 °C
Type of protection	Prob:IP 68
EMC Limits	EG 2004/108/EG, EN 61326-1:2013



Cable Connections

Output	Function	Wire Color
4…20 mA	OUT/GND	White
2-wire	+Vcc	Black
0…10 V	GND	White
3-wire	OUT	Red
	+Vcc	Black
Program-	RS485A	Blue
ming	RS485B	Yellow

MULTI CHANNEL DATA LOGGER

MCD-500

Compatible with all sensors with VOLTAGE, CURRENT AND DIGITAL output.

- 9 Channels
- 5 Analog, 2 Digital, 1 Humidity, 1 Temperature Sensor Outputs
- Analog Output: 4...20 mA and 0... 2,5 V.
- Digital Output: Puls, Frequency and Period measurements
- 1 unit Analog Output 4...20 mA.
- For Analog Output 24 bit Digital Resolution
- Each channel can be calibrated and changed through software program
- Each channel name and other data can be entered through software program
- 2 units Digital Output (to control Alarm and Motor) Transistor NPN output max. 100 mA.
- Record Gap: 1...1440 min. Each channel record gap can be set up separately through software program
- 128x64 bit Graphic Dot Matrix LCD screen
- Battery Level, Instant Level, Each Channel status and Memory details can be seen on the screen
- Recorded values can be seen on screen through keypad on the logger
- RS-485 port for instant values and remote interface
- Interface: RS-232, USB (Virtual Com port (CDC))
- 2 Types Recording:
  -Instant Data Record and Average Record per minute
  -Instant Values and Instant Min./Max.Values, Daily Average Values and Daily Min./Max.Values are recorded
- Memory Capacity: 16 GB (1.334.000 data)
- Data Storage Capacity: 100 years
- Data Flash Technology
- No Data Loss when battery is out or dead. Continues recording when it is connected to energy
- Power Supply: 8...32 VDC
- Energy Consumption: Average 10 mA. In normal conditions
- Time Deviation: ±1 min./year RTC
- Working Temperature: - 40 °C and + 80 °C / %95 humidity
- Protection Class: IP: 65
- GSM/GPRS Data modem connection, data exchange and setup through Serial Port

Area of Usage

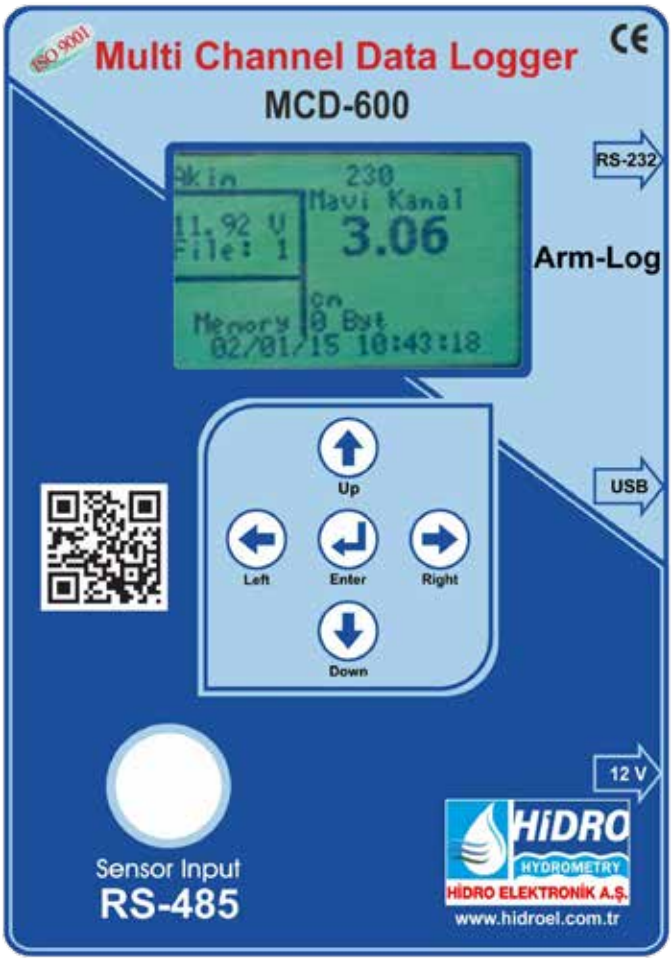
- Dams, Rivers, Underground Wells
- Agricultural Irrigation Fields
- Meteorology Stations
- Hydroelectric Power Plants (HPP)
- Wind Power Plants (WPP)
- Photovoltaic Power Plant (PVPP)

METEOROLOGY STATIONS

- Wind Speed
- Wind Direction
- Air Temperature
- Air Humidity
- Precipitation
- Atmospheric Pressure
- Evaporation
- Sunshine Duration
- Radiation
- Snow Level
- Snow Density
- Soil Humidity&Temperature

MULTI CHANNEL DATA LOGGER

MCD-600



VOLTAJ, AKIM VE DİJİTAL çıkışlı tüm sensörler ile uyumludur.

- 9 Kanallı (Seviye, sıcaklık, Ph, rüzgar, basınç vb.)
- 5 adet analog, 2 adet dijital, 1 adet nem, 1 adet sıcaklık sensör girişi.
- Analog giriş: 4...20 mA ve 0... 2,5 V.
- Dijital Giriş: Puls, frekans ve peryot ölçebilir
- 1 adet Analog Çıkış 4...20 mA.
- 24 bit analog için dijital çözünürlük
- Her kanal bilgisayar yazılımı tarafından kalibre edilebilir ve değiştirilebilir.
- Her kanal için yazılım vasıtasıyla kanal isimleri ve birimleri girilebilir.
- 2 adet Dijital Çıkış (Alarm ve motor kontrolü için) Transistör NPN çıkışlı maksimum 100 mA.
- Kayıt Aralığı:1', 3', 5', 10', 15', 30', 60' ve tam katları. Her kanal kayıt aralığı yazılım aracılığı ile ayarlanabilir.
- 128x64 bit Grafik Dot Matrix LCD ekran
- Ekranda aynı anda batarya, anlık seviye, tüm kanalların durumu ve hafıza detayları görülebilir.
- 5 adet tuş takımı ile ekranda kayıt değerleri görülebilir, yeniden setup yapılır.

- Anlık değerler ve uzak arayüz için RS-485 portu mevcuttur. Ethernet RJ-45 portu vardır.
- Interface: RS-232, USB (Virtual Com port (CDC)) mevcuttur
- 2 tip kayıt sistemi:
  - Anlık Kayıt
  - Dakikadaki Ortalama Kayıt
- Anlık ve Anlık Min. ve Max. Değerler, Günlük Ortalama ve Günlük Min. ve Max. Değerler kayıt edilmektedir.
- Min. ve Max. değerler anlıktan ve kayıttan bilgisayar programı aracılığı ile ayarlanabilir.
- Hafıza Kapasitesi: 16 GB.(Ring Memory)
- Hafıza Kapasitesi: Toplam 1.334.000 adet veri
- Harici SD kart portu vardır.
- Data Flash Teknolojisine sahiptir. Kesinlikle silinme olmaz.
- Veri depolama süresi 100 yıldır.
- Batarya çıkartıldığında veya bittiğinde hafızada ki veri kaybı yaşanmaz. Enerji geldiği zaman kaldığı yerden kayda devam eder.
- Güç Kaynağı: 8...32 VDC
- Enerji Tüketimi: Normal şartlarda Ortalama 10 mA.
- Zaman Hatası: ±1 dakika/yıl sapma RTC
- Çalışma Sıcaklığı: - 40 °C ile + 80 °C arası ve %95 nem
- Koruma Sınıfı: IP: 65
- Seri port aracılığı ile GSM/GPRS modem bağlanabilir, veri alışverişi ve setup yapılabilir.
- Güneş paneli sayesinde 30 gün, 24 saat bulutlu havada bile kesintisiz çalışır.

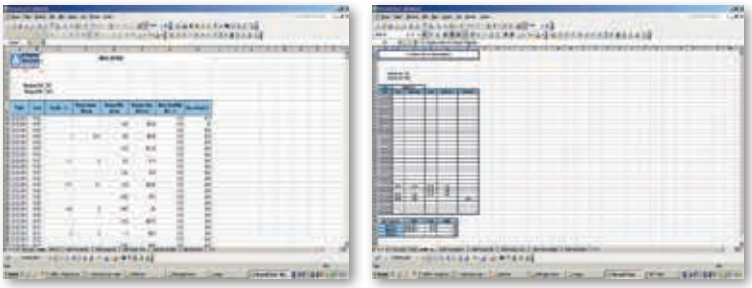
Kullanım Alanları

- Barajlar, Nehirler, Yeraltı Kuyuları (AGİ)
- Tarımsal Sulama Alanları
- Meteoroloji İstasyonları (MGİ)
- Hidro Elektrik Santralleri (HES)
- Rüzgar Enerji Santralleri (RES)
- Güneş Enerji Santralleri (GES)

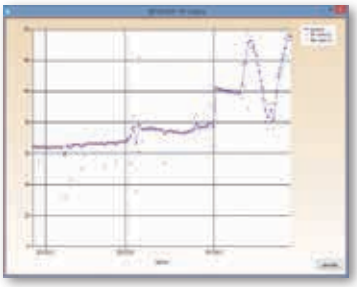
SOFTWARE SYSTEMS

- 9 Channels (Level, temperature, Ph, wind, pressure etc.)
- 5 Analog, 2 Digital, 1 Humidity, 1 Temperature Sensor Outputs
- Analog Output: 4...20 mA and 0... 2,5 V.
- Digital Output: Puls, Frequency and Period measurements.
- 1 unit Analog Output 4...20 mA.
- For Analog Output 24 bit Digital Resolution
- Each channel can be calibrated and changed through software program.
- Each channel name and other data can be entered through software program.
- 2 units Digital Output (to control Alarm and Motor) Transistor NPN output max. 100 mA.
- Record Gap: 1', 3', 5', 10', 15', 30', 60' min.and multiples of. Each channel record gap can be set up separately through software program.
- 128x64 bit Graphic Dot Matrix LCD screen.
- Battery Level, Instant Level, Each Channel status and Memory details can be seen on the screen.
- Recording values on the screen with 5 keypads can be seen, the setup is done again.
- RS-485 port for instantaneous values and remote interface available. It has an Ethernet RJ-45 port.
- Interface: RS-232, USB (Virtual Com port (CDC))
- 2 Types Recording:
  - Instant Data Record and Average Record per minute
  - Instant Values and Instant Min./Max.Values, Daily Average Values and Daily Min./Max.Values are recorded
- Memory Capacity: 16 GB. (Ring Memory)
- Memory Capacity: 1.334.000 data.
- It has an external SD port.
- Data Storage Capacity: 100 years
- Data Flash Technology
- No Data Loss when battery is out or dead. Continues recording when it is connected to energy.
- Power Supply: 8...32 VDC
- Energy Consumption: Average 10 mA. In normal conditions
- Time Deviation: ±1 min./year RTC
- Working Temperature: - 40 °C and + 80 °C / %95 humidity
- Protection Class: IP: 65
- GSM/GPRS Data modem connection, data exchange and setup through Serial Port
- 30 days, 24 hours cloudy thanks to solar panel It works without interruption even in the air.

