



..for water management

#### We have ISO Certificate since 2001.





We are certified ISO 9001:2015 01 100 072276 Quality is our standard

CE



AKIM HYDROMETRY is the official representative of DELTA OHM in Turkey and neighbor countries.



AKIM HYDROMETRY is the official representative of SOMMER MESS-SYSTEMTECHNIK in Turkey and neighbor countries.







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

**AKIM HYDROMETRY'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".

# SURFACE & GROUND WATER WATER LEVEL RECORDER WITH SHAFT ENCODER OFL -104

THREE YEAF



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 AKIM HYDROMETRY 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.
- 256 KByte Ring Memory, EEProm
- Keypad or remote setup
- Windows Data Management Software
- Easy installation
- 3 years warranty





# Data Logger

# **OEL-104 Optic / Shaft Encoder**

Туре	Floating	
Memory	256 KByte (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)	
<b>Communication Ports</b>	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 "AKIM LEVEL" and send to Limnigraph side to Cellphones modem and receive "SMS LEVEL" on your cell- phone	
Read Out Unit	420 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	

Sensor	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 indica- tion 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	

\* GSM /GPRS Modem Function

## SURFACE & GROUND WATER WATER LEVEL AND TEMPERATURE RECORDER WITH PRESSURE PROBE PLT-02



- 8 MB Ring Memory
- 128x64 Graphic Dot Matrix LCD display
- Battery life time >10 years
- Measuring Pressure Range: 0...300 mH<sup>2</sup>O
- 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



www.akim.com.tr

Water Level

![](_page_6_Picture_0.jpeg)

![](_page_6_Picture_1.jpeg)

## Data Logger

## PLT-02 Pressure Probe KELLER PR-36 XW

Гуре	Level + Temperature Sensor	
Memory	8 MB (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, sam- pling 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	
Power Supply	5,532 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 mes- sages sent to GSM cellphones and PC's (incoming alarms are automatic from measuring stations)	
* SMS Messager	Text "AKIM" and send to Limnigraph side to Cellphones modem and receive "SMS LEVEL" on your cellphone	
Read Out Unit	420 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	

	(digital)	(analog)
Output Supply (U) Accuracy, Error Band <sup>1)</sup> (050 °C)	<b>RS 485</b> 828 Vcc 0,1 %FS	<b>420 mA</b> (2-wire) 828 Vcc 0,15 %FS
<sup>1)</sup> Linearity + Hysteresis + Repeatability + Temp. Coeff. + Zero + Span Tolerance		
Linearity (best straight line)	0.025 %ES	

0,025 %FS 100 Hz 0,002 %FS Range ≤ 1 bar: 1 mbar Range > 1 bar: 0,1 %FS	
< (U - 7 V) / 0,02 A (2-wire)	
Cable: Polyethylene (PE), vented	
> 100 MΩ / 50 V	
-2080 °C	
10 Million Pressure Cycles 0100 %FS at 25 °C	
20 g (52000 Hz, max. amplitude ± 3 mm)	
20 g (11 ms)	
IP 68, iceproof	
EN 61000-6-1 to -6-4	
Stainless Steel 316L (DIN 1.4435) / Viton® / PE	
≈ 200 g	
< 0,1 mm <sup>3</sup>	

Electrical Connections			
Output	Function	Wire Color	
420 mA	OUT/GND	White	
2-wire	+Vcc	Black	
010 V	GND	White	
3-wire	OUT	Red	
	+Vcc	Black	
Program-	RS485A	Blue	
ming	RS485B	Yellow	

![](_page_6_Figure_8.jpeg)

\* GSM /GPRS Modem Function

Weight

Approx. 1,5 kg.

# SURFACE & GROUND WATER WATER LEVEL RECORDER WITH MAGNETIC ENCODER MFL-200

![](_page_7_Picture_1.jpeg)

• **MELimnigraph** is used in rivers, dams, lakes, irrigation canals, flood controls, waste water management, coastal design and environmental studies for water level measurements.

• **MEL** automatically stores water level measurement in the desired recording interval. 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. 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.

