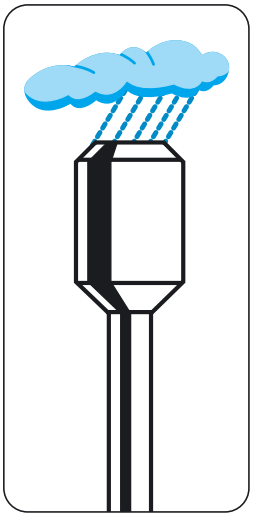
HİDRO ELEKTRONİK A.Ş.

Tipping Bucket Rain Gauge

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. **EEprom**
- Battery life time > 10 years
- Windows data management software
- 3 years warranty



ELEKTRONİK PLÜVİOGRAF

ELEKTRONİK YAĞIŞ ÖLÇER

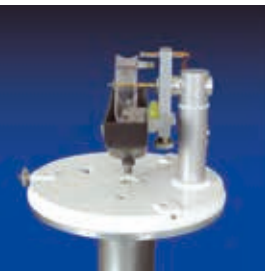
Yağış rejimi bilinmeyen havzalarda Elektronik Plüviograf'larla 1 m²'ye düşen yağış elektronik olarak ölçülmektedir.

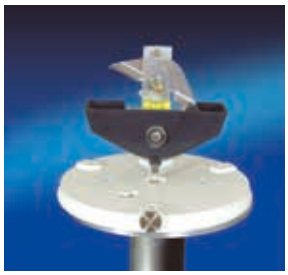
Elektronik Plüviograf, limitsiz yağış kapasiteli, yağış toplama ünitesi, yağış hareketlerini bilgisayar komutları haline dönüştüren otomatik kefe sistemi, datalogger, memory, elektronik ve mekanik bölümlerden oluşmaktadır

ÇALIŞMA PRENSİBİ

Yağış toplama hunisinin yağış çıkış noktasının altına montajı yapılmış hareketli kefe içine, yağış toplama hunisinden gelen yağış tam 0,1 mm dolduğunda kefe sağa hareket eder ve diğer boş kefeye yağış dolmaya başlar. Kefenin her sağa-sola devrilmesinde, kefe üstündeki mıknatısın "reed contact" altından geçmesi esnasında manyetik switch kapanır ve datalogger'a bir puls gönderilir. Yağış devam ettikçe kefenin hareketlerine bağlı olarak datalogger'a "puls" gönderme tekrarlanır. Hafızada toplanan yağış bilgileri istenildiği zaman Plüviograf'ın data logger RS-232 çıkısından Lap-Top bilgisayar, Desktop, Data Flash Card, RF Modem ve GSM/GPRS Data MODEM aracılığı ile PC'ye transfer edilir. Yağış dataları Windows ve excel ortamında tablolar ve grafik halinde değerlendirilir.

Elektronik Plüviograf'lar 0,1 mm veya 0,2 mm ölçme hassasiyetine uygun olarak kalibre edilir.





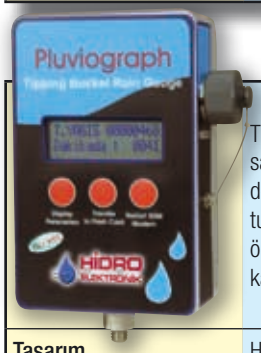
Tipping Bucket modul built-in: RG-200

Pluviograph Rainfall Station (17351) Adana-TURKEY

Teknik Özellikler

Yağış Toplama Alanı	200 cm²
Kefe (Tipping Bucket)	Plastik meterialden (şeffaf ABS)
Çözünürlük	1 impulse = 0,1 mm yağış
Kefe Kapasitesi	0,1 mm veya 0,2 mm (Seçmeli)
Mekanizma	Manyetik reed switch
Çıkış	Potansiyel free contact
Materyal	Alüminyum veya bakır
Max. Switch Kapasitesi	150 V, 0,25 A, 3 Watts
Boyutları	Yükseklik: 355 mm, Çapı: 205 mm
Ağırlık	3,7 kg