Instant Map



Excel Table



Graphic Table

Online Automatic Data Collection

Area of Usage

- Dams, Rivers, Underground Wells
- Agricultural Irrigation Fields
- Meteorology Stations
- Hydroelectric Power Plants (HPP)
- Wind Power Plants (WPP)
- Photovoltaic Power Plant (PVPP)

ULTRASONİK DEBİMETRE

LRF-2000S

SENSÖR TİPİ		ÖZELLİK	ÖLÇÜM ARALIĞI	ÖLÇÜM SICAKLIĞI
TS-1		Küçük çaplı borular	DN15~DN100	-30~90°C
TM-1		Orta çaplı borular	DN15~DN100	-30~90°C
TL-1		Büyük çaplı borular	DN300~DN6000	-30~90°C

LRF-2000S ultrasonik sistemi kullanarak sıvıların debisini ve hızını ölçmeye yarayan endüstriyel bir cihazdır. Kurulumu ve kullanımı basit ve kurulumun yapıldığı boruya herhangi bir zarar vermeden konuşlandırılabilir.

Farklı marka ve model transducerlar ile uyumlu bir şekilde çalışabilen her türlü sıvıların debisini ölçebilen(atık su, tuzlu su, partiküllü su, yağ, benzin v.b.) güç tüketimi düşük ve %1 den daha iyi bir hata payı ile çalışabilen bir cihazdır.

Farklı iletişim protokollerini desteklemesi sayesinde ölçtüğü bilgileri farklı marka ve model data loggerlara kaydedebilmekte, farklı marka ve modellerde modemler aracılığı ile bu bilgileri istenilen şekilde istenilen yere aktarabilmektedir.

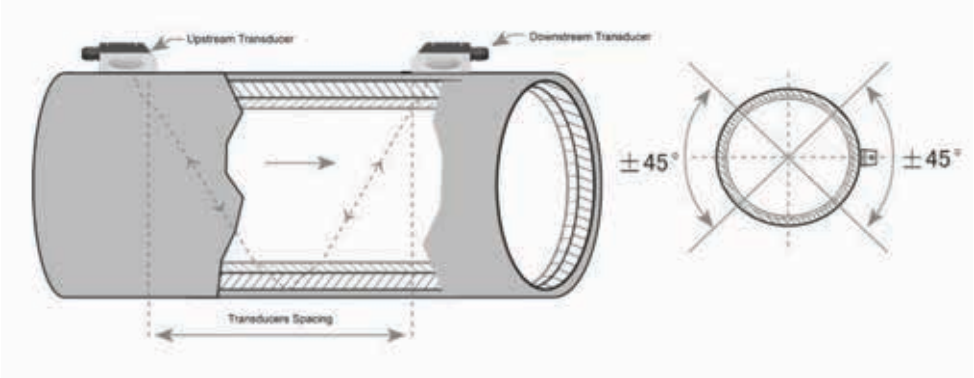
LRF-2000S ultrasonik akım ölçerin sıfır nokta ayarı ile hareketsiz sıvı durumunda akışın olmadığını gösterir ve debiye bu bilgileri katmaz. Bu sayede ölçümün doğruluğu artmış olur.

LRF-2000S verileri takvim ve saat bilgileriyle tutar bu nedenle ilk kurulumda takvim ve saatin ayarlanması gerekir. Akü voltajını 2V'un altına indiği durumda yeni bir yedek bataryanın takılması gerekir. Bataryanın takılması sırasın takvim ve saat ayarları bozulmayacak ve verilerde dağınıklığa sebep olmayacaktır.

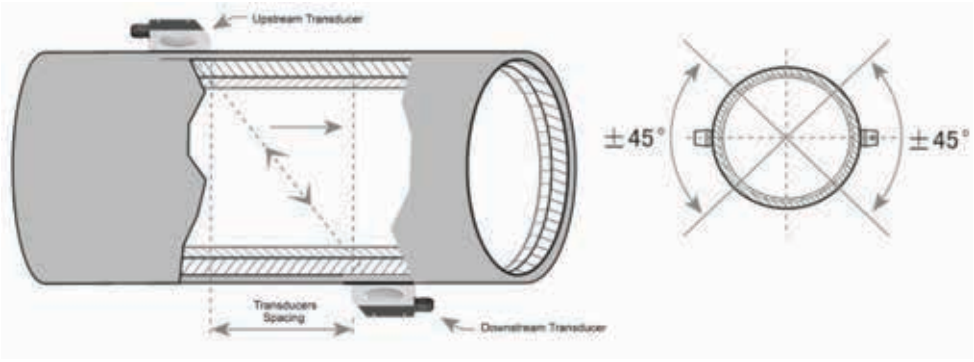
LRF-2000S ultrasonik akım ölçerin kurulumu 3 ayrı şekilde yapılabilir.20 pin portlu LCD ve keypad ile, RS485 portlu LCD ve keypad ile yada RS232 portlu bir bilgisayar yardımıyla kurulum yapılabilir. Analog giriş veya çıkış kalibrasyonu yapılarak üretilen son kalibrasyon verileri RAM içerisine kaydedilerek cihaz kapatılıp açılması durumunda da bilgiler saklanmış olur ve kalıcılık sağlanır.

TEKNİK ÖZELLİKLER	
Ölçüm Prensibi	Ultrasonik Transittime
Tekrarlanabilirlik	±0.2%
Ölçüm aralığı	DN15 İLE DN6000 arası tüm borularda ölçüm
İletişim	RS485 seri portu, Üç analog giriş, Bir 4-20mA analog çıkış, İki OCT kanal çıkışı
	RS485 seri arabirimi ile yazılım güncellemesi-MODBUS desteği
Güç Kaynağı	DC8”36V yada AC85”264V
Boyut	95x95x35 mm
Ekran	Arka aydınlatmalı ekran 2x20 karakter, 170x180x56 cm

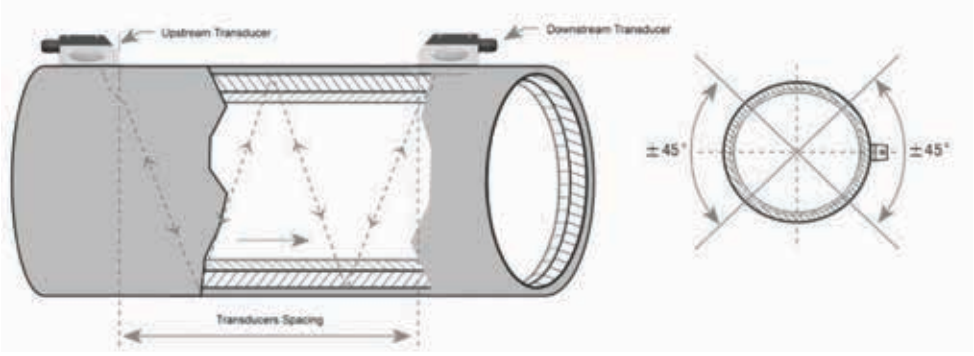
LRF 2000 S	
Hassasiyet	±1%
Tuş Takımı	16 tuş
Ölçüm Aralığı	-12 ...+12 m/s, Çift Yönlü (bidirectional)
Birimler	Litre/saat, Litre/dakika, Litre/saniye, m^3/saat, m^3/dakika, m^3/saniye
	Suyu kesmeden, boruya fiziksel bir müdahalede bulunmadan ve basınçta herhangi bir kayba sebep olmadan montajı yapılabilme
Bulanıklık	<10000 ppm
Çalışma Sıcaklığı	-30°C~90°C



V Metodu



Z Metodu



W Metodu

DEBİMETRE DATALOGGER

DFM-100

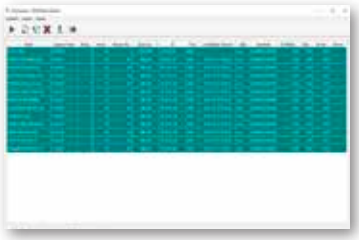
- 2 Kanal
  - Debi Sensörü
  - Hız Sensörü
- 1 GB (1024 Mb.) Hafıza
- Çalışma Sıcaklığı -40°C ile +80°C arasında
- Aylık zaman sapması ±1 dakika/ay
- Artık yıl desteği
- Veri Kayıt Aralığı istenilen dakika değerinde seçilebilir. (1', 5', 10', 15', 30', 60' dakika ve tam katları şeklinde seçilir)
- 128x64 Grafik Dot Matrix LCD Ekran/Arka Aydınlatmalı
- Tuş Takımı: 4 Tuş Keypad
- LCD Ekranda aynı anda batarya, anlık hız, anlık debi ve setup parametreleri izlenir.
- IP-67 Koruma
- Uzaktan GPRS ile veya RS-232 üzerinden bilgisayar yazılımı ile tam kurulum ve veri sağımı
- RS-232 Arabirim
- USB Arabirim
- RS-485 Arabirim
- Debi bilgisi için 4-20 mA analog çıkışlı
- 2 Tip Kayıt Sistemi
  - Anlık
  - Dakikadaki Ortalama
- Enerji kesilmesi durumunda veri koruma özelliği
- Her iki kanal için Alarm kurulumu
- Tuş takımı ile debi, hız, tarih, saat ve veri kayıt aralığı girebilme, kurulum ve ekrandan izlenme özelliği vardır.
- Saatlik, günlük, haftalık, aylık ve yıllık toplam geçen su miktarı bilgisi dataloggerda kayıt altına alınır.
- DFM-100 Transit-time Ultrasonik Debi Ölçüm Sistemi transmitterden gelen debi ve hız değerlerini tarih ve saati ile birlikte kayıt eder.
- DFM-100 Debimetre Datalogger'ı ultrasonik transit-time sensörleri ve transmitteri ile uyumludur.

