WESCOR ENVRONMENTAL PRODUCTS



WESCOR, INC ENVIRONMENTAL PRODUCTS DIVISION





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ORDER ACCEPTANCE TERMS

Biophenometer®, Datapod®, OMNIDATA®, Polycorder®, DataLoggers™, DPX Series™, EasyLogger™, EasyTools™, Electronic Notebook™, PolyTools™, DryerBox™, PowerBox™, Quick-One™, VandalBox™, Vapro™, and Weather-One™ are the recognized trademarks of Wescor, Inc USA;. Dataplus™ is the recognized trademark of Field Data Solutions, Inc., USA. Other trade names used in this manual may be the trademarks of their respective owners, used here for information only.

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W E S C O R ' S E N V I R O N M E N T A L W O R L D



Electronic Notebook[™]



Field Notes Recording

Electronic Notebook

Polycorder 600 Series Electronic Notebook

The 600 Series is a non-DOS handheld computer designed for entering field notes via its keyboard or electronically via a bar code wand/gun or digital caliper/scale. Write your own software using the PolyTools programmer's software or order the packages below which include Dataplus software. The Dataplus software allows you to specify data entry templates that resemble the rows, columns and column headings used in PC Spreadsheet programs. You can designate data validation checks and perform calculations on data. A nylon field carrying case, with neck straps, is also included when you order the complete packages below. (See page 40 for the 720 Series with 10 analog input channels.)

SPECIFICATIONS

Processor:	Hitachi 64180; 3 MHz speed; 6 MHz crystal
Programming:	Polycode for optimized data collection
Memory:	Choice of 128K to 448K CMOS static RAM
Power:	User replaceable, NICAD battery pack; approximately 40 hours of continuous operation. 110V charger included
Communications:	25 pin RS-232 serial port; integrated digital input/output section
Digital I/O:	4 lines of parallel input; 3 lines of parallel output; 5VCMOS signal levels
Keyboard:	Sealed membrane; tactile response; 21 keys; all alphanumeric keys available via shift keys
Display:	64 character; 4 line x 16 characters each
Environment:	-4 to 122 °F (-20 to 50 °C); sealed against accidental drops into water
Size:	4" W x 8" L x 2.1" D (20.32 x 10.16 x 5.33 cm) weight: 1 lb. 13 oz (0.822 kg)





ENVIRONMENTAL

WESCOR

PRODUCTS

Model: PC600-128P Package: 128K RAM; nylon case; Dataplus software

Model: PC600-256P Package: 256K RAM; nylon case; Dataplus software

Model: PC600-448P Package: 448K RAM; nylon case; Dataplus software

Model: PC600-12801 128K RAM; no case; no software

Model: PC600-25601 256K RAM; no case; no software

Model: PC600-44801 448K RAM; no case; no software

Model: PA-008 Nylon field case

Model: PA-009AT RS-232 COM cable: 9 pin

Model: PA-630LT PolyTools LT, programmer's software aide

Model: PR-004 Replacement NICAD battery pack

Sensors Summary of all Sensors

Note: All sensors are available with: bare-end wires, Cannon connectors or Conxall connectors. Some sensors may require a Cannon or Conxall connector to mate with a logger which has that type of connection. Add CN or CX to the sensor model number when requesting a sensor with these special connectors.

SENSOR	PAGE	DESCRIPTION	logger Bio	MODEL: CX6	DP-EPR	DPX	DPXc	DPXe	EL-924	PKG. CODE
BAROI	METRI	C PRESSURE								
S-470	4	Barometric Pressure	NO	NO	NO	NO	NO	YES	YES	S

LEAF WETNESS or MOISTURE DETECTION

S-460	6	Coated: attaches to a leaf	NO	NO	YES	NO	NO	NO	YES	q
S-465	6	Un-coated: attaches to a pole	NO	NO	NO	YES	YES	YES	YES	r

PRECIPITATION (rain)

