

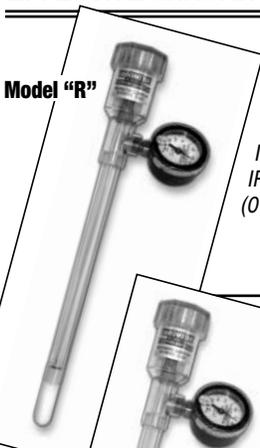
IRROMETER® Soil Moisture Indicators



All Products Made in U.S.A.

EFFECTIVE JANUARY 1, 2013

CATALOG 2013



Model "R"

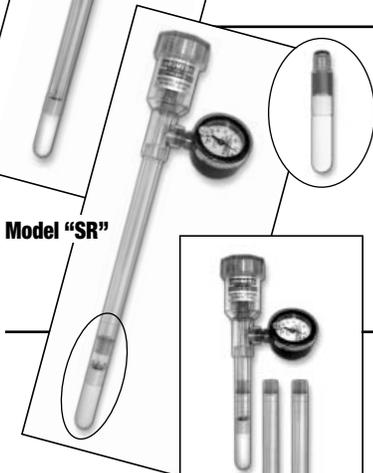
IRROMETER Model "R" — our standard model, for general use with row, tree, and field crops. Shorter lengths for greenhouse and pots. *

Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER vacuum gauge with dual scale of centibars and kilopascals (0-100 cb [kPa] range).

Model "R" (Agriculture)

CAT. NO.	LENGTH
106	6" (15 cm)
112	12" (30 cm)
118	18" (45 cm)
124	24" (60 cm)
136	36" (90 cm)
148	48" (120 cm)

(Longer lengths available)



Model "SR"

IRROMETER Model "SR" — has threaded replaceable tip, for general use with row, tree and field crops. *

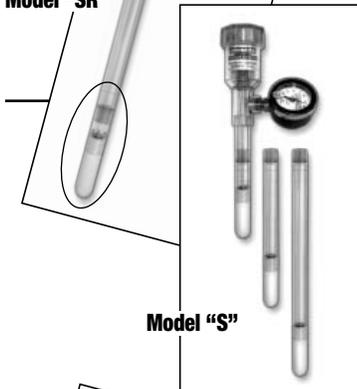
Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER vacuum gauge with dual scale of centibars and kilopascals (0-100 cb [kPa] range).

Model "SR" (Replaceable Tip)

CAT. NO.	LENGTH
206	6" complete (15 cm)
212	12" complete (30 cm)
218	18" complete (45 cm)
224	24" complete (60 cm)
236	36" complete (90 cm)
248	48" complete (120 cm)

(Longer lengths available)

SRT Replacement Tips



Model "S"

IRROMETER Model "S" — has a threaded connection at the top of the tube. Designed for research work where change in instrument length is required for different experiments, and for general use with row, tree, and field crops. When ordering, select Extension Tip(s) in combination with the Reservoir Section. *

Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER vacuum gauge with dual scale of centibars and kilopascals (0-100 cb [kPa] range).

(Indicate Reservoir Section# plus Tip# when ordering. EXAMPLE: 200-E12)

Model "S" (Research)

CAT. NO.	LENGTH
200	Reservoir Section only
EXTENSION TIPS:	
E6	6" (15 cm)
E12	12" (30 cm)
E18	18" (45 cm)
E24	24" (60 cm)
E36	36" (90 cm)
E48	48" (120 cm)



Model "LT"

IRROMETER Model "LT" (Low Tension) — is designed for situations where tensions above 30 cb (kPa) are rarely expected. Ideal for very coarse soils and non-soil container-media or where rapidly changing soil water status needs to be observed. Incorporates a replaceable "Quick-Flo" tip (blue color), and low tension vacuum gauge. *

Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER vacuum gauge with dual scale of centibars and kilopascals (0-40 cb [kPa] range).

Model "LT" (Low Tension)

CAT. NO.	LENGTH
506	6" (15 cm)
512	12" (30 cm)
518	18" (45 cm)
524	24" (60 cm)
536	36" (90 cm)

(Longer lengths available)

QFSRT Replacement Tips

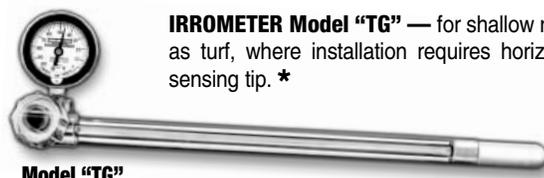


Model "MLT"