SOFTWARE SYSTEMS

HIDRO DATA COLLECTOR

SERVER SYSTEM

www.hidroel.com.tr

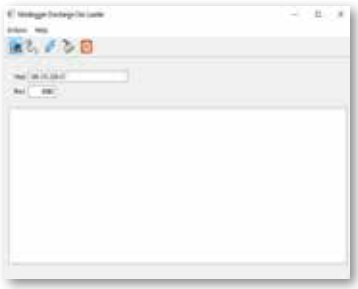


ONLINE OTOMATİK VERİ TOPLAMA

GSM/GPRS ÜZERİNDEN MANUEL BAĞLANTI

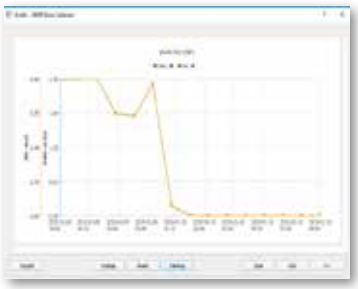
ONLINE MODEM SETUP

İSTASYON EKLEME

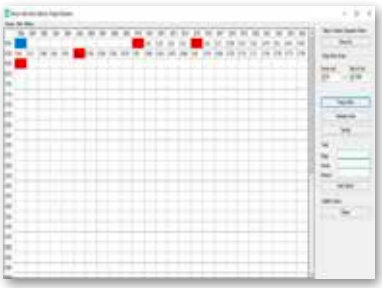


ONLINE FIRMWARE VE DEBİ-ABAK TABLOSU YÜKLEME

ONLINE KALİBRASYON AYARLARI



GRAFİK GÖSTERİMİ ÖZELLİĞİ



SEVİYE-DEBİ TABLO OLUŞTURMA

TIPPING BUCKET RAIN GAUGE

Pluviograf RG-200

Rain gauges using Tipping Bucket principle with integral data logger or pulse output.

- High-resolution electronic tipping bucket system (0,1 mm)
- Instruments suitable with World Meteorological Organization standards (WMO)
- Bucket size; 0,1 mm or 0,2 mm (adjustable)
- Easy to service with low maintenance requirement
- Suitable for solid precipilation (e.g. snow, hail, freezing rain, grain)
- “flood warning alarms” can be sent to; cellular telephones and PC (Auto)
- Long term stable calibration
- 2- lines dot matrix LCD display. Total 32 characters
- 16 GB Memory (Data Flash Memory)
- Battery life time > 10 years
- Windows data management software
- 3 years warranty

Function

Automatic logging of rainfall, unlimited rainfall capacity, highly accurate rain gauge with impulse output.

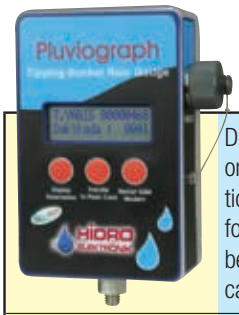
The systems uses the latest data logger series to record rainfall using a precision tipping bucket rain gauge. A divided bucket pivoted at the centre tips when a predetermined amount of rain water is collected at one side of bucket. The tipping action magnetically closes a reed switch which sends a pulse to the logger. The other side of the bucket then will fill up and the process is repeated. A choice of either 0,1 mm or 0,2 mm per tip sensitivity is available.

The system is supplied with an RS-232 cable and evaluation software compatible to use with PC, Lap-Top, Data Flash Card, RF Modem and GSM/GPRS Data Modem device, complete with rain gauge, datalogger, battery, RS-232 cable and Windows data management software.

Technical Details

Collecting Area	200 cm^2
Tipping Bucket	Made of plastic material (ABS)
Resolution	1 impulse, ≅ 0,1 mm rainfall
Mechanism	Magnetic reed switch
Output	Reed contact impulse (potential free)
Bucket Size	0,1 mm or 0,2 mm (adjustable)
Material	Aliminium or Copper
Max. breaking capacity	3 watts
Max. switching capacity	150 V, 0,25 A
Dimensions	Height: 355 mm, diameter: 205 mm
Weight	~3,7 kg

Pluviograph Rainfall Station (17351)
Adana-TURKEY



Data Logger RG-200

	Digital rainfall tipping bucket impulses as well as date and time stamp on 2 Mbyte memory. Collection and storage of rainfall. Simple operation, high operation reliability, robust, compact housing with watertight foil keyboard. Total rainfall pulse count along with date and time can be displayed using keyboard. After 15 seconds screen will automatically shut off to save energy.
Design	Hellman type (WMO standard)
Ports	RS-232 interface
LCD Display	2 lines dot matrix LCD display, each of 16 (ASCII) characters. (Total:32 characters). display of total rain, date/time, high rain alarms, storage memory, setup parameters and measured values. 15 sec. Auto shut off.
Memory	16 GB **Data Flash Memory**
Memory Storage Capacity	Storage capacity 16 GB **Data Flash Memory** Approx. 355000 impulses ≅ 67000 mm rainfall
Intensity	Approx. 50 impulses / 1 min.
Real Time Clock	24 hour time, accuracy approx. 10 sec. / 1 year. Quartz RTC.
Communication Link	The communication between data logger and Lap-Top is provided through the 5 pin connector at the right side via RS-232 special cable or GSM line with GSM /GPRS Data Modem and RF Modem device. Also 2 Mbyte Data Flash Card data transfer unit is available.
Remote Data Transmission	RS-232 interface (RG-200 data logger) it is enables to connect the rain gauge directly to a GSM/GPRS modem and RF Modem. Data download and system check / setup can be done easily from the office.
Baud Rate	19200 bps Baut Rate.
Setup/Read Out	Setup and read-out is made over Lap-Top, a special transmission RS-232 cable, Data Flash Card (2 Mbyte) or GSM line with GSM/GPRS Data Modem device and RF Modem by an HIDRO ELECTRONIC make program PLV3-01.
Software	"Windows data management software" (PLV3-01) works with Vista and Win 7.
Alarm Management	Alarm management automatic alarm messages via GSM/GPRS Data Modem by SMS sent to: cellular telephones and PC. **...For flood warning, coast guard service**
Power Supply	Single. 3,6 Volt DC 8500 mAh C size Lithium battery
Battery Life Time	>10 years, at normal operation mode
Battery Storage Time	10 years with % 10 capacity loss
Case	Pressure cast aliminium with foil keyboard, acc. to IP 67
Case Dimensions	Lenght x width x depth 125x80x40 mm
Sealing	Waterproof IP 67
Working Temp.	-30 °C until +80 °C
Storage Temp.	-40 °C until +85 °C
Humidity	98 % relative
Weight	Approx. 495 gr

Options

Data Flash card	Data Transfer unit, 2 MByte capacity with driver
•GSM/GPRS Data Modem •RF Data Modem	PC side GSM/GPRS Data MODEM, GSM/GPRS Data Collector and RF Modem device unit with special antenna.
Heater	70 Watts, 24 V Power Supply (ring heating) systems, Power supply adaptor. (220V/24V, 100 Watts)

4,5 G GPRS/GSM DATA MODEM

GPRS-22

TECHNICAL SPECIFICATIONS

- 4,5G / GSM/GPRS Communication
- Protection Class: IP65
- Compatible with OEL-104, RG-200, PLT-02, WLR-01, MCD-600 and Mini Logger
- Compatible with every GSM line in Turkey
- TCP data transmission to the entered address
- Can work as Server and Client
- Automatic reconnection when identified APN connection is cut off
- Replying Data call feature
- Automatic Reset function at necessary conditions
- Power Supply: 8 ... 28Volt DC Peak 1,5A
- Stand by: 25mA
- Power off: 62 µA
- RS232 Port : 1 unit
- Idle (registered, power saving): 1.5mA @ DRX=9
- Dedicated mode: <240 mA @ max power level
- GPRS class 10: <420 mA @ max power level
- It has RS-485 and Ethernet RJ-45 port outputs.
- TXT Message sending and receiving, sending data and alarm to the selected e-mail address when server is active, Duplex data communication.
- Output Power:
  - Class 4 (W) @ 850/900MHz
  - Class 1 (1W) @ 1800/1900MHz
- Control via AT commands according to 4,5G/ PP TS 27.005, 27.007 and Telit Custom AT commands
- Serial port multiplexer 4,5G/PP TS 27.010
- SIM access profile
- Quad Band EGSM - 850/900/1800/1900MHz
- TCP/IP stack access via AT commands
- Sensitivity:
  - 107 dBm (tpy.) @ 850/900MHz
  - 106 dBm (typ.) @ 1800/1900MHz
- Extended temperature range
  - -40 to +80°C (operational)
  - -40 to +85°C (storage temperature)

- Point-to-point mobile originated and mobile terminated SMS
- Concatenated SMS supported
- SMS cell broadcast
- Antenna; 14 db
- Data Transfer Rate; 50,000 kbps
- Data transfer rate between station and server; 50 sec. to DSI-GOZBIZ via 4.5 G Modem; from sensors data from camera, photos and videos at the same time transfers.
- Circuit Switched Data Transmission
- GPRS Class 10
- Mobile station class B
- Coding scheme 1 to 4
- Network LED support
- Embedded TCP/IP stack, including TCP, IP, UDP, SMTP, ICMP, HTTP and FTP protocols.
- Multiple simultaneous connections over TCP/IP has.

SENSORS

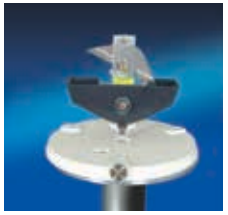
Shaft Encoder

Level Pressure

+

Temperature

Level Radar



Tipping Bucket

DATA RECORDING

Water Level Recorder

Water Level & Temperature Recorder with Pressure Probe

Water Level Recorder with Radar Sensor

Tipping Bucket Rain Gauge

TRANSFER

RS 232

RF Modem

4,5 G GSM/GPRS Modem

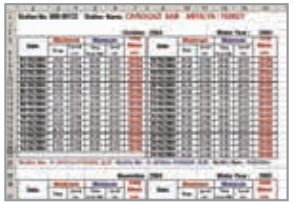
Line Modem

Serial Port (PC)

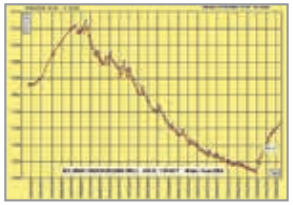
4...20 mA/RS 485 → OTHER DEVICES

EVALUATION

BASIC PACKAGE (Standard)
The basic package comprises several main function sections, as follows:
-evaluation
-communication
-data management
-configuration
-special programs and help menu.



EVALUATION Section
-Evaluation of stored values for any chosen period (from-to), latest period and day
-Numeric display of measured values in tabular form (in Excel format)
-number of values
-maximum
-minimum
-average
-total
-numerical print out on any type of ASCII or laser printers
-graphical display of measured values.
-zoom in/out.



COMMUNICATION Section
-Installation and transfer of raw data into the measured values data base
-Automatic or manual
-Reception of incoming high water level alarm, low water level alarm,rate alarm and battery alarm calls from measuring stations via telephone modem, GSM, GPRS data modem.