S-160	7	8.0" Orifice; top screen	NO	YES	YES	YES	YES	YES	YES	i
S-161	7	6.5" Orifice; bottom screen	NO	YES	YES	YES	YES	YES	YES	j
S-162	8	10.0" Orifice; aerodynamic	NO	YES	YES	YES	YES	YES	YES	k
S-163	9	10.0" Orifice; stainless steel	NO	YES	YES	YES	YES	YES	YES	K

RELATIVE HUMIDITY & TEMPERATURE

S-115	11	Custom Vaisala RH/T	NO	YES	NO	NO	NO	NO	YES	f
S-125	11	Custom Rotronic RH/T	NO	YES	NO	NO	NO	NO	YES	g
S-130	12	Custom Vaisala RH/T	NO	YES	NO	NO	NO	NO	YES	h

SOIL MOISTURE (see also WATER POTENTIAL)

S-270	13	Custom Watermark	NO	NO	NO	NO	NO	NO	YES	0
S-271R	14	Gypsum Block	NO	NO	NO	NO	NO	NO	YES	р
S-272	15	Custom Aqua-Tel	NO	NO	NO	NO	NO	NO	YES	Р
S-273	14	Custom Gro-Point	NO	NO	NO	NO	NO	YES	YES	¶

SOLAR OR NET RADIATION

S-221	16	Quantum - PAR	NO	YES	NO	NO	NO	NO	YES	1
S-225	16	Solar Radiation	NO	YES	NO	YES	YES	YES	YES	m
S-231	17	Silicon Pyranometer	NO	YES	NO	NO	NO	NO	YES	n
S-232	17	Thermopile Pyranometer	NO	YES	NO	NO	NO	NO	YES	@
S-240	18	Net Radiometer	NO	YES	NO	NO	NO	NO	YES	#

Sensors

Summary of all Sensors

SENSOR	PAGE	DESCRIPTION	logo Bio	GER MODEL: CX6	DP-EPR	DPX	DPXc	DPXe	EL-924	PKG. CODE
TEMPE	ratui	RE								
S-060	19	Thermistor Temp (air, soil, water)	YES	NO	YES	NO	NO	NO	YES	d
S-061	19	Linear Temp (air, soil, water)	NO	YES	NO	YES	YES	YES	YES	D
WATER	LEVE	L								
S-70(XX) 20	PTX Transmitter: 4-20 mA	NO	NO	NO	NO	NO	YES	YES	t
S-70H	20	HazMat version	NO	NO	NO	NO	NO	YES	YES	t
S-75(XX) 21	PTX Transducer: 0-5V	NO	NO	NO	YES	YES	YES	YES	u
WATER		LITY								
S-WCN	23	Conductivity: 4-20 mA	NO	NO	NO	NO	NO	YES	YES	x
S-WDO	23	Dissolved Oxygen: 4-20 mA	NO	NO	NO	NO	NO	YES	YES	у
S-WPH	23	pH: 4-20 mA	NO	NO	NO	NO	NO	YES	YES	w
S-WTP	23	Temperature: 4-20 mA	NO	NO	NO	NO	NO	YES	YES	e
WATER	TURE	BIDITY								
S-710(X)	24	Turbidity: 4-20 mA	NO	NO	NO	NO	NO	YES	YES	v
WIND	SPEEC) & DIRECTION (anemo	meter)							
S-045	28	Wind Vane & 3 Cup	NO	YES	NO	NO	NO	NO	YES	b
S-055	28	Dlxe. Wind Vane & 3 Cup	NO	YES	NO	NO	NO	NO	YES	с
S-055SP	28	Dlxe. Wind Speed only	NO	YES	NO	NO	NO	NO	YES	c
	D:								2014	
RIO	Biop	henometer (X6	Datapod CX6	Series		DP-EPK	Datapod EP	KOM Serie	S

DPX in compact package

DPXe

DPX with expanded power

EL-924 EasyLogger 924D including the EL-924H and EL-924N packaging options

DPXc

DPX

Datapod DPX Series



Model: S-470 Barometer

Barometric Pressure

Monitoring

S-470 Barometer

This compact barometer has low power consumption, which makes it ideal for use with our data loggers. It has excellent long-term stability and is ideal for agriculture, hydrology or general environmental pressure monitoring applications.