IRROMETER Model "MLT" (Miniature Low Tension) — designed for applications similar to the Model "LT" above. Ideal for use with very coarse soils and non-soil container-media. Its compact size and replaceable "Quick-Flo" tip make it the best choice for greenhouse applications. *

Model "MLT" (Miniature Low Tension)

CAT. NO.	LENGTH
MLT	6" (15 cm)
1007	MLT Service Unit
MLT-TIP	Replacement Tips



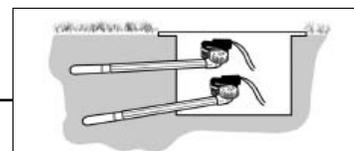
Model "TG"

IRROMETER Model "TG" — for shallow rooted applications such as turf, where installation requires horizontal placement of the sensing tip. *

Includes hermetically sealed IRROMETER vacuum gauge with dual scale of centibars and kilopascals (0-100 cb [kPa] range).

Model "TG" (Turf)

CAT. NO.	LENGTH
312	12" (30 cm)
318	18" (45 cm)



* **IMPORTANT NOTICE** — Service Unit should be purchased with initial order (see page 2). Only one Service Unit is necessary to service all of your IRROMETERS. Please order by Catalog Number.

— Options and Accessories on Page 2 —

951/689-1701



www.IRROMETER.com

IRROMETER

IRRROMETER Service Units

A Service Unit is necessary for proper operation of the IRRROMETER instrument and should be included on initial orders. One unit will service all of your IRRROMETERS.

The **Standard Service Unit** is used during initial installation and then periodically for removal of air from instrument to ensure maximum sensitivity and accuracy. The **Test Pump Service Unit** serves the dual purpose of removing air and testing the gauge in one operation.

Standard Service Unit

- CAT. NO. 1001
Includes:
1 hand vacuum pump
1 bottle IRRROMETER fluid
25 monthly chart forms
1 reference book
(available in Spanish on request)



Test Pump Service Unit

- CAT. NO. 1002
Includes:
Same items as #1001, except hand vacuum pump is equipped with test gauge.



MLT Service Unit – CAT. NO. 1007 — Includes: Same items as #1001, except vacuum pump is syringe style.

IRRROMETER Automation and Output Options

These options provide automation for irrigation valves and electronic output for use with automatic data collection systems. They can be added at the factory when purchased (as shown here) or added to your existing instruments in the field (as accessory items, see below).

-A — Automatic Gauge

For Models R, S, SR, TG, LT

SUFFIX

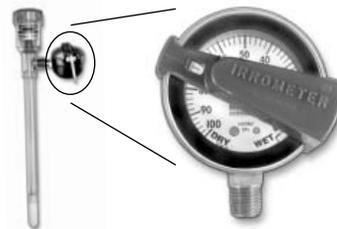
- AAS w/AC switch closed past setting
- AAR w/AC switch open past setting
- ADS w/DC switch closed past setting
- ADR w/DC switch open past setting

This suffix must be added to the catalog number, and price must be added to your choice of IRRROMETER when ordering to receive a complete instrument.

(Add suffix to IRRROMETER choice when ordering.)

EXAMPLE: 212-AAS

Option "A" – Automatic Gauge – provides direct switching capabilities in addition to indicating available soil moisture. Soil water tension readings above the moisture setting can activate an irrigation valve solenoid, time clock or warning device. A switch mechanism (available for AC or DC) is mounted on the gauge and can be rotated to desired setting. The gauge reads in centibars (cb) and kilopascals (kPa) of soil water tension.



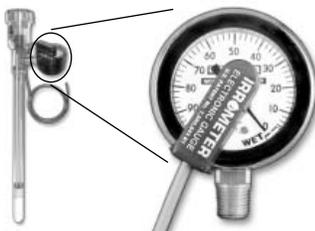
-E — Electronic Gauge

- SUFFIX FOR MODELS
-E R, S, SR, TG, LT

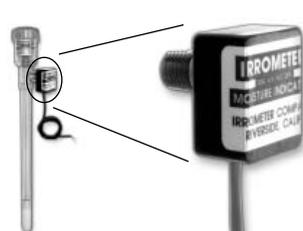
This suffix must be added to the catalog number, and price must be added to your choice of IRRROMETER when ordering to receive a complete instrument.

(Add suffix to IRRROMETER choice when ordering.)

EXAMPLE: 224-E



Option "E" – Electronic Gauge – is unique in that it can record soil tension readings automatically and can also be read manually. The analog magnetic degree sensor provides a voltage output directly proportionate to the reading shown on the gauge. This signal can be read by most types of data-logging equipment. The gauge reads the soil water tension in centibars (cb) and kilopascals (kPa).