DATA MANAGEMENT Section
-Editing of measured values (Changing, inserting, erasing)
-Groups of measured values (new calculation)
-Graphical editing of measured values
-Transfer of measured values to statistical values for further processing programs over ASCII file,txt file (e.g. on diskette, CD)

CONFIGURATION Section
-Installation, editing or deletion of measuring stations, (text, number, type of device, call number)
-Setting of HYDRO
-Display
-Language, selection (Turkish, Farsi and English)

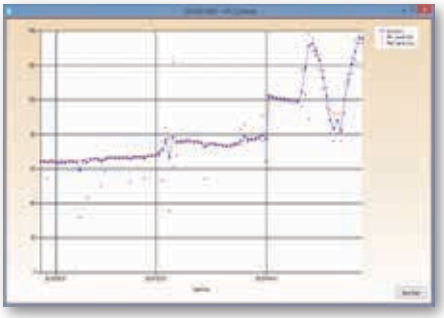
Hidro Data Collector Software

Hidro 1.0.1.3

www.hidroel.com.tr

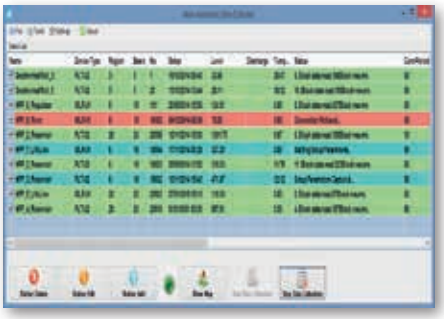
Main Menu

Serial port TCP/IP Instant Data Transfer

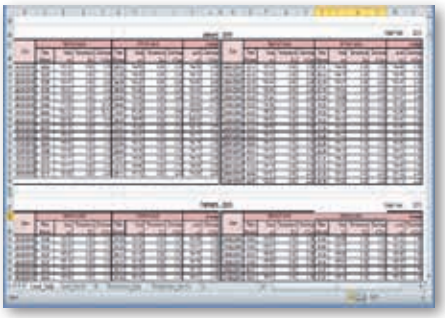


Graphic Table

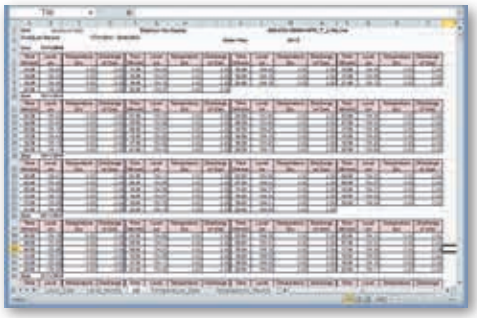
Instant Map



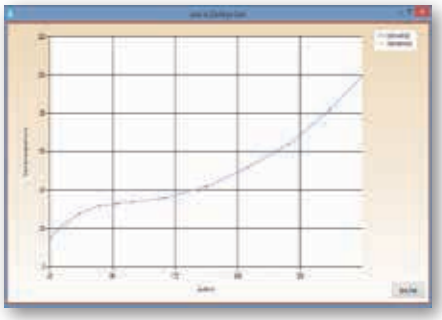
Online Automatic Data Collection



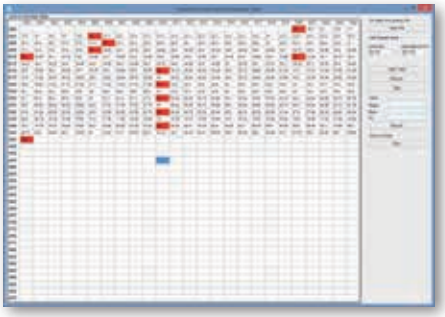
Excel, txt, xml, csv File



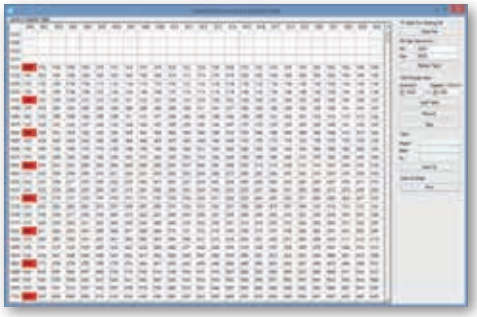
Hourly Daily, Monthly, Min./Max. and Average Values



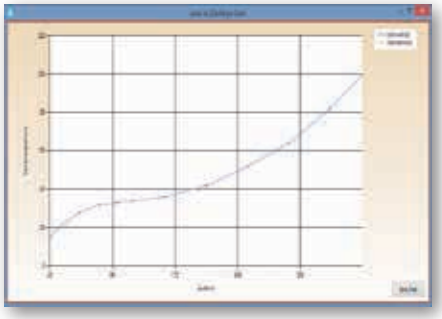
Graphic Table



Level-Discharge Tables



Level-Capacity Tables

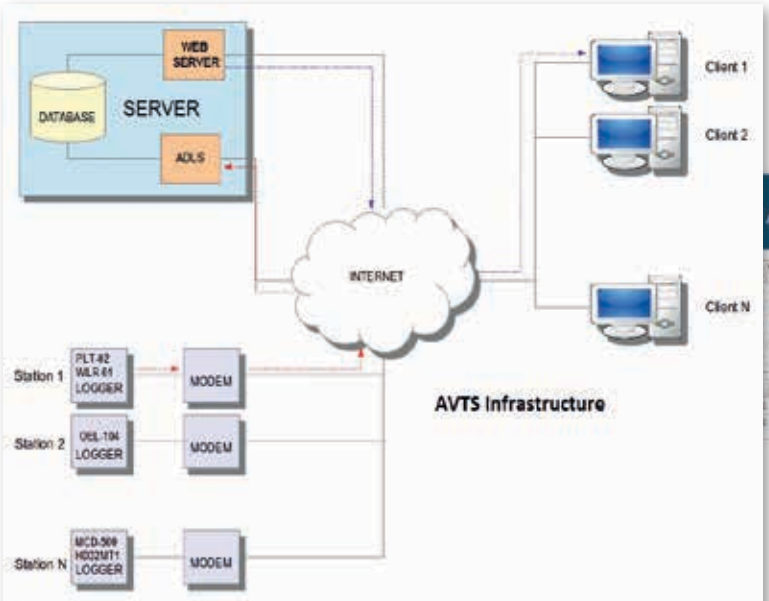


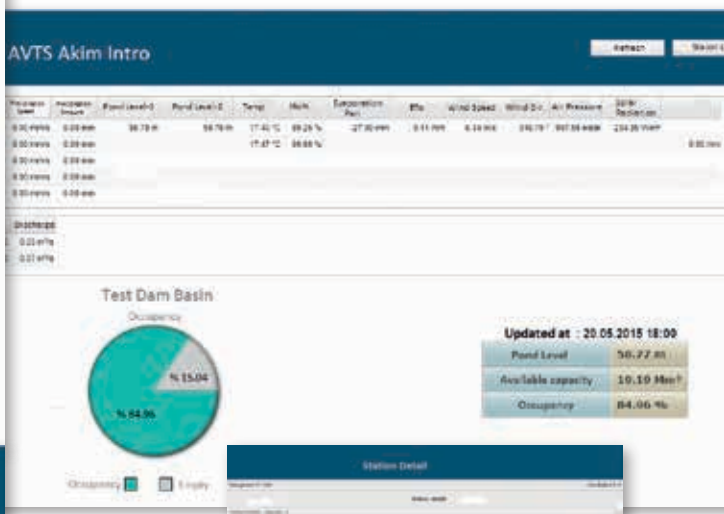
Graphic Table

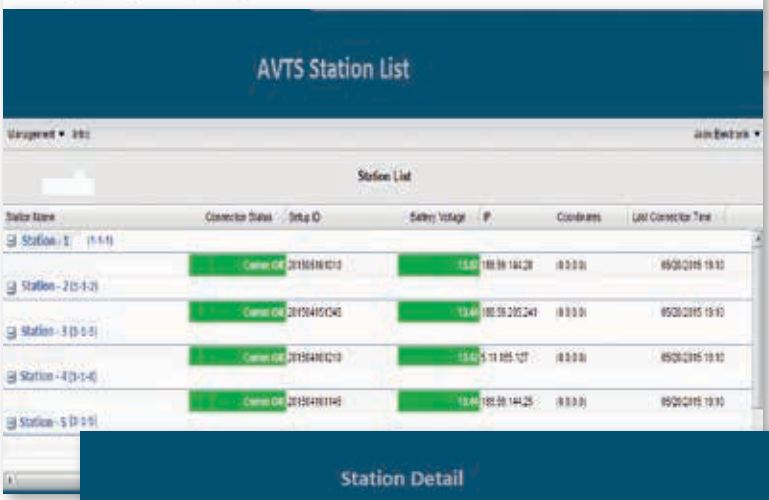
HIDRO DATA COLLECTOR

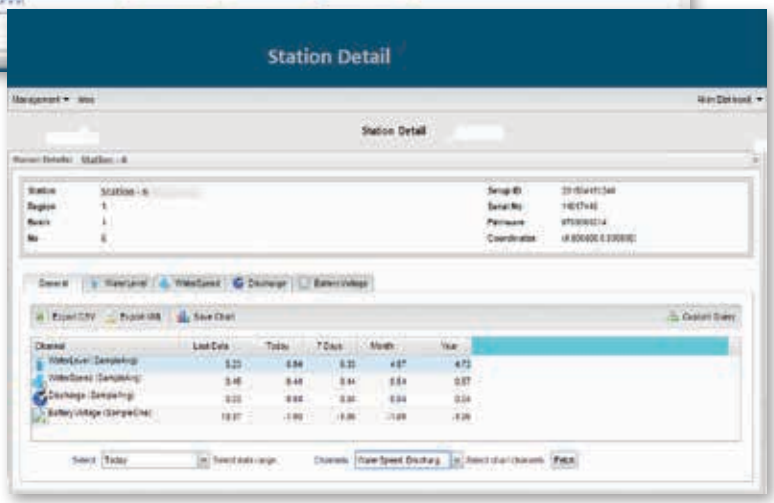
SERVER SYSTEM

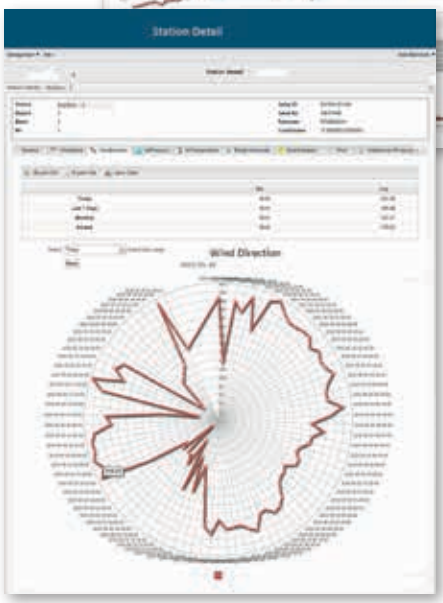
www.hidroel.com.tr











UNIVERSAL CURRENT METER

CM-32

Measuring water velocity in the big river.