SPECIFICATIONS

Processor:Range:	600 to 1060 hPa (1 hPa = 1 mbar)
Temperature Range:	-40 to 60 °C
Accuracy:	± 0.5 hPa at room temperature ± 0.1 hPa stability per year
Input Power:	10 to 30 V DC
Output Signal:	0 to 5V DC or 0 to 2.5V
Response time:	0.3 seconds
Current Consumption:	< 4 mA
Dimensions:	60.0 x 87.6 x 21.8 cm
Accessories:	Should be housed in a NEMA 4X rated enclosure (p.48)
Data Loggers:	Works with the Datapod CX6 Series (p.31); Datapod DPXe Series (p.34), or EasyLogger 900 Series models (p.36-38)



Model: DPXe-BP DPXe-alkaline batteries; S-470 barometer

Model: DPX-CC RS-232 com cable: 9 pin

DPXe-BP Barometric Pressure Recording System

This system uses the Datapod DPXe Series logger (see p. 34) and the S-470 Barometer (this page). The barometer is housed inside the NEMA 4X rated enclosure of the DPXe. Choose alkaline battery or the optional solar charged lead-acid battery system. Communications software is included. This system is dedicated to taking only barometric pressure readings. See also our expanded weather system with barometer, page 27, and the EasyLogger EL-924 models (p.36-38).

Growing Degree Day

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Monitors

The Biophenometer is a Growing Degree Day & Chilling Hour Accumulator. It samples air temperature and calculates a new degree day total every ten minutes across five user-selectable temperature ranges. It accumulates the number of hours spent below a base temperature of "chilling hours." It can accumulate chilling hours and degree days simultaneously, and calculate the number of hours between two temperatures. Choice of removable or pre-attached temperature probes. Choice of Celsius or Fahrenheit versions. Common applications include crop maturity forecasting, pest management, crop water use estimation, plant dormancy monitoring, freeze damage estimation, and energy consumption estimation.

SPECIFICATIONS

Enclosure:	NEMA 4X Rated, sealed case which houses the logger, the battery, and sensor connector
Memory:	Stores up to 5 separate values in RAM
Display:	Liquid Crystal
Power:	User replaceable, eight alkaline "AA" batteries (not included) operate the logger and sensor for up to 9 months
Accuracy:	± 0.5 °C (± 1 °F)
Size:	3.3" W x 6.3" L x 2.3" D (8.4 x 16.0 x 5.9 cm)
Weight:	20 ounces (plus sensor)
Range:	-30 to 60 °C (0 to 140 °F); 0 to 100% Relative Humidity
Data Retrieval:	By simply pressing a button on the side of the case, you can view data on the Biophenometer's easy-to-read display
Sensor:	S-060 or S-060CN Thermistor (p.19)



Biophenometer®:

Phenological Development Monitor A small battery-operated microcomputer designed to measure temperature. Data collected by the Biophenometer can be used to predict the phenological development of plants and insects.