-RSU — Remote Sensing Unit

- SUFFIX FOR MODELS
-RSU-93 (0-93 kPa) ... R, S, SR, TG
-RSU-34 (0-34 kPa) LT
-RSU-34 (0-34 kPa) MLT

This suffix must be added to the catalog number, and price must be added to your choice of IRRROMETER when ordering to receive a complete instrument.

(Add suffix to IRRROMETER choice when ordering.)

EXAMPLE: 512-RSU-32

NEW Improved Temperature Compensated Design

Option "RSU" – Remote Sensing Unit – is designed to show soil moisture levels by converting the reading to a 4-20 mA loop current signal. Built-in pressure transducer improves accuracy. All electronics are sealed in a potted, waterproof housing. Signal can be read by a data logging device or an A/D card designed to read voltage. *(Requires 12-24 VDC excitation current.)*

IRRROMETER Accessory Items

- CAT. NO.
1003 Test Pump Adapter
1004 IRRROMETER Fluid (1 oz. concentrated)
1004-L IRRROMETER Fluid (6 oz. concentrated)
1005 Chart Forms (MONTHLY)
P-2001 Model "P" Portable IRRROMETER
12" with handle for easy removal (other lengths avail.)

IRRROMETER Vacuum Gauges

- 1008 Replacement Gauge (0-100 cb[kPa])
1008-A * * Automatic Gauge (0-100 cb[kPa])
with switching capabilities (specify as listed above)
1008-E Electronic Gauge (0-100 cb[kPa])
with voltage output (see specifications above)

- CAT. NO.
1008-LT Replacement Gauge – Model LT
(40 cb [kPa])
1008-LT-A * * Automatic Gauge – Model LT (40 cb [kPa])
with switching capabilities (specify as listed above)
1008-LT-E Electronic Gauge – Model LT (40 cb [kPa])
with voltage output (see specifications above)
1008-MLT Replacement Gauge – Model MLT
(40 cb [kPa])
1009- * * Replacement Solid State Switch only
for Automatic Gauges (specify as listed above)
RSU Remote Sensing Unit (4-20 mA transducers)
RSU-34-1/8 0-34 cb (kPa) for use with Model MLT (1/8 NPT)

- CAT. NO.
RSU-34-1/4 0-34 cb (kPa) for use with Model LT (1/4 NPT)
RSU-93-1/4 0-93 cb (kPa) for use with Model R, S, SR, TG (1/4 NPT)
Replacement Tips & Other Items
SRT "SR" Replacement Tip (threaded bushing)
RTWOT Replacement Tip (without threads)
QFSRT "LT" Replacement Tip
MLT-TIP "MLT" Replacement Tip
CAP IRRROMETER Cap and Stopper Assembly
STOP Stoppers
SR-O O-Ring (Model SR/LT)

* Refer to Automation and Output Options (above) for appropriate suffix.



IRR◊METER Soil Solution Access Tube

Model SSAT (Complete) — For easy extraction of soil solution samples when testing salinity levels or plant nutrients in soil water. Tube complete with suction line, stopper and clamp as pictured. Clear butyrate tubing is used, assuring leak-proof tip connection. Requires vacuum source. (see options below)

(Add "LT" suffix to catalog number for "Quick-Flo" tip. EXAMPLE: A6C-LT)

(Tubes only, without suction line, stopper and clamp, are available.)



Model SSAT (Complete)

CAT. NO.	LENGTH
A6C	6" (15 cm)
A12C	12" (30 cm)
A18C	18" (45 cm)
A24C	24" (60 cm)
A36C	36" (90 cm)
A48C	48" (120 cm)
A60C	60" (150 cm)
A72C	72" (180 cm)

(Longer lengths available)

IRR◊METER Vacuum Pump for Model SSAT

The DS-50CC Disposable Syringe is used primarily to extract soil solution from SSAT tube and can also be used to create a partial vacuum on shorter tubes [12 in. (30 cm) or less]. For SSAT tubes longer than 12 in. (30 cm), the SSAT Vacuum Pump (CAT. NO. 1002-SSAT) is required to create a sufficient vacuum.



DS-50CC

1002-SSAT

Analysis kits and meters are available from Spectrum Technologies, Plainfield, IL 800-248-8873 / 815-436-4440 or Hach Company, Loveland, CO 800-227-4224, Int'l: 970-669-3050.

CAT. NO.