Measuring water velocity in the big channel

NEW MODEL

TÜV We are certified ISO 9001:2018 Certificate No: 01 100 083478 Quality is our standard

The Hidro Universal Current Meter CM-32 is a measuring instrument to determine the flow velocity of water in open canals, rivers, streams, rivulets, pressure pipes, lakes, and the sea.

- For measuring flow velocities from 0,025 m/sec. to 12 m/sec.
- High accuracy
- Low starting speed of 0,025 m/sec.
- Application of absolutely and anti-corrosive materials. Made of stainless steel.
- Almost frictionless contact transmission
- Universal application on different fixing devices for use on rod or as cable suspended meter equipment.
- The reliable instrument approved by many years practical experience under hard conditions worldwide.

Materbody:

Made of high-quality, non-corrosive chromium steel, the current meter can be used even under extreme conditions. The propeller is filled with oil and rotating in two special ball-bearings. The oil filling and a capillary seal protects against water entry. A base stop prevents the propeller from striking to the ground.

Universal Application on different fixing devices for use on rod or as cable-suspended meter equipments, for use with Hidro single drum winches or cable way installation.

Contact Transmission:

The current meter propeller gets turned by the flow. A permanent magnet turning with the propeller actuates, once per revolution the built-in Reed Contact which is watertight under pressure. The pulse sequence is nearly proportional to water velocity in the measuring point.

Guiding Device (Rod):

This rod is manufactured from non-corrosive stainless chromium steel. 20 mm. dia., 2 m. long, 2 sections, graduation and numbering in cm. with ground stop.

Determination of Flow Velocity:

The exact relation between the number of propeller revolutions per second and the water velocity is determined by the equation:

$$v = k \cdot n + \Delta$$

v = flow velocity (m/sec.)

k = hydraulic pitch of propeller (m) determined by test runs in the modern hydraulic towing canal.

n = number of propeller revolutions per second

Δ = meter constant (m/sec.) determined by test runs in the modern hydraulic towing canal.

Since among current meters there are mechanical differences in the propellers as well as in the bearings, constants k and Δ are found by specific tests in the modern hydraulic towing canal (Certificated of Calibration DSI - TAKK).

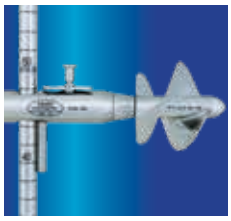
If desired, the calibration equation (relation between n and v) can also be supplied with fully calculated value and complied in a table (Velocity table – TAKK).

The calibration values can be changed by the user (See user manual).

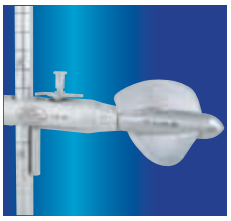
Propellers and Measuring Range:

The propellers are absolutely of same shape with accurate pitch and very high stability regarding on temperature and deformation. Depending on the pitch of the propellers chosen, the current meter can be used for different velocity measuring ranges. In case of oblique water current, it is possible to measure the component of the flow within an angular range which depends on the type of propeller (see table).

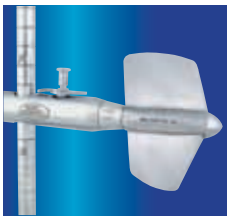
Propeller No	Propeller Size	Max. Water Velocity (m / sec.)	Starting Speed (m / sec.)	Range of Component Effect	Material
1	100 mm dia 0,125 m pitch	5,0	0,025	± 45º	Metal
2	80 mm dia 0,50 m pitch	10,0	0,040	± 5º	Metal
3	125 mm dia 0,25 m pitch	12,0	0,025	± 5º	Metal



P1



P2



P3

Instrument Case (CM -32):

Made of resistant black ABS plastic.
Dimension: 19 x 33 x 45 cm, **Weight:** Case including equipment approx. 5,5 kg.

SMALL CURRENT METER

MCM-02

Measuring water velocity in the small canal.

Measuring water velocity in the small river.

The Hidro MCM-02 Small Current Meter is used for measuring the flow velocity at low water levels, e.g. in:

- Small Rivers
- Small canals
- Streams
- Lakes and seas
- Pressure pipes, falajs
- Natural water courses
- Laboratories

Small Current Meter is used worldwide for its proved quality, precision and reliability in measuring low water levels.

It is especially recommended for measure-ments in remote regions whenever a lightweight and handy measuring instrument is required.

Small Current Meter provides solutions for all velocity measuring applications. The highly precise, reinforced spindle bearing as well as an on- contact signaling system give the possibility for measuring flow velocities as from 0,025 m /sec. up to 5 m /sec.

Low starting speed of 0.025 m/sec. Minimum depth of water for using this instrument is approx. 4 cm.

Small Current Meters set the standard for liquid-flow measurement and without them hydrometry is not imaginable.

Fixing:

Small Current Meter can directly be fixed to a rod of 9 mm dia. A Relocating Device however, has proved to be a useful facility, which is designed as sleeve tube and is slided together with the current meter over the rod. For measurements from higher places (e.g. bridges) it is recommended, by means of the clamping piece to use a rod of 20 mm dia. with relocating device.

Measuring Ranges:

Depending on the pitch of the propellers used, different velocity ranges may be obtained. Besides, the propeller has a component effect. The angular degrees specified in the table show the extent of oblique flow up to which the propeller measures the true velocity value.

Within the stated ranges of oblique flow and velocity, the propellers follow the law of cosine with an accuracy of ± 1 % of the measured value.

Determination of Flow Velocity:

A calibration of the small current meter with the relating propeller is necessary in order to determine the water velocity “v” according to the equation;

$$v = k \cdot n + \Delta$$

v = flow velocity (m/sec.)

k = hydraulic pitch of propeller (m) determined by test runs in the modern hydraulic towing canal.

n = number of propeller revolutions per second

Δ = meter constant (m/sec.) determined by test runs in the modern hydraulic towing canal.

Since among current meters there are mechanical differences in the propellers as well as in the bearings, the constants “k” and “Δ” are found by specific tests in the modern hydraulic towing canal (Certificate of Calibration DSI - TAKK).

If desired, the calibration equation (relation between n and v) can also be supplied with fully calculated values compiled in a table (Velocity table- TAKK). The calibration values can be changed by the user (See user manual).

Rod:

9 mm. dia., 1,5 m. long, 3 sections in 50 cm. , numbered every 5 cm.

Connecting Cable:

2 m. long

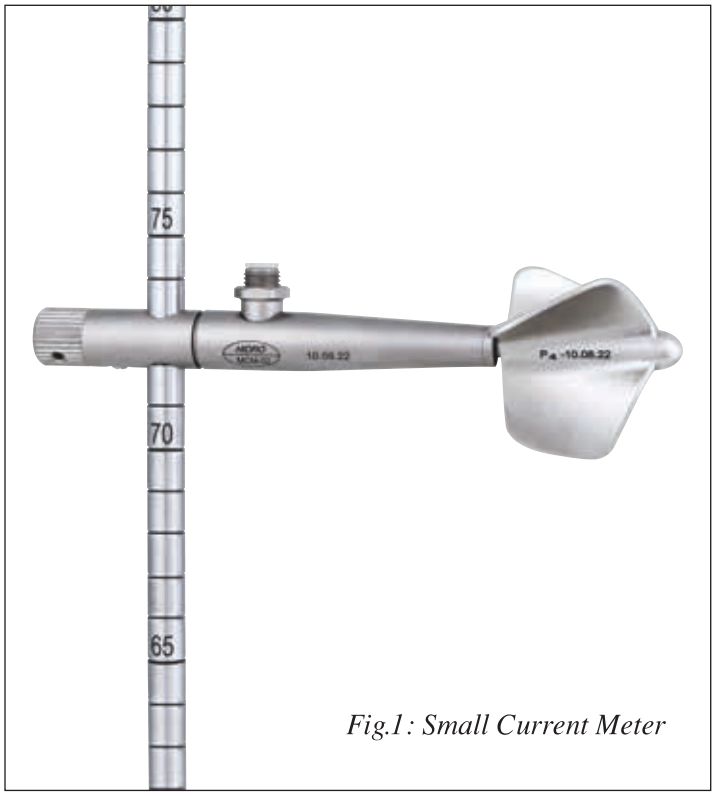


Fig.1: Small Current Meter

Fig.2: Small Current Meter with ground pin.

SMALL CURRENT METER

MCM-02

INSTRUMENT CASE (MCM-02)

Small Current Meter Metal Instrument Case includes basic unit:

Body Material:

Brass, nickel- plated), propellers, electronic counter,
rods, and all its accessories.

Size of the instrument case:

54 x 18 x 8 cm.

Weight:

4,6 kg.

Option:

Extra rod, extra cable, extra oil.

Table:1

Propeller's Specifications

Propeller No	Propeller Diameter	Propeller Pitch	Min. Speed (m / sec.)	Max. Speed (m / sec.)	Component Effect	Material
1	50 mm	0.05 m	0.025 m	1,0	± 30º	Aluminium
2	50 mm	0.10 m	0.030 m	2,0	± 20º	Aluminium
3	50 mm	0.25 m	0.035 m	4,0	± 10º	Aluminium
4	50 mm	0.50 m	0.060 m	5,0	± 5º	Aluminium
5	30 mm	0.05 m	0.050 m	1,0	± 20º	Aluminium

SIGNAL COUNTER Z-05

This full electronic counter is able to receive frequencies for all flow velocities. It is suitable both for the **Universal Current Meter** and **Small Current Meter.** The impulses generated by the Current Meter are added and indicated in relation to the preselected time. The timing starts from the first impulse.