![](_page_7_Picture_10.jpeg)

![](_page_8_Picture_0.jpeg)

## Data Logger

## **MEL-200 Benefits**

# **Features**

Memory	1 GB (1024 MB) Ring Memory		
Operation Temp.	-40°C +80°C		
Ассигасу	±1 mm		
Resolution	1 mm		
Monthly Time Deviation	±1 min/month Au	tomatic leap year calcula	ntion
Data Recording Interval	Data Recording Interval can be chosen as (1', 5', 10', 15', 30', 60' and multiples)		
Display	LCD , 128x64 Grap	nic Dot Matrix / with ba	ck 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 Detec- tion	Detect and record minimum 25.6 cm/sec level changes		
Magnetic Encoder Level Measuring Range	0 cm 99.999 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:	RS-232, RS-485, USB 420 mA. Analog Output		
Back up Battery	3.6V.Lithium for RTC		
Data Recording Systems	2 Type, Instantaneous and Minute Average. (No data loss even if battery fails)		
Alarm Status	Flood and Low Level Alarm		
Protection	IP-67		
Water Level, Discharge and Amount Monitor- ing	Water Flow and Volume can be calculated and moni- tored on the screen by using level information and Level vs. Flow table.		
Installation Width	Max: 28 cm.		
Shaft Encoder Comp.	The shaft encoder is compatible with the data logger.		
Вох	Pressurized Aluminum(170x120x55) mm.		
Power Supply	5,535 V. (External)		
Accessories	Works with Logger, Pulley, Float, Counterweight and beaded rope movement. 20 m. beaded rope is included.		
External Accessories	AKIM GPRS Modem	Weight	~1,5 kg.
Device Warranty	3 Years	Service Warranty	Lifetime

Highest reliability and durability	Contactless high resolution rotational position encod- ing over a full turn of 360 degrees
Ideal for motor applications	Rational speeds up to 30000 rpm
Failure diagnostics	Failure detection mode for magnet placement monitor- ing and loss of power supply
Fully automotive qualified	AEC-Q100, grade 1
Robust environmental tolerance	Wide temperature range: -40°C to 125°C

## 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	

![](_page_8_Picture_8.jpeg)

# SURFACE & GROUND WATER WATER LEVEL RECORDER WITH RADAR SENSOR WI R-01

![](_page_9_Picture_1.jpeg)

WLR-01 Water Level Recorder with VEGA Radar Sensors is a Contact Free Measuring System with high accuracy

- Measuring Range: 0...35 m.
- Measures water level or depth to water from a bridge, pier or mounting arm
- Remote data collection with GSM/GPRS Modem
- 8 MB 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
- 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 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 AKIM GPRS Modem and Akim Data Collector and Recording System

![](_page_10_Picture_0.jpeg)

![](_page_10_Picture_1.jpeg)

## **Data Logger**

## **WLR-01**

	r	
Туре	Radar Sensor	
Memory	8 MB (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	
Power Supply	5,532 V. External	
Real Time Clock	Quartz - controlled real-time clock. Automatic leap year calculation	
Interval time The sampling and logging intervals can be preset (fr minute to 24 hours) Back up Battery:3.6 V. Lithium i (10 YEARS)		
* SMS Alarm Signals	High water level alarm and Low Level alarm by SMS mes- sages sent to GSM cellphones and PC's (incoming alarms are automatic from measuring stations)	
* SMS Messager	Text "AKIM" and send to Limnigraph side to Cellphones modem and receive "SMS LEVEL" on your cellphone	
Read Out Unit	420 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	Αρριοχ. 1.5 kg.	

\* GSM /GPRS Modem Function

# Measuring range

**VEGAPULS WL 61** 

	Process fitting	thread G1½ mounting strap compression flanges from DN 80, 3″
THE SECOND	Process temperature	-40 +80 °C
	Process pressure	-1 +2 bar (-100 +200 kPa)
-	Measuring precision	±2 mm
VEGAPULS 6	51	

0 ... 15 m

![](_page_10_Picture_9.jpeg)

ivieasuring 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)

![](_page_10_Picture_14.jpeg)

![](_page_11_Picture_0.jpeg)

# MULTI CHANNEL DATA LOGGER MCD-500

![](_page_11_Picture_2.jpeg)

- 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
- 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

- RS-485 port for instant values and remote interface
- Average Values and Daily Min./Max.Values are recorded
- Memory Capacity: 8 MB (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)

![](_page_12_Picture_0.jpeg)

# **METEOROLOGY STATIONS**

![](_page_12_Picture_2.jpeg)

- Wind Speed
- Wind Direction
- Air Temperature
- Air Humidity
- Precipitation
- Atmospheric Pressure

- Evaporation
- Sunshine Duration
- Radiation
- Snow Level
- Snow Density
- Soil Humidity&Temperature

![](_page_12_Picture_15.jpeg)

![](_page_13_Picture_0.jpeg)

# **TIPPING BUCKET RAIN GAUGE** Pluviograf RG-200

![](_page_13_Picture_2.jpeg)

#### 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
- 2 MByte 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 <sup>2</sup>
Tipping Bucket	Made of plastic material (ABS)
Resolution	1 impulse, $\cong$ 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