1002-SSAT	SSAT Vacuum Pump
DS-50CC	Disposable Syringe
FC	Finger Clamp
SLC-T	Suction Line Tubing
SGL-STOP	Single Hole Stopper
DBL-STOP	Double Hole Stopper
SLA	Suction Line Assembly (to 24")

(Longer lengths available)

IRR◊METER Pressure Gauges

Hermetically Sealed – (7 Series)

Hermetically sealed **pressure gauges** are water tight, dust proof, shock resistant, have a 2 in. (51mm) shatterproof face, and are bottom connected with 1/4 in. brass standard pipe thread stem (NPT). PSI outer scale & kPa inner circle.

OUTPUT OPTIONS:

Switching Gauge – is a **pressure gauge** with direct switching capabilities. Adjustable pressure selector may be set to any desired pressure. The switch will be closed past the setting to actuate connected device. Switch available for AC or DC power and also in reverse switch action (open past the setting). Switching position selected should fall in the center 1/3 of the gauge range.

Electronic Gauge – is a unique **pressure gauge** in that it can be manually read as well as automatically record pressure readings. It is an analog magnetic degree sensor that provides a voltage output directly proportional to the reading showing on the gauge. This signal can be read by most brands and types of data-logging equipment.

Liquid Filled – (7LF Series)

Glycerin filled **pressure gauges** feature stainless steel case with a durable polycarbonate 2-1/2 in. (63mm) face, and are bottom connected with 1/4 in. brass standard pipe thread stem (NPT). PSI outer scale & kPa inner scale.

For severe service conditions with pulsation and vibration.

Snubber – Factory installed snubber improves gauge life by absorbing surges. Snubber is threaded for removal and cleaning if gauge becomes plugged with debris.

Gauge part numbering nomenclature for ordering:

7 -100 -E -S

7 Series Gauge

Pressure Range:

- 15 psi – 100 kPa
- 30 psi – 200 kPa
- 60 psi – 400 kPa
- 100 psi – 700 kPa
- 200 psi – 1400 kPa
- 400 psi – 2800 kPa

Output Options (choose only one)

- w/AC switch closed past setting = **AAS**
- w/AC switch open past setting = **AAR**
- w/DC switch closed past setting = **ADS**
- w/DC switch open past setting = **ADR**
- w/electronic output = **E**

Snubber

w/Snubber = **S**

For Example: a 100 psi gauge with an Electronic Output and Snubber is 7-100-E-S.

Gauge part numbering nomenclature for ordering:

7LF -100 -S

7LF Series Gauge

Pressure Range:

- 60 psi – 400 kPa
- 100 psi – 700 kPa
- 200 psi – 1400 kPa
- 400 psi – 2800 kPa

Snubber

w/Snubber = **S**

For Example: a 100 psi gauge with a Snubber is 7LF-100-S.

PATENTED

SSAT

GAUGES

WATERMARK Soil Moisture Sensor

CAT. NO.	LENGTH
200SS-5	5' (1.5 m)
200SS-15	15' (4.5 m)
200SS-X	6" (15 cm)

(Longer lengths available)

-PKG Retail Packaging

Standard **WATERMARK Soil Moisture Sensor**. For use with all crops. To be used with WATERMARK Meter, Monitor, Adapter or a compatible device. Reads electrical resistance in 0-200 centibar (cb) and kilopascal (kPa) range.

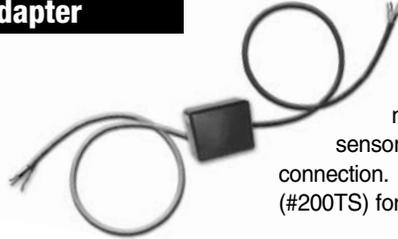
*Shipped in bulk unless specified to be in retail packaging (add **-PKG**)



WATERMARK Voltage Adapter



CAT. NO.
200SS-VA



WATERMARK Voltage Adapter for use with standard WATERMARK sensor. Converts sensor output to a calibrated linear voltage signal that can be read by other manufacturer's reading devices. Can be added to individual sensor wiring anywhere between the sensor and the reading device connection. Add a soil temperature sensor (#200TS) for temperature compensation.

WATERMARK Meter

CAT. NO.	
30-KTCD-NL	Digital Readout Meter
30-KTCD-Cable	Replacement Cable

(Only one meter is necessary to read multiple WATERMARK Sensors)

WATERMARK Meter — Solid state, hand-held, alternating current resistance bridge meter for reading standard WATERMARK sensors. Adjustable for soil temperature variations. Touch pad operating panel with LCD display. Includes durable case, 9 volt battery and field replaceable cable assembly.



WATERMARK Monitor

All Monitor products come complete with **WaterGraph** software that provides for downloading and graphic functions. No additional software is required for operation.