Technical Details Z-05

•	**LCD Double Display;** 2 x 16 = 32 digits, Dot matrix, double line, indication, automatic battery control and insertable buzzer.
•	LCD Double Display simultaneously shows propeller type, pulses, time, and flow velocity.
•	30, 55, and 60 seconds is the time or retention as these values can be set manually.
•	**Keypad:** 6 buttons keypad for on and off, time setting, Propeller choice, Buzzer choice and start/stop.
•	After the calibration of the propellers, constant **"k"** and **"Δ"** values can be entered for each propeller (See User's Guide). When the calibration is done again due to the mechanical damages and the constraints change, **"k"** and **"Δ"** constant values of each propeller can be entered again via keypad on the counter.
•	The set and the remaining time can be seen on the screen when the speed and water velocity is set at the same time.
•	Choose propeller type with propeller type button. **- For Universal Current Meter - (1,2,3)** **- For Small Current Meter - (1,2,3,4,5)**
•	Even if you don't press the stop button of the counter, it has the feature of self-closing after 4 minutes.
•	The flow velocity value can be seen on the screen; moreover, buzzer beep is heard at the end of the arranged time when the propeller takes a whole stroll.
•	**Accuracy** — **Time measurement:** 0.01 sec. **Impulse Counting:** 1 impulse.
•	**Maximum impulse frequency:** 40 impulse /sec.
•	Time can be set in the range of 0-200 sec. within an interval of 5 sec.
•	When the Electronic counter is first started, it is arranged for 55 sec.
•	It can be stopped, if required, by pushing the "stop" button after a while it is started. Device calculates the time and the pulse values and gives the flow velocity speed in the meanwhile when it is stopped.
•	**Temperature Range :** -20 ºC + 70 ºC
•	**Power Supply:** 6 V (4X1,5 V.AA size Alkaline Battery)
•	**Battery Life Time:** Min. 1 year.
•	**Case (size) and weight:** 11 x 9 x 5,5 cm. / 430 gr., **IP-68**
•	**Connection cable:** **Universal Current Meter:** 3 m. long special cable **Small Current Meter :** 2 m. long special cable

This counter is able to calculate the current velocity directly by means of predefinable equations (Z-05) with input of up to 20 calibration results and additional indication of the flow velocity in cm/sec. Universal Current Meter has a working range between 0.025 m/sec. to 12.0 m/sec. during the process. Reed contact is used for the pulse.

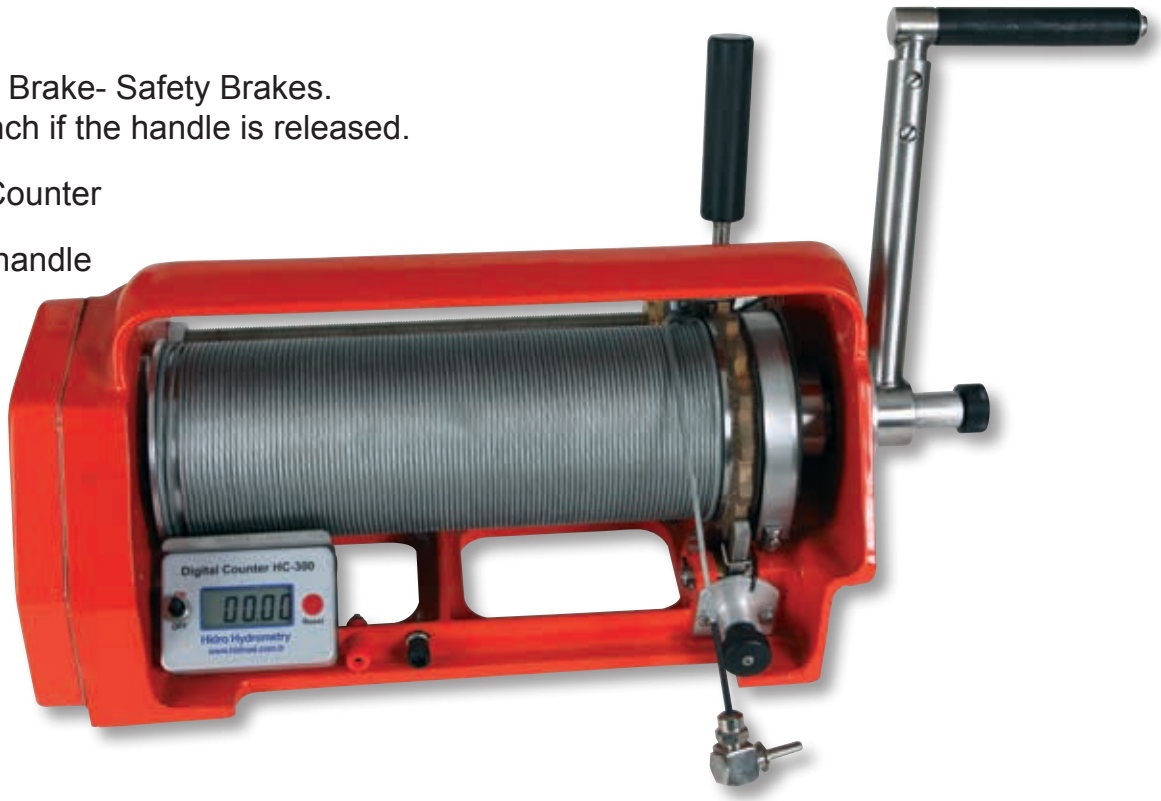
Option:

Extra rod, extra cable, extra oil, sinkers, winch, mobile bridge jib, car crane and relocation device.

WATER GAUGING WINCH

HC-300

- **HIDRO ELECTRONIC** has designed HC-300 Water Winch specifically for obtaining Current Meter observations
- **“ Water Gauging Winch ”** is a very practical hand-held gauging instrument.
- **“ Water Gauging Winch ”** is a hand operated winch capable of handling Gauging weights up to 50 kg. (110 lb)
- Light Construction- Cast Aluminium Frames and Drums
- Automatic Weston Brake- Safety Brakes. Which lock the winch if the handle is released.
- Electronic Depth Counter
- Single extendible handle



WATER GAUGING WINCH

HC-300

Description:

- The Water Gauging Winch is a hand operated winch capable of handling Gauging Weights up 50 Kg (110 1b)
- The Water Gauging Winch is a very compact unit and has been designed for ease of operation and maintanance in the field.
- The extensive use of aluminium has kept the weight to a minimum, such it can be handled by one person.
- Special features include;
  - Provision for easily fitting the Amergraph Cable in the field.
  - Sliprings housed within the protective end cover
- The Water Gauging Winch is normally fitted to a winch frame with outfigger for use on boats or off bridges. A lightweight trolley is also used for bridge gauging.

Function:

- Light Constuction – Cast Aluminium Frames and Drums
- Portable
- Automatic Weston Brake-safety brakes which lock the winch if the handle is released
- Free Fall Drag Brake-allows quick lowering of weights down to water surface
- Depth counter housed within the frame-protected from external damage.
- Silver Plated Sliprings- conducts signal from sounding drum to the current meter counter
- Single Layer of Signal Cable on Drum-Prevents damage of internal conductor and premature replacement
- Single extendible handle

Specifications

Load Capacity	Designed for weights up to 50 Kg (110 1b)
Sounding Drum	Cast Aluminium 300 mm Circumference, fitted with silver plated slipring (Single Drum)
Electronic Depth Counter	Five digits resettable LCD display, registering depth in centimetres with 0-reset, 3V (2x1,5V.AA size Alkaline Battery), 1 years battery life time, temperature range -20 ºC + 70 ºC
Drum Capacity	24 m – 3.2 mm (1/8”)
Drum Dia.	100 mm - 30 m – 2.5 mm (1/10”)
Operating	Manual
Dimensions	Length 460 mm (18”), Wdth 210 mm(8.3), Height 230 mm (9”), Weight: 12 Kg (26.5 1b)
Packing Details	Suplied in its original carrying case, 22 Kg (48.5 1b)

Accessories: (Options)

•	Winch Board with outrigger
•	Gauging Weights-sizes 7,14,23 or 45 Kg
•	Nose mount ground feeler weights with optional carrying boxes are available in 25 or 50 Kg. Amergraph Cable:
a)	2.5 (1/10”)diameter,3 Kg/100 metres
b)	3.2 (1/8”)diameter,4.5Kg/100 metres
•	**Sinkers:** 15 kg, 25 kg or 50 kg. The sinkers cannot be equipped with a ground-feeler. In special cases it is possible to carry out measurements without the aid of winch.

Current Meter CM-32 with 50 kg Single-drum winch (Teleferik).

Car crane with Current Meter.

WATER LEVEL INDICATOR

Type: KLL

Water level measuring instruments for ground water

The Electric Water Level Indicator (Dip Meter) is used for rapid and reliable measurement of water levels in wells, observation tubes and narrow boreholes. The measuring value can directly be read on the measuring cable. Fast changing in water levels (pumping test) can be measured continuously.

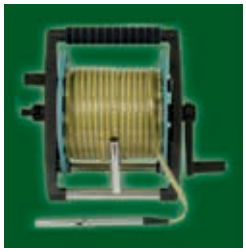
Function:

As soon as the measuring probe electrode touches the water surface, the signal lamp on the instrument lights up and audible signal alerts. Faulty measurements are not possible as the contact of the lamp can only be made by touching the water surface. By raising and lowering the cable a very short distance whereupon the lamp goes off and on again the exact water level can be determined. The measuring depth can directly be read on the cable in m. and cm.

Technical Details:

Type	KLL15	KLL30	KLL50	KLL100	KLL150	KLL200	KLL300	KLL500
Cable lenght	15 m	30 m	50 m	100 m	150 m	200 m	300 m	500 m

Cable	Two steel cores (anticorrosive) with Polyethylene and polyamide coated steel tape, graduation as millimeters, centimeters and decimeters numbering printed black color. Meter figures are red color on the yellow-green background.
Cable drum	Hard rubber, plastic material and temperature proof.
Probe	Standard version dimension are 14 mm. dia and 140 mm. length as chromium plated brass. Special version dimensions are 10 mm. dia , 320 mm. length a chromium plated brass.
Power supply	3 V. DC , 2 alkaline battery each of them 1.5 V.
Measuring range	15 m, 30 m , 50 m , 100 m , 150 m , 200 m , 300 m and 500 m. **Special lengths up on request.**



WATER LEVEL INDICATOR Type: KLT

The Electric Water Level and Temperature Indicator is especially used for rapid and reliable measurement of water level and temperature in geothermal wells, pools, tanks, and observation tubes.

Water Temperature Measuring Range	0-120 °C
Accuracy	±1
Scale	1 °C
Power supply	9V. , 9V. size Alkaline Battery
Measuring range	15 m, 30 m , 50 m , 100 m , 150 m , 200 m , 300 m and 500 m. **Special lengths up on request.**

Level + Temperature

WATER LEVEL INDICATOR

Type:HD5-1

- **Soil water availability**
- **Measuring water level in the drainage wells**
- **Root growth studies**

To measure the variation in the level of the water table. it is useful to have a means of ready access for a measuring device. Driving a piezometer tip into some point below the natural water table allows the water to enter and rise up the access standpipe to stabilise at the water table level. Seasonal variations or variations due to irrigation can be measured by lowering the tip of a water level indicator down the access tube, a light and audible signal indicates water contact.

The water level can be read from the measuring tape in meters (m) in centimeters (cm) and milimeters (mm).