![](_page_14_Picture_6.jpeg)

Pluviograph Rainfall Station (17351) Adana-TURKEY

Pluvlograph	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 opera- tion, 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 automati- cally 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	2 MByte Data Flash Memory
Memory Storage Capacity	Storage capacity 2 MByte <b>Data Flash Memory</b> Approx. 355000 impulses $\cong$ 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 AKIM HYDROMETRY 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)

REMOTE COMMUNICATION

# <text><text><section-header>

- GSM/GPRS Communication
- Protection Class: IP65
- Compatible with OEL-104, RG-200, PLT-02, WLR-01 and Mini Logger
- Compatible with every GSM line in Turkey
- TCP data transmission to the entered address
- Can work as Server and Client

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- Automatic reconnection when identified APN connection is cut off
- Replying Data call feature

# **KIM MODEM**Power Supply: 8 ... 28Volt DC Peak 1,5A Stand by: 25mA Power off: 62uA

RS232 Port : 1 unit

GSM/GPRS DATA MODEM

Idle (registered, power saving): 1.5mA @ DRX=9

Automatic Reset function at necessary conditions

GPRS-22

- Dedicated mode: <240 mA @ max power level</p>
- GPRS class 10: <420 mA @ max power level
- TXT Message sending and receiving, sending data and alarm to the selected e-mail address when server is active
- Output Power:
  - Class 4 (W) @ 850/900MHz
  - Class 1 (1W) @ 1800/1900MHz
- Control via AT commands according to 3GPP TS 27.005, 27.007 and Telit Custom AT commands
- Quad Band EGSM 850/900/1800/1900MHz
- Serial port multiplexer 3GPP TS 27.010
- SIM access profile
- 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
- SMS Text mode
- SMS over GPRS
- 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 and FTP protocols

# **SEN SORS**

# DATA RECORDING

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# TRANSFER

# **EVALUATION**

The basic package comprises several main function sections, as follows: **BASIC PACKAGE (Standard)** -data management -communication -configuration -evaluation

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# **EVALUATION Section**

RF Modem

Water Level Recorder

Shaft Encoder

special programs and help menu.

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1200

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

# **COMMUNICATION Section**

GSM/GPRS Modem

**KS 232** 

Water Level & Temperature Recorder with Pressure Probe

Level Pressure

Temperature

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

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# **DATA MANAGEMENT Section**

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

Line Modem

Water Level Recorder with Radar Sensor

Level Radar

6.

-Installation, editing or deletion of

# **CONFIGURATION Section**

measuring stations, (text, number, -Display -Language, selection (Turkish, Farsi and English)

Serial Port (PC)

OTHER DEVICES

4...20 mA/RS 485

Tipping Bucket Rain Gauge

Tipping Bucket

000 -

type of device, call number) -Setting of HYDRO

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![](_page_17_Picture_0.jpeg)

![](_page_17_Picture_1.jpeg)

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![](_page_17_Picture_2.jpeg)

Main Menu

![](_page_17_Picture_4.jpeg)

![](_page_17_Picture_5.jpeg)

Graphic Table

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![](_page_17_Figure_9.jpeg)

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

Online Automatic Data Collection

![](_page_17_Figure_12.jpeg)

Graphic Table

![](_page_17_Figure_14.jpeg)

Graphic Table

77B # Instant Map

![](_page_17_Picture_17.jpeg)

Excel, txt, xml, csv File

Level-Discharge Tables

![](_page_17_Figure_19.jpeg)

Level-Capacity Tables

16

![](_page_18_Picture_0.jpeg)

![](_page_18_Figure_1.jpeg)

![](_page_18_Figure_2.jpeg)

![](_page_19_Picture_0.jpeg)

# UNIVERSAL CURRENT METER CM-32

60

50

![](_page_19_Picture_2.jpeg)

![](_page_19_Picture_3.jpeg)

Measuring water velocity in the big river.

![](_page_19_Picture_5.jpeg)

Measuring water velocity in the big channel

The AKIM 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
- Our Content of Cont 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 AKIM 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  $\Delta$  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	± 45°	Metal
2	80 mm dia 0,50 m pitch	10,0	0,040	± 5°	Metal
3	125 mm dia 0,25 m pitch	12,0	0,025	± 5°	Metal

![](_page_20_Picture_20.jpeg)

![](_page_20_Picture_21.jpeg)

#### 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.

![](_page_21_Picture_0.jpeg)

# SMALL CURRENT METER

![](_page_21_Picture_2.jpeg)

![](_page_21_Picture_3.jpeg)

Measuring water velocity in the small canal.

![](_page_21_Picture_5.jpeg)

Measuring water velocity in the small river.