Battery operated data-logger that automatically reads as many as eight sensors. User can view readings on the screen, download data to a laptop computer, or use our Data Shuttle to transport the information to a computer. When combined with one of our Remote Data Access Options data can be viewed from a remote location. Monitor accepts WATERMARK soil moisture, soil temperature, and switch closure sensors. See Monitor Packages for sensor combination options.

POPULAR MONITOR PACKAGES:

CAT. NO.

900M Monitor (with sensors) includes: one temperature and seven WATERMARK sensors, each with 15' (4.5 m) wire leads.

900M-8 WATERMARK Monitor with eight 200SS-15 soil moisture sensors.

900M-1-6-PSI 60

WATERMARK Monitor with one 200TS soil temperature sensor, six 200SS-15 soil moisture sensors and one 60 psi switching pressure gauge. Provides temperature compensated WATERMARKS and a switching gauge for recording irrigation events.

COMPONENTS:

900M-O Monitor only (without sensors)

200SS-15 WATERMARK Sensor (15' [4.5 m] wire lead with tinned ends)

200TS Temperature Sensor

200TSX Temperature Sensor extended range

200SC Serial Cable

Options for Model 900 Monitor —



Data Shuttle — is used to collect data from the 900M Monitor. Stores data on a multi media card which is then transferred to the user's computer using the included card reader. Includes Data Shuttle with battery, cable, storage pouch, instructions, multi media card, card reader and software.

E Wiring Adapter (not shown) — for reading IRROMETER Option "E" Gauge. One adapter accepts eight "E" inputs.

Quick Disconnect (not shown) — makes Monitor easily removable from the field location with two multi-pin quick disconnect cable connections for sensor wiring. Comes pre-installed in the Monitor enclosure and provides a 12" (30 cm) wire tail.

RSU Wiring Adapter (not shown) — for reading IRROMETER Option "RSU" transducers. One adapter required per "RSU" to convert the sensor wiring. (Requires 12-24 VDC excitation current).



Rain Gauge Adapter — converts 950RG Rain Gauge information to a readable signal for the WATERMARK Monitor. Comes in an outdoor mountable housing with a 9-volt battery. Includes its own WaterGraph software that will display periodic or daily rainfall totals.

CAT. NO.

900DS Shuttle, cable, multimedia card

900M-E "E" Wiring Adapter

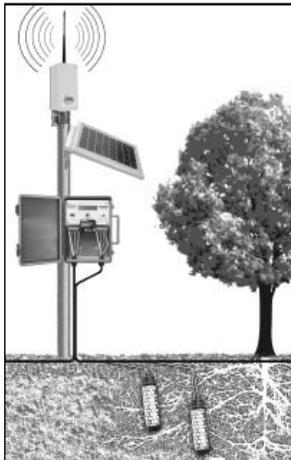
-QD Quick Disconnect (order as 900M-QD)

QD-Cable Cable End only

900M-RSU "RSU" Wiring Adapter

900M-RGA Rain Gauge Adapter

USB to Serial Adapter (converts a USB port on a laptop to DB9 serial)



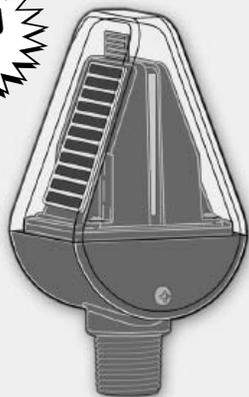
900 Monitor Remote Data Access Options

Data Access Options for the 900 Monitor improve productivity by bringing important soil moisture information to you. Remote areas and multiple crop locations can be monitored from a central location. Accessory hardware can be combined to suit your application. Long Range Radios have a range of several miles. Extended Range with Cellular Gateway (for 900 only) provides world-wide coverage via the internet.

NOTE: High gain directional antennas are available to enhance transmission for difficult or long range site conditions. Please consult factory for recommendations and pricing.