Data Logger RG-200



	Tipping Bucket Plüviograf datalogger, sağa-sola kefe pulsları ile aynı anda tarih, saat, dakika ve saniyesini "on time" olarak 2 MByte memory'da yağış toplama ve depolama işlemi yapılır. Datalogger su sızdırmaz contalı, compact ve dokunmatik tuşludur. Bu tuşlarla setup tarihi, toplam yağış, kayıt zamanı, kefe sayacı, batarya ömrü gibi bilgileri LCD displayden gösterir. LCD display 15 saniye sonra otomatik kapanır.
Tasarım	Hellman tasarımı. WMO Standartlarına uygun
Ports	RS-232 interface
LCD Display	2 satırlı Dot Matrix LCD Display. Her satır 16 karakter, Toplam:32 karakter
Memory	2 MByte **EEprom.**
Memory Kapasitesi	2 MByte **EEprom.** Yaklaşık 280.000 impulse ≅ 28000 mm yağış
Zaman Formatı	24 saat, yaklaşık hassasiyet ± 2 dak. / 1 yıl. Quartz RTC.
İletişim (Haberleşme)	Data logger RS-232 çıkışından bilgi alış-verişi Lap-Top bilgisayar, Desktop, Data Flash Card, GSM/GPRS Data MODEM ve RF Modem aracılığı ile yapılır.
Alarm Mesajları	Yüksek yağış alarmı; SMS mesaj olarak 2 ayrı cep telefonuna ve 2 ayrı PC'ye otomatik gönderilir.
Resetleme	Setup programından bir komutla
Data Aktarma Hızı	19200 bps Baut Rate.
Setup Parametreleri	Plüviograf Setup tarihi, setup zamanı, bölge, havza, istasyon nosu, ölçüm birimi (0,1 mm veya 0,2 mm)
Directory	C:\YAGISDATA\023-075-050609.txt
Güç Kaynağı	1 adet 3,6 Volt 8500 mAh C size Lithium battery
Batarya Ömrü	10 yıl, normal çalışma modunda
Batarya Raf Ömrü	10 yıl, % 10 kapasite kaybı ile
Program (Software)	"PLV3-01" Windows tabanlı, Win95/98/2000/ME/NT.4.0, XP ve Vista ile çalışır.
Setup/Yazma-Okuma	Setup parametreleri, Plüviograf data logger RS-232 çıkışından Lap-Top bilgisayar, Desktop, Data Flash Card, RF Modem ve GSM/GPRS Data MODEM İletişim programları ile yapılmaktadır. Dataların excel ortamında yağış tabloları ve histografının bar veya line olarak grafik halinde değerlendirilmesi işlemleri PLV3-01 "Windows Data Management Software" programı ile yapılmaktadır.
Daha Fazla Bilgi	Daha fazla bilgiyi "Plüviograf kullanma klavuzunda" bulabilirsiniz.
Çalışma Sıcaklığı	-30 °C ile +80 °C arası
Depolama Sıcaklığı	-40 °C ile +85 °C arası
Nem	% 98 nisbi nem, Su Geçirimi: Waterproof IP67
Kutu	Basınçlı Alüminyum döküm, size (125x80x40 mm)
Ağırlık	Yaklaşık 495 gr

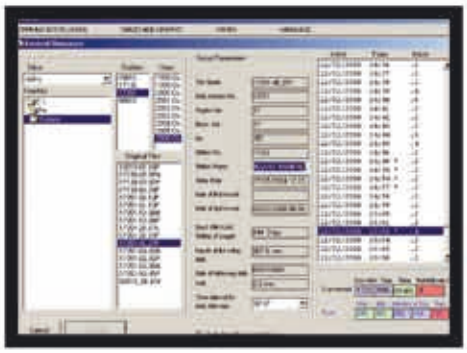
Options

Data Flash card	2 MByte. EEprom
•GSM/GPRS Data Modem •RF Data Modem	PC tarafı GSM/GPRS Data MODEM ünitesi, RF Modem Plüviograf tarafı GSM/GPRS Data Collector ünitesi ve özel antenleri
Isıtıcı	70 Watts, 24 Volt dairesel (ring) ısıtıcı ve Power adaptörü (220V/24V, 100 Watts)

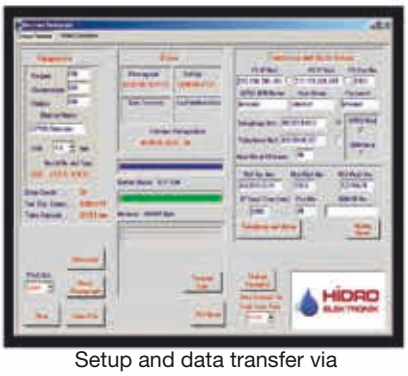
"PLV3-01"

Windows Data Management Software

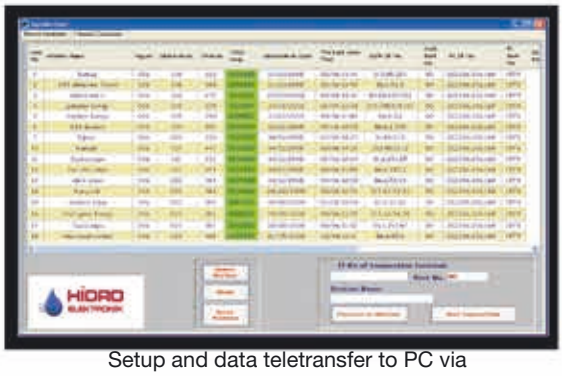
Window 95 / 98 / 2000 / ME / NT, XP and Vista Application software for the graphical and tabular evaluation of; rainfall meausured values (zoom function).