Water level indicator visual and sonic, 5 meters numbered every milimeters (mm), centimeters (cm) and meters (m). 14 mm diameter and 140 mm long probe. Weight: 1 kg.

DIGITAL RESISTIVITY METER

Type:DC-RVA1

Single channel resistivity, SP data at highest possible accuracy.

The complete Resistivity system consist a the transmitter unit, a rceiver unit and four cable reel assemblies with four electrodes and two pots.

The DC-RVA1 digital resistivity meter is used give profile of subsurface conditions, showing depth to bedrock, changes is soil strata and indicating differences in soil at the test site. It is used also to determine depth the water table to locate buried objects ad structures underground and to find discontinuties that can lead to ore discoveries.

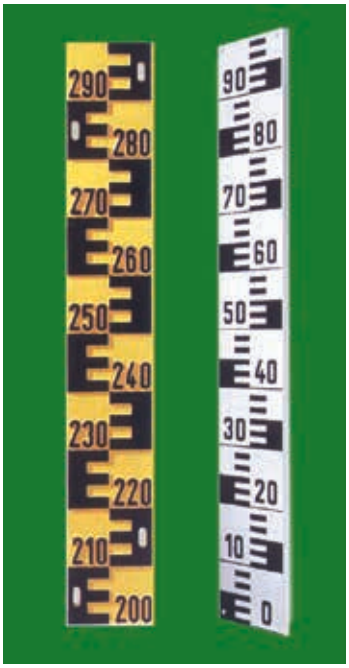
Operating Depth: Normal of 400 to 500, to 1000 m. under ideal conditions.

TRANSMITTER		**RECEIVER**	
Power	External 12 V DC / 45 Ah. Accumulator	Number of channel	One
Output current	10, 20, 50, 100, 200, 300, 400, 500 ...mA	Input impedance	10 Megaohm (MΩ) Minimum
Max. Output voltage	15, 25, 50, 100, 150, 200, 500 V	Read Interval	0,01 mV up to 1999 mV auto
Max. Output power	700 W	Accuracy	0,01 mV
Cycle type in resistivity mode	plus-minus-minus-plus	LCD Display	4-5 Digit
Pulse Lenght	0,1 to 4 seconds		
Output current accuracy	1% mA		
LCD Display	4-5 Digit		

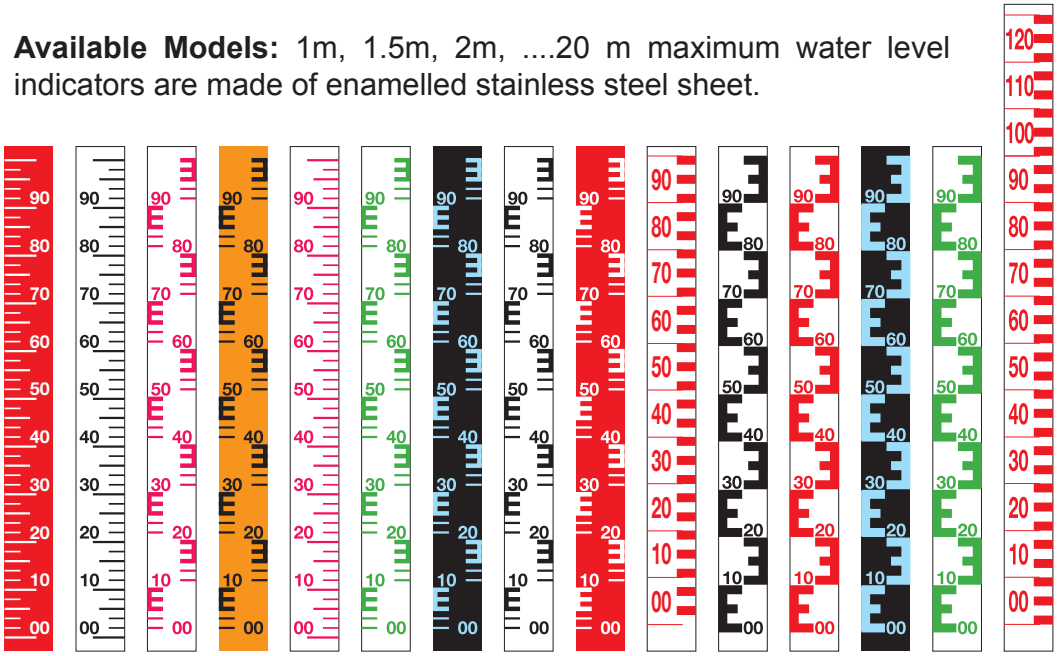
SELF POTENTIAL (SP)		**ACCESSORIES**	
Number of channel	One		Number of electrodes 4, copper-clod steel 25x500 mm.
Input impedance	10 Megaohm (MΩ) Minimum	Cable Reals	For up to 200 m. electrode spacing, two 200 m. red wire and two 500 m. Black wire.
Max. input voltage	± 0-700 mV manuel		
Accuracy	1%		
Dimension	30 x 42 x 17 cm		
Weight	~10 kg		

STAFF GAUGE

The staff gauges are used particularly to read the max water level in water-courses. This gauges are convinient instruments to indicate at inaccessible sites the maximum water level stage which has developed within a certain observation period. The maximum water level indicators are used in flooded areas of rivers, irrigation channels and dams etc.



Available Models: 1m, 1.5m, 2m, ...20 m maximum water level indicators are made of enamelled stainless steel sheet.



HAND AUGER SET (5 m. depth)

Hand auger equipment is extremely suitable for soil research. A comprehensive set for augering all types of soil down to a depth of 5 meters.

The set comprises of edelman augers in various types, a riverside auger (8 cm diam), a auger for stony ground, a spiral auger, a suction auger, one bailer, one gauge auger with bent spatula and the normal handle with extension pieces.

Also included are a sounding device, 5 meters measuring tape, a pair of gloves, a nylon headed hammer, a brush, a shovel all complete in a hammock transport case (1150 x 150 x 300 mm) with zip fastener.

Total weight: 24.5 kg

The daily rain gauge collects water in a container so that the quantity of rain can be measured by a person visiting the site each day. The simple method of recording is ideal for meteorogical purposes as well as educational and research applications.

Technical Details:
Rain gauge consists of upper part with limit ring, lower part with collecting jar and measuring vessel (0-10 mm)

Collecting Area: 200 cm^2
Weight: ~2,8 kg

EVAPORATION PAN

Type: Hidro-1

Hidro-1 evaporimeter pan and wooden platform are build to WMO standards for **'CLASS-A'** evaporimeters. Measures evaporation rate from a free water surface. Used by meteorologists and water engineers throughout the world. The pan is in stainless stell. The wooden platform is made of larch wood coated with protective white paint for exterior. In the pan it is housed the stainless steel still well which contains the evaporimeter level sensor.
The evaporimeter sensor is a capacitive level transmitter. The core of the transmitter is a ceramic sensing element; it has excellent record of long term reliability and stability. The ceramic diaphgram exposed to the medium, is protected by a layer of gold. The gold is electrically connected to the housing.
Leak tight cable connection to the housing with vent tube in the cable. These gauges are designed for continuous submersible applications. The sensitive element is connected to a junction box, from the junction box will depart a 3 wires cable to the data logger.

EVAPORIMETER PAN	
Evaporation Surface	1,143 sq m
Pan size	ø 1207 mm, H. 245 mm
Still well size	ø 120 mm, H. 245 mm
Overall Weight	~ 24,5 kg
Material	AISI304 stainless steel
WOODEN PLATFORM	
Size	1240 x 1240 x 150 mm
Overall Weight	~ 43 kg

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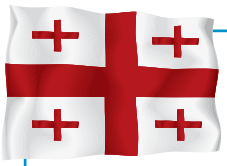

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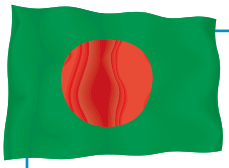

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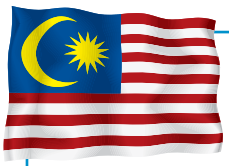

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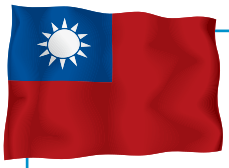

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OUR AUTHORIZATION DOCUMENTS

TÜRK STANDARDLARI ENSTİTÜSÜ

TSE-HYB

HİZMET YETERLİLİK BELGESİ

Belge No	01-HYB-4038
İlk Veriliş Tarihi	26.08.2022
Son Geçerlilik Tarihi	26.08.2023
Firmanın Adı	:HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
Firmanın Adresi	MAHFESİĞMAZ MAH. 79120 SK. BAYSAL APT. /02 NO:9 ÇUKUROVA ADANA/TÜRKİYE
Hizmet Yeri Adresi	MEHFESİĞMAZ MH.73.SK. BAYSAL APT. N:9 K:1 D:2 1170 SEYHAN/ADANA / SEYHAN ADANA/TÜRKİYE
Sicil No	54364

Verilen Hizmetin Kapsamı

1. TS 13201 (23.10.2015) YETKİLİ SERVİSLER - ENDÜSTRİYEL AMAÇLI DENEY VE ÖLÇÜ ALETLERİ - KURALLAR STANDARDINA UYGUN HİZMET VEREN
   * HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAAHHÜT SANAYİ VE TİCARET LTD. ŞTİ. YETKİLİ SERVİSİ (1441586) (26.08.2022) (HİDROEL) MARKALI
2. TS 13242 (18.06.2014) YETKİLİ SERVİSLER - BİLGİSAYAR AĞI BİLEŞENLERİ VE SİSTEMLERİ İÇİN KURALLAR STANDARDINA UYGUN HİZMET VEREN
   * HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAAHHÜT SANAYİ VE TİCARET LTD. ŞTİ. YETKİLİ SERVİSİ (1441586) (26.08.2022) (HİDROEL) MARKALI

e-imzalıdır signed
26.08.2022
DİNÇER DEDE
ADANA BELGELENDİRME MÜDÜRÜ v.

Certificate

Standard: ISO 9001:2015

Certificate Registr. No.: 01 100 083478

Certificate Holder: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜH TAAH.SAN.VE TİC.LTD.ŞTİ.
MAHFESİĞMAZ MAH.73.SK.BAYSAL APT.NO:9 K:1 D:2
SEYHAN – ADANA / TURKEY

Scope: Design/development, production, installation, sales, calibration and technical services of hydrology, meteorology, hydro-geology and drainage measurement instruments; flow measurement services.