Hardware –

CAT. NO.	
900M-FR	Field Radio
900M-BR	Base Radio (Indoor)
900M-FR2BR	Field to Base Converter
900M-ER	Ethernet Radio Gateway
900AC	AC Transformer
900M-CG	Cellular Gateway
900M-BP-5W	Battery Pack – 5 watt (includes solar panel)



IRRomesh Components

CAT. NO.	
975N	Node only
975B	Base Module (with solar panel and battery)
975H	Hand-Held Display (Shuttle / Diagnostic tool)
975G	Gateway (Cellular Gateway)
900M-BP-5W	Battery Pack – 5 watt (includes solar panel)

Transmitter Package

975N-TW	Node Package (with 1 Temp + 3 WATERMARK sensors, each with 15' [4.5 m] wire leads)
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Options for Model 900 & 975 Monitors —

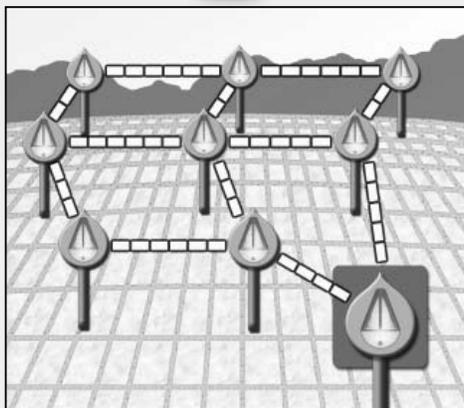
7- * -ADS

Switching Gauge can be read by WATERMARK Monitors to indicate when an irrigation system turns on and off.

7- * -E

Electronic Gauge can be read by WATERMARK Monitors to indicate irrigation system pressure readings at the point of gauge connection.

* See pg. 3 for catalog number.



IRRomesh System

Solar powered wireless data-logging system automatically reads up to 32 sensing locations with **no batteries required**. Radio line of sight is up to 1500' (457m) between nodes. Nodes automatically establish a mesh network that is self-initializing, self-routing, and self-healing. Data from each node relays along multiple paths to the base.

Data effortlessly transmits to your computer or the web. A complete stand-alone system includes a Base Module, a Hand-Held Display, the desired number of Nodes and their sensors. Add the Cellular Gateway and Battery Pack for real-time web access.



Rain Gauge

CAT. NO.	900RG — Rain Gauge
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Let **IRROMETER** collect the data for you!!

Viewing soil moisture data on the internet is easy with IRROMETER's Web Based Services. Provides the user with secure web access to automatically collected data anytime and anywhere. Choose from plans listed below.

Cellular Data Service (CDS) – provides automatic collection and viewing of data from one (1) Monitor/Base Module (model 900 or 975) via **IRROMETER** supplied GPRS internet connection. Works well in applications that have a good network of cellular radio towers. Expansion of additional Monitors is possible using appropriate Field Radio hardware and adding WRS service from below.

Web Reporting Service (WRS) – allows automatic collection and viewing of data from one (1) Monitor/Base Module (model 900 or 975) via **customer** supplied broadband internet connection. Does not include Internet connection.

Web Based Services

CAT. NO.	
WRS	Web Reporting Service
USA & EU*	CDS-2 Cellular Data Service (2 mb per mo.)
	CDS-5 Cellular Data Service (5 mb per mo.)
	CDS-20 Cellular Data Service (20 mb per mo.)
INT'L*	CDS-2-INTL Cellular Data Service (2 mb per mo.)
	CDS-5-INTL Cellular Data Service (5 mb per mo.) (Coverage in over 80 countries.)

*Contact IRROMETER for specific country coverage and availability
(WEB BASED SERVICES ARE BILLED ANNUALLY.)

LANDSCAPE AUTOMATION PRODUCTS

WATER SWITCH

CAT. NO.

WS1 (includes 1 sensor)

For Residential Systems – Overrides entire irrigation controller operation when soil becomes wetter than the moisture setting. Connects to the sensor input connections of an AC irrigation controller. WS-1



Module takes hourly readings from a single sensor, which is buried in the root zone of turf grass. Select from four moisture levels or the bypass position for sensor control override. Includes WS-1 control module, one WATERMARK #200SS-X sensor, and 2 direct burial wire nuts. Weather resistant solid state electronics. Packaged for display.

WATERMARK Electronic Module

CAT. NO.

WEM (includes 2 sensors)

WEM-DC-T (includes 2 sensors)

Dry contact switch version with integral timer for use with the sensor connection on a controller.

For Valve Control – Overrides valve operation when soil becomes wetter than the moisture setting. Allows any 24 VAC solenoid valve to be controlled individually by two moisture sensors located in the soil at



different depths of the irrigated area. Takes a reading each time the valve is programmed to operate. Also used to interrupt controller master valve circuit or common, to override entire irrigation controller. Select from 11 moisture levels or bypass position for sensor control override. Includes WEM control module and two WATERMARK #200SS-5 sensors. Weather resistant solid state electronics. Packaged for display.

WATERMARK Battery WEM

CAT. NO.