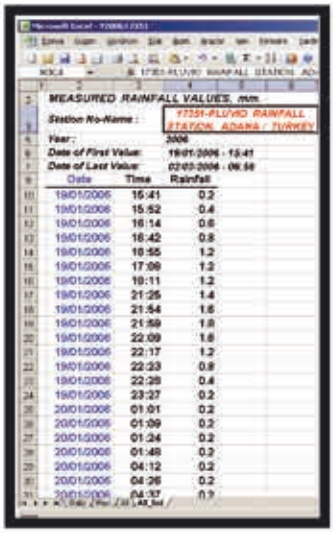
Dynamic displays

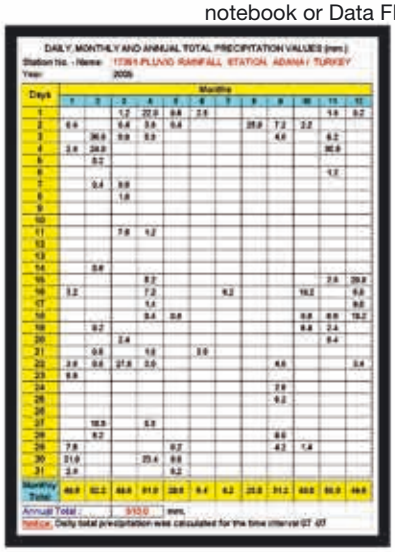


Setup and data transfer via notebook or Data Flash Card

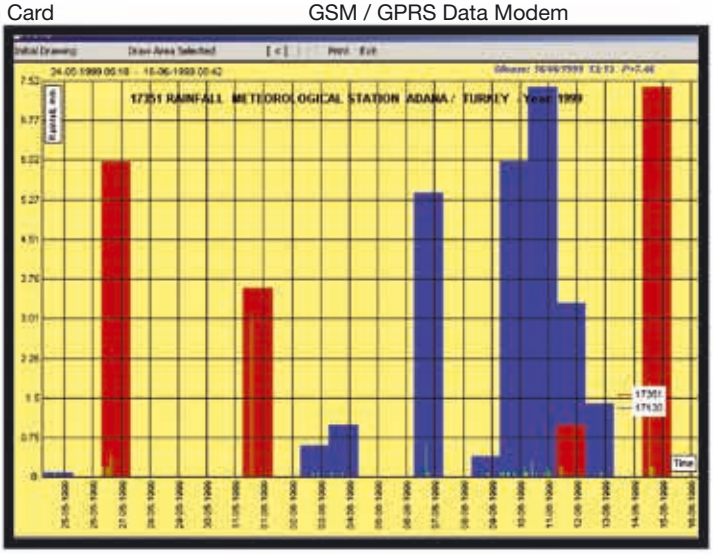


Setup and data teletransfer to PC via GSM / GPRS Data Modem

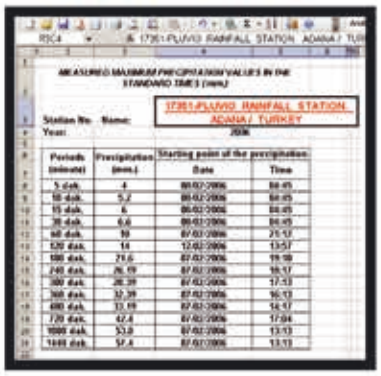




Daily, Monthly and Annual Cumulative Rainfall Values (mm)



Graphical Reports (zooming function)



Tipping Bucket Rain Gauge

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.

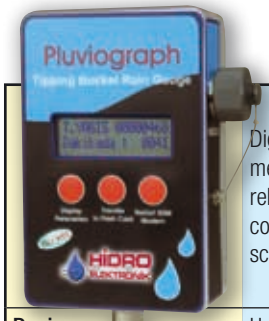
Technical Details

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 in use (e.g. in sewage purification plants)

and reservoirs...

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	2 MByte **EEprom**
Memory Storage Capacity	Storage capacity 2 MByte **EEprom** Approx. 280.000 impulses ≅ 28000 mm rainfall
Intensity	Approx. 50 impulses / 1 min.
Real Time Clock	24 hour time, accuracy approx. 2 min. / 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 Win95/98/2000/ ME/XP and Vista.
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)

Get in touch with your rain gauge - wherever you are calling from!

Please contact us for further information

OUR PRODUCTS:

- Data Loggers
- Water Level Recorders
- Water Level Indicators
- Water Meters
- Water Winch
- Water Quality Measurement
- Electronic Rain Gauges
- Remote Data Transmissions
- Current Meters
- Staff Gauges
- Evaporation Pans
- Auto. Meteorological Stations

Quality - Management HIDRO HYDROMETRY ISO 9001 Certificated Per ISO 9001

TÜV DIN EN ISO 9001:2018 Zertifikat: 01 100 083478

CE

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