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Validity: The certificate is valid from 2020-06-17 until 2023-06-16.
First certification 2008

2020-10-26

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YERLİ MALI BELGESİ

TOBB TÜRKİYE ODALAR VE BORSALAR BİRLİĞİ

ADANA TİCARET ODASI

Belgenin Veriliş Tarihi : 12.10.2022 Belgenin Geçerlilik Tarihi : 12.10.2023 Belge No : 20221012101751

Üretici Ünvanı: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ

İşyeri Adresi: MAHFESİĞMAZ MAH.73 SOK.BAYSAL APT.NO:9 K:1 D:2 ÇUKUROVA/ADANA

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Faks:	322-2341536	Web Adresi:	www.hidroel.com.tr
Ticaret Sicil No:	54364	Üye Sicil No:	51437

Ürün Adı: ÇOK KANALLI DATA LOGGER
Ürün Kodu (PRODCOM/GTİP): 26.51.12.35.00 /
Teknik Özellikleri(Marka Adı, Modeli, Seri Numarası, Cinsi): HİDROEL
Kapasite Raporunun Tarih :04.10.2022 No :41049 Geçerlilik Süresi :03.10.2024
Sanayi Sicil Belgesinin Tarih : 06.04.2012 No : 599863

Yerli Katkı Oranı : % 83,51

Ürünün Teknolojik Düzeyi (düşük/orta-düşük/orta-yüksek/yüksek)(Eurostat) : yüksek

Diğer bilgi ve belgeler :

İşbu belge Bilim, Sanayi ve Teknoloji Bakanlığı'nın 13/09/2014 tarih ve 29118 sayılı Resmi Gazetede yayımlanan " Yerli Malı Tebliği (SGM 2014/35) "ne istinaden ve TOBB tarafından hazırlanan " Yerli Malı Belgesinin Düzenlenmesi Uygulama Esaslarına " göre 12.10.2022 tarihinde düzenlenmiştir. Belgenin geçerlilik süresi veriliş tarihinden itibaren bir yıl geçerlidir.

Düzenleyen Oda/Borsa
ADANA TİCARET ODASI

Onaylayan
Barış Gökhan TOPAL
Genel Sekreter V.

YERLİ MALI BELGESİ

TOBB TÜRKİYE ODALAR VE BORSALAR BİRLİĞİ

ADANA TİCARET ODASI

Belgenin Veriliş Tarihi : 12.10.2022 Belgenin Geçerlilik Tarihi : 12.10.2023 Belge No : 20221012101754

Üretici Ünvanı: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ

İşyeri Adresi: MAHFESİĞMAZ MAH.73 SOK.BAYSAL APT.NO:9 K:1 D:2 ÇUKUROVA/ADANA

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Faks:	322-2341536	Web Adresi:	www.hidroel.com.tr
Ticaret Sicil No:	54364	Üye Sicil No:	51437

Ürün Adı: 3 PARAMETRELİ HİDROSTATİK BASINÇ PROBU
Ürün Kodu (PRODCOM/GTİP): 26.51.12.35.00 /
Teknik Özellikleri(Marka Adı, Modeli, Seri Numarası, Cinsi): HİDROEL
Kapasite Raporunun Tarih :04.10.2022 No :41049 Geçerlilik Süresi :03.10.2024
Sanayi Sicil Belgesinin Tarih : 06.04.2012 No : 599863

Yerli Katkı Oranı : % 75,29

Ürünün Teknolojik Düzeyi (düşük/orta-düşük/orta-yüksek/yüksek)(Eurostat) : yüksek

Diğer bilgi ve belgeler :

İşbu belge Bilim, Sanayi ve Teknoloji Bakanlığı'nın 13/09/2014 tarih ve 29118 sayılı Resmi Gazetede yayımlanan " Yerli Malı Tebliği (SGM 2014/35) "ne istinaden ve TOBB tarafından hazırlanan " Yerli Malı Belgesinin Düzenlenmesi Uygulama Esaslarına " göre 12.10.2022 tarihinde düzenlenmiştir. Belgenin geçerlilik süresi veriliş tarihinden itibaren bir yıl geçerlidir.

Düzenleyen Oda/Borsa
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Onaylayan
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Genel Sekreter V.

HİDRO HYDROMETRY
HİDRO ELEKTRONİK A.Ş.

CERTIFICATE

AB UYGUNLUK BEYANI

Technical file of the company mentiones below has been inspected and audit has been completed successfully. 2011 / 65 / EU and 2014/30/EU has been taken as references for these processes.

Firma Adı / Company Name	: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
Adres / Address	: MAHFESİĞMAZ MAHALLESİ 73 SOKAK BAYSAL APT. NO:9 K.1 D:2 01170 SEYHAN/ADANA/TURKEY
İlgili Direktifler ve Ekleri / Related Directives and Annex	: 2011/65/AB RoHS, 2014/30/AB 2011/65/EU RoHS, 2014/30/EU
İlgili Standartlar / Related Standards	: EN IEC 63000:2019, EN 61326-1:2013, EN 61326-2-3:2013, EN 61000-6-2:2005, EN 61000-6-4:2011, TS EN ISO 4373, TS EN 15839
Ürün Adı / Product Name	: 3 PARAMETRELİ HİDROSTATİK BASINÇ SENSÖRÜ 3 PARAMETER HYDROSTATIC PRESSURE SENSOR
Marka / Brand	: HİDRO
Ürünün Modeli / Product Model	: TPEC-01 (Performans sınıfı:1, Sıcaklık sınıfı:1, Bağıl nem sınıfı:1)
Logo / Logo	: HİDRO ELEKTRONİK
Sertifika No / Certificate No	: CE17040
İlk Değerlendirme Tarihi / Initial Assessment Date	: 25.08.2022
Revizyon No / Revision No	: 01
Revizyon Tarihi / Revision Date	: 26.11.2022
Geçerlilik Tarihi / Expiry Date	: 25.11.2023

This certificate is an acknowledgement that the listed equipment complies with the requirements mentioned in the above standards. This certificate only covers the product (s) stated above and UNIVERSAL CERTIFICATION OF CANADA must be noticed in case of any changes on the product (s).

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CERTIFICATE

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EU DECLERATION OF CONFORMITY

Technical file of the company mentiones below has been inspected and audit has been completed successfully. 2011 / 65 / EU RoHS and 2014/30/EU has been taken as references for these processes.

Firma Adı / Company Name	: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
Adres / Address	: MAHFESİĞMAZ MAHALLESİ 73 SOKAK BAYSAL APT. NO:9 K.1 D:2 01170 SEYHAN/ADANA/TURKEY
İlgili Direktifler ve Ekleri / Related Directives and Annex	: 2011/65/AB RoHS, 2014/30/AB 2011/65/EU RoHS, 2014/30/EU
İlgili Standartlar / Related Standards	: EN IEC 63000:2019, EN 61326-1:2013, EN 61326-2-3:2013, EN 61000-6-2:2005, EN 61000-6-4:2011
Ürün Adı / Product Name	: ÇOK KANALLI DATA LOGGER MULTI CHANNEL DATA LOGGER
Marka / Brand	: HİDRO
Ürünün Modeli / Product Model	: MCD-500
Logo / Logo	: HİDRO ELEKTRONİK LTD.
Sertifika No / Certificate No	: CE17037
İlk Değerlendirme Tarihi / Initial Assessment Date	: 24.08.2022
Geçerlilik Tarihi / Expiry Date	: 23.08.2023

This certificate is an acknowledgement that the listed equipment complies with the requirements mentioned in the above standards. This certificate only covers the product (s) stated above and UNIVERSAL CERTIFICATION OF CANADA must be noticed in case of any changes on the product (s).

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CERTIFICATE

AB UYGUNLUK BEYANI

Technical file of the company mentiones below has been inspected and audit has been completed successfully. 2014/53/EU Radio Equipment Regulation has been taken as references for these processes.

Firma Adı / Company Name	: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
Adres / Address	: MAHFESİĞMAZ MAHALLESİ 73 SOKAK BAYSAL APT. NO:9 K.1 D:2 01170 SEYHAN/ADANA/TURKEY
İlgili Direktifler ve Ekleri / Related Directives and Annex	: 2014/53/AB 2014/53/EU
İlgili Standartlar / Related Standards	: EN 62311:2008, EN 301 489-1;V1.9.2:2011-9 EN 301 489-17 V2.2.1:2012-09; EN 300 328-V1.7.1-2006-10
Ürün Adı / Product Name	: GSM/GPRS DATA MODEM GSM/GPRS DATA MODEM
Marka / Brand	: HİDRO
Ürünün Modeli / Product Model	: GPRS-22
Logo / Logo	: HİDRO ELEKTRONİK LTD.
Sertifika No / Certificate No	: CE17036
İlk Değerlendirme Tarihi / Initial Assessment Date	: 24.08.2022
Geçerlilik Tarihi	: 23.08.2023

This certificate is an acknowledgement that the listed equipment complies with the requirements mentioned in the above standards. This certificate only covers the product (s) stated above and UNIVERSAL CERTIFICATION OF CANADA must be noticed in case of any changes on the product (s).

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TSE TANIDIK LABORATUVAR

MUAYENE VE DENEY RAPORU

(TEST REPORT)

Rapor No (Report No): 0396.22
Rapor Tarihi (Report Date): 22.11.2022

Deneyi Talep Eden Firma/Kurum (Firm/Institution Requesting the Experiment)	: HİDRO ELEKTRONİK RASAT İNŞAAT ENERJİ MÜHENDİSLİK TAHHÜT SANAYİ VE TİCARET LİMİTED ŞİRKETİ
Üretici (Manufacturer)	: AYNI
Numunenin Menşei/Adresi (Origin/Address of the Sample)	: MAHFESİĞMAZ MAHALLESİ 73 SOKAK BAYSAL APT. NO:9 K:1 D:2 SEYHAN/ADANA/TÜRKİYE
Deney Talep Tarihi/No (Test Request Date/Number)	: 21.11.2022 / 0396
Numunenin Tanımı (Description of Sample)	: 3 PARAMETRELİ HİDROSTATİK BASINÇ SENSÖRÜ (TPEC-01) 3 PARAMETER HYDROSTATIC PRESSURE SENSOR (TPEC-01)
Numune Kabul Tarihi (Sample Acceptance Date)	: 21.11.2022
Deneylerin Yapıldığı Tarih (Date of Experiments)	: 22.11.2022
Uygulanan Standart / Metot (Applied Standard / Method)	: TS EN ISO 4373/2022
Rapor No / Tarih (Report No / Date)	: 0397.22 / 22.11.2022
Rapor Sayfa Sayısı (Number of Report Pages)	: 3
Açıklama (Explanation)	:

Muayene ve deneyleri yapan
Ashhan Güneyli

Onaylayan
Doç. Dr. Hakan Güneyli

SAYFA: 1 / 3

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Quality - Management
HiDRO HYDROMETRY
ISO 9001
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Zertifikat: 01 100 083478

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HiDRO HYDROMETRY
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YERLİ ÜRETİM

MİLLİ MARKA