WEM-B (includes 2 sensors)

For Battery Controllers – Battery powered version of the WATERMARK Electronic Module (WEM) for use with battery powered (DC) irrigation controllers that have



sensor input connections. Every few minutes module reads two sensors, which are in the soil at different depths of the irrigated area. Overrides controller operation when soil is wetter than the setting. Select from nine moisture levels or bypass position for sensor control override. Includes WEM-B control module, two #200SS-5 sensors and 9-volt battery. Weather resistant solid state electronics. Packaged for display.

NEW WATERMARK Soil Moisture Manager

FEATURES –

- **Easy to Install** — New or Retrofit
- **Individual Area Moisture Control Reads, Reports, Adjusts**
- **Override for Manual Operation**
- **No Maintenance**

BENEFITS –

- **Saves Money, Water and Energy**
- **Automatically Reports Watering History and Irrigation Water Savings**
- **Data can be Downloaded for Analysis**
- **Grows Healthier Turf and Plants**
- **Reduces Runoff**



MHS

Base unit handles up to 16 stations/valves. Add 1 or 2 expansion boards for each additional 16 valves (48 max).

For example: MHS with 4 Sensor pairs and 1 Expansion Board is MHS-4-1.

MHS — Wired

CAT. NO.

MHS Multiple Hydrozone System (wired base unit)

200SS-5PR Pair of WATERMARK Sensors (with 5' [1.5m] leads)

MHS-XB Expansion Board (additional 16 station capacity)

Nomenclature for ordering:

MHS - 4 - 1

Number of **Sensor pairs** ——— ↑
Number of **Expansion Boards** if needed ——— ↑
(1 or 2)

This system allows independent moisture control of valve groups when all valves share a common ground. The MHS (Multiple Hydrozone System) interfaces with any 24 VAC irrigation controller for soil moisture automation. Valves are grouped together into hydrozones based on that location's specific irrigation needs. As many as 8 independent moisture sensing locations can be managed. Each hydrozone will interrupt the irrigation cycle based on plant's demand for that location. Each hydrozone can be independently programmed digitally for the desired moisture level. Components are factory wired and mounted in a stainless steel enclosure (9 x 12 x 5" [23 x 30 x 12.7 cm]).

This system logs data then reports moisture values and saved irrigations to the user.

W-MHS — Wireless

- **Wireless**
- **Solar Powered Radio Transmitter with 1500' (457m) Line of Sight Range**
- **No Batteries Required**
- **Saves Installation Labor – particularly useful in retrofit applications**

CAT. NO.

W-MHS Wireless Multiple Hydrozone System (includes base receiver & 15' [4.58m] connection cable)

MHS-T Wireless Transmitter (serves 2 hydrozones & comes with 4 WATERMARK sensors, each with 5' [1.5m] lead)

MHS-XB Expansion Board (additional 16 station capacity)

MHS-C Base Receiver Connection Cable (50' [15.58m])



W-MHS

Nomenclature for ordering:

W-MHS - 4 - 1

Number of **Hydrozones** ——— ↑
(2, 4, 6 or 8)
Number of **Expansion Boards** if needed ——— ↑
(1 or 2)

For example: W-MHS with 4 Hydrozones (2 Transmitters) and 1 Expansion Board is W-MHS-4-1.



IRRROMETER, SSAT or WATERMARK Installation Tools

IRRROMETER

SSAT

WATERMARK

Slide Hammer — Steel slide hammer with 7/8" (22mm) diameter x 48" (120 cm) long insertion tip, calibrated every 12" (30 cm).

Top of tool is sliding hammer that drives tip into, and back out of, the ground, leaving a smooth borehole for sensor insertion.

CAT. NO. 1012



Coring Tool Kit — Nickel Plated 7/8" (22 mm) soil coring tool. Comes as a kit in fabric storage pouch with two 12" (30 cm) extensions and handle for making up to a 36" (90 cm) access hole. Can also be used for soil sampling.

CAT. NO. 1013



Auger Tool Kit — Nickel Plated 1" (25 mm) soil auger. Makes oversize hole for grout style sensor installation in hard or rocky soils. Comes as a kit in fabric storage pouch with two 12" (30 cm) extensions and handle for making up to a 36" (90 cm) access hole.

CAT. NO. 1014

Specialty accessories available for deep installations, consult factory for pricing and availability.



Extension Rod — 12" (30 cm) extension rod for #1013 or #1014 (above) for making deeper access holes.

CAT. NO. 1015



Turf Coring Tool — Turf style installation tool for shallow sensor installation depths, to 12" (30 cm). Nickel plated 7/8" (22 mm) soil coring tool with integral handle. Can also be used for soil sampling.