Model: BIO51-TP03

(specify degrees C or F) with temperature probe pre-attached: up to 3 feet of cable

Model: BIO51-TP10

(specify degrees C or F) with temperature probe pre-attached: up to 10 feet of cable

Model: BIO51-TP25

(specify degrees C or F) with temperature probe pre-attached: up to 25 feet of cable

Model: BIO51P

(specify degrees C or F) with a Cannon connector; requires separate probe

Model: S-060CN

Temperature Probe with Cannon connector choose cable lengths of 10, 25, 50 or 100 feet





Model: S460 Leaf-mounted Leaf Wetness Sensor

---CN Adds a Cannon connector cable

Leaf Wetness or Moisture Detection

Monitoring

S-460 Leaf-Mounted Leaf Wetness Sensor

The S-460 sensor features a chemically treated, gold plated, printed circuit which changes its electrical resistance proportional to moisture accumulation on the sensing surface. The sensor coating has been formulated to have the same characteristics as a leaf. As temperature falls, the sensor will reach the dew point at the same temperature a leaf would. The S-460 will absorb radiant energy at the same rate as a leaf, giving similar dry-off times. The plastic and metal portions of the sensor allow residual heat to be dissipated rapidly, allowing for cooling and warming rates similar to leaves. Applications: studying the effects of vegetative wetting to aid in determining crop harvest times and the effectiveness of applied pesticides and fungicides. By far the best leaf wetness sensor available on the market.

SPECIFICATIONS

Excitation Required:	4V AC
Sensor Output:	Resistance varies from above 3,000,000 ohms when dry to around 1,000 ohms when wet
Sensor Range:	0 to 100% of the dew range. Frost and freezing conditions will not harm the sensor; however, no moisture will be recorded under such circumstances
Response Time:	0 to 100% relative dew within six minutes
Cable:	10 feet; model S-460 has 3 bare wire ends; model S-460CN has the Cannon connector option
Data Loggers:	Works with the Datapod DP223 (p.35); and the EasyLogger 900 Series (p.36-38)

S-465 Pole-Mounted Leaf Wetness or Moisture Detection Sensor

The S-460 sensor detects the presence of surface moisture and can be used to calculate the duration of wetness. When moisture is present, the sensor can detect an electrical resistance change between the gold-plated elements of the grid. Coupled with soil temperature and soil moisture sensors it is an ideal tool to determine the proper time for planting. Coupled with a rain gauge sensor it detects the onset of precipitation even when it is not significant enough to be measured as rain.

SPECIFICATIONS

Excitation Required:	5V DC
Sensor Output:	0-5V (Dry to Wet)
Sensor Range:	0 to 100% of the dew range. Frost and freezing conditions will not harm the sensor; however, no moisture will be recorded under such circumstances
Cable:	16 feet; model S-465 has 3 bare wire ends; model S-465CN has the Cannon connector option
Data Loggers:	Works with the Datapod DPX models (p.32-34) EasyLogger 900 Series (p.36-38)



Model: S465 Pole-mounted Leaf Wetness Sensor

--CN Adds a Cannon connector cable

Precipitation

Rain Monitoring

S-160 Conventional Tipping Bucket Rain Gauge

The S-160 sensor has an 8.0" orifice, top-screened funnel. No separate mounting accessories are offered for this model. For best results, mount it at or near ground level, allowing enough room underneath for the measured water to drain. This sensor normally is mounted onto a concrete pad, which helps to prevent vegetation from growing in or around the sensor parts. It also provides a solid surface which helps in leveling the sensor. A built-in level is included.

SPECIFICATIONS

Orifice size:	8.0 inch funnel opening
Screen:	Full screen on top of the funnel opening
Materials:	Bucket and supports are made of durable PVC; funnel and base plate are of anodized aluminum, powder coated
Resolution:	0.01 inch (0.25mm)
Cable:	25 feet; 2 wire, bare end or optional Cannon connector
Data Loggers:	Works with the Datapod CX6 Series (p.31); DP101 or DP230 (p.35); DPX models (p.32-34); or EasyLogger 900 Series models (p.36-38)

S-161 Conventional Tipping Bucket Rain Gauge

The S-161 sensor has a 6.5" orifice, bottom-screened funnel. The S-161-SMB shelf mounting bracket option allows you to attach the sensor to a wooden or metal pole and position it a few inches or many feet above the ground without the need of a concrete pad. The S-161-S shelf option attaches to the FA-SMA sensor mounting arm option (see p.50) which allows this sensor to be mounted along with the S-045 wind, S-225 solar, S-465 leaf wetness sensors, and the FA-116 sensor shield all on one assembly arm. A built-in level is included.