# The AKIM 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  $\pm 1$  % 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

 $\Delta$  = 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 " $\Delta$ " 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

![](_page_22_Picture_18.jpeg)

![](_page_22_Picture_19.jpeg)

![](_page_23_Picture_0.jpeg)

# 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.

![](_page_23_Picture_13.jpeg)

![](_page_23_Picture_14.jpeg)

#### **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	± 30°	Aluminium
2	50 mm	0.10 m	0.030 m	2,0	± 20°	Aluminium
3	50 mm	0.25 m	0.035 m	4,0	± 10°	Aluminium
4	50 mm	0.50 m	0.060 m	5,0	± 5°	Aluminium
5	30 mm	0.05 m	0.050 m	1,0	± 20°	Aluminium

Table:1

![](_page_24_Picture_0.jpeg)

# 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 " $\mathbf{k}$ " and " $\Delta$ " 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, " $\mathbf{k}$ " and " $\Delta$ " 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. Time measurement: 0.01 sec. Accuracy 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 °C + 70 °C • **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

![](_page_24_Picture_7.jpeg)

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.

![](_page_24_Picture_11.jpeg)

![](_page_25_Picture_0.jpeg)

# WATER GAUGING WINCH

HC-300

HREE YEA

![](_page_25_Picture_3.jpeg)

- AKIM HYDROMETRY 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

![](_page_25_Picture_11.jpeg)

![](_page_26_Picture_0.jpeg)

# 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

![](_page_26_Picture_20.jpeg)

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

#### **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 °C + 70 °C
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)**

٠	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 groundfeeler. In special cases it is possible to carry out measurements without the aid of winch.

![](_page_26_Picture_27.jpeg)

Car crane with Current Meter.

![](_page_27_Picture_0.jpeg)

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Water level measuring instruments

for ground water

# WATER LEVEL INDICATOR

![](_page_27_Picture_2.jpeg)

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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:**

Туре	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 ea	ch of them	n 1.5 V.		
Measuring range			15 m, 30 m , 50 m , 100 m , 150 m , 200 m , 300 m and 500 m.						

![](_page_27_Picture_8.jpeg)

![](_page_27_Picture_9.jpeg)

# WATER LEVEL INDICATOR Type: KLT

 $\sim$ 

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.

![](_page_27_Picture_13.jpeg)

![](_page_28_Picture_0.jpeg)

# WATER LEVEL INDICATOR

- 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.

![](_page_28_Picture_13.jpeg)

TRANSMITTER		RECEIVER	
Power	External 12 V DC / 45 Ah. Accumulator	Number of channel	One
Output current	10, 20, 50, 100, 200, 300, 400, 500mA	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-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		

![](_page_28_Picture_16.jpeg)

![](_page_29_Picture_0.jpeg)

# 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.

![](_page_29_Picture_3.jpeg)

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

![](_page_29_Figure_5.jpeg)

# HAND AUGER SET (5 m. depth)

![](_page_29_Picture_7.jpeg)

Hand auger equipment is extremely suitable for soil research. Α 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

![](_page_29_Picture_12.jpeg)

![](_page_29_Picture_13.jpeg)

![](_page_30_Picture_0.jpeg)

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<sup>2</sup> Weight: ~2,8 kg

![](_page_30_Picture_5.jpeg)

# **EVAPORATION PAN**

Type: AKIM-1

**AKIM-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.

![](_page_30_Picture_11.jpeg)

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		

![](_page_31_Picture_0.jpeg)

![](_page_31_Picture_1.jpeg)

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![](_page_31_Picture_8.jpeg)

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![](_page_31_Picture_10.jpeg)

![](_page_31_Picture_11.jpeg)

![](_page_31_Picture_12.jpeg)

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![](_page_31_Picture_15.jpeg)

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![](_page_31_Picture_17.jpeg)

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![](_page_31_Picture_19.jpeg)

![](_page_32_Picture_0.jpeg)

![](_page_32_Picture_1.jpeg)

ACE Instruments Co., Ltd.

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Phone: 82-31-459-8754-7

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![](_page_32_Picture_2.jpeg)

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![](_page_32_Picture_8.jpeg)

eng. Azzam NASSIF eng. A.gani CHEHAB Damascus - Free Zone - SYRIA Tel: 00 963 11 882 800 90 Mobile: 00 963 966 93 40 16 Fax: 00 963 11 882 800 91

![](_page_32_Picture_10.jpeg)

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![](_page_32_Picture_14.jpeg)

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![](_page_32_Picture_16.jpeg)

![](_page_32_Picture_17.jpeg)

# ...for **water** management

![](_page_33_Picture_1.jpeg)