CAT. NO. 1016



WATERMARK Insertion Tool — WATERMARK sensor insertion tool. Tee handle style tool for inserting the WATERMARK sensor up to 30" (76 cm) into the borehole created by one of the tools shown here. Has internal ejection rod inside tube to push sensor off of tool once fully inserted into borehole.

CAT. NO. 1017



Hole Enlarger Kit — Includes 12" (30 cm) extension rod and three sizing tips to enlarge borehole in soils that shrink.

CAT. NO. 1018

Repair Options

● IN NORTH AMERICA ONLY ●

R1	Recondition IRRROMETER (R, SR, TG) (includes new tip, stopper, complete cleaning and gauge check)
R1-LT	Recondition IRRROMETER LT or MLT (includes new tip, stopper, complete cleaning and gauge check)
R2	Repair Gauge (R, SR, TG)
R2-LT	Repair Gauge (LT, MLT)
R3	Re-Tip IRRROMETER only
1008	New Gauge

1008-LT	New LT Gauge
1008-MLT	New MLT Gauge New Body (less gauge)
EXTEND	Extend IRRROMETER
RHVP	Recondition Hand Vacuum Pump (plus parts)
TRADE-IN	Trade-In Plan (exchange old for new) discount on new
CONVERT	Convert Model "R" to "SR" (replaceable tip) (add to recondition or re-tip cost above)

Ship via **UPS** prepaid to: 8835 Philbin Ave., Riverside, CA 92503
NOTE: Do **NOT** use street address for any shipments via the U.S. Postal Service.

951/689-1701



www.IRRROMETER.com

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Weight and Measurement Information

IRROMETER Net Weights

LENGTHS	6 in. (15 cm)	12 in. (30 cm)	18 in. (45 cm)	24 in. (60 cm)	36 in. (90 cm)	48 in. (120 cm)	60 in. (150 cm)
	.383 kg .844 lb.	.439 kg .968 lb.	.496 kg 1.09 lb.	.553 kg 1.22 lb.	.666 kg 1.47 lb.	.780 kg 1.72 lb.	.893 kg 1.97 lb.
SSAT Tubes	.080 kg .176 lb.	.115 kg .254 lb.	.150 kg .331 lb.	.185 kg .408 lb.	.255 kg .562 lb.	.325 kg .717 lb.	.395 kg .871 lb.

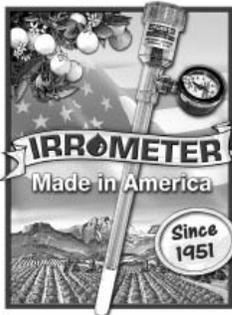
200SS	WATERMARK Sensor .....	.071 kg	.157 lb.
30-KTCD-NL	WATERMARK Meter .....	.341 kg	.752 lb.
WEM, WS1 or WEM-B	WATERMARK Modules .....	.23 kg	.5 lb.
900M	WATERMARK Monitor	2.16 kg	4.76 lb.
MHS	WATERMARK Multiple Hydrozone System	4.99 kg	11.0 lb.
W-MHS	WATERMARK Wireless Multiple Hydrozone System ..	5.22 kg	11.5 lb.
975-N	IRROmesh Node .....	.151 kg	.333 lb.
975-B	IRROmesh Base Module .....	.151 kg	.333 lb.

Accessory Net Weights

	KG.	LB.
1001 Service Unit .....	.484	1.07
1002 Test Pump Service Unit .....	.654	1.44
1004 IRROMETER Fluid .....	.085	.187
1005 Monthly Chart (100) .....	.128	.28
1012 Slide Hammer	14.97	33.00
1013 Coring Tool Kit	1.36	3.00
1014 Auger Tool Kit	1.36	3.00
1017 WATERMARK Insertion Tool	1.36	3.00
Gauge .....	.170	.375
Display Board	2.750	6.06



Available upon request.



Warranty: The IRROMETER COMPANY warrants its products against defective workmanship or materials under normal use for one year from the date of purchase. Defective parts will be replaced at no charge for either labor or parts if returned to the manufacturer during the warranty period. The seller's or manufacturer's only obligation shall be to replace the defective part and neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or inability to use the product. This warranty does not protect against abuse, shipping damage, neglect, tampering or vandalism, freezing or other damage whether intentionally or inadvertently.

Optimizing Irrigation... Maximizing Conservation... Worldwide... Since 1951

IRROMETER COMPANY, INC.

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Riverside, California 92503

Mailing Address:
P.O. Box 2424
Riverside, California 92516-2424

Phone: **951/689-1701**
Fax: **951/689-3706**
Email: **sales@IRROMETER.com**

LITHO U.S.A. (11/12) #9wo