SPECIFICATIONS

Orifice size:	6.5 inch funnel opening
Screen:	Small screen sits at the bottom of the funnel
Material:	Rugged plastic housing, funnel, screen, internal buckets and supports
Resolution:	0.01 inch (0.25mm)
Cable:	16 feet; 2 wire, bare end or optional Cannon connector
Data Loggers:	Works with the Datapod CX6 Series (p.31); DP101 or DP230 (p.35); DPX models (p.32-34) EasyLogger 900 Series models (p.36-38)

W E S C O R E N V I R O N M E N T A L P R O D U C T S



Model: *S-160* 8.0" orifice Tipping Bucket Rain Gauge

Model: S-161 6.5" orifice Tipping Bucket Rain Gauge

— CN

Adds a Cannon connector cable to either sensor



Model: S-161SMB Shelf and Mounting Bracket : S-161 to a tower or pole

Model: S-161S

Shelf to attach S-161 to FA-SMA Sensor Mounting Arm (p.50)



Precipitation

Monitoring

S-162 Aerodynamic Tipping Bucket Rain Gauge

Conventionally shaped rain gauge sensors cause an updraft when wind hits the side of the housing which accelerates the air flow and causes increased turbulence over the top of the funnel. The S-162 aerodynamic rain gauge has been designed to minimize this effect by presenting a reduced side area to the wind thereby directing the wind down, away from the top funnel and into the narrow neck of the sensor. Its large, 10.0 inch orifice further ensures a more accurate rain sample than does a gauge with a smaller funnel opening. The gauge was designed in Europe by the Institute of Hydrology, Wallingford, UK and has been manufactured and marketed under license world-wide for more than ten years. The corrosion proof housing flexes to help prevent damage when hard objects are blown into it. Use the optional steel mounting plate for ease of leveling and to keep vegetation out of the sensor. A built-in level is included.

SPECIFICATIONS

Orifice size:	10.0 inch funnel opening
Screen:	Replaceable, vertical screen in the bottom of the funnel; filters out even small debris
Material:	Vacuum-formed, UV resistant plastic for durable, corrosion- free, low maintenance
Resolution:	0.01 inch (0.25mm); optional 0.20 mm (0.00785 inches) of rain per tip
Sensor Type:	Tipping bucket, contact closure reed switch with built-in resis- tor. Maximum current allowed through the reed switch: 300 mA, noninductive
Temp. Range:	-30 to 70 °C (-22 to 158 °F)
Cable:	16 feet; waterproof twisted pair, non-polarized, 2 wire, bare end or optional Cannon connector cable
Size and Weight:	12.5 inches high (31.5cm) x 10.0 inches wide (25.4cm); 2 lbs (1,000 gms)
Data Loggers:	Works with the Datapod CX6 Series (p.28); DP101 or DP230 (p.35); DPX-models (p.32-34); or EasyLogger 900 Series models (p.36-38)

In choosing a site to install your rain gauge, avoid nearby obstructions such as trees or buildings. The distance from such objects should be twice the height of the obstruction. The S-162 rain gauge can be mounted on top of a flat roof instead of on the ground; however, keep in mind that the higher a rain sensor is mounted in the air, the more wind will interfere with the rain samples collected.



S-162 w/ MP

Model: S-162 Custom, Aerodynamic Rain Gauge

- CN Adds a Cannon connector cable

Model: S-162MP Ground Mounting Plate for S-162

Model: S-162KIT Spare: filters/caps (2); thumb screws (3)

Precipitation

Rain Monitoring

S-163 Aerodynamic Tipping Bucket Rain Gauge

Like the S-162 aerodynamic rain gauge, the S-163 model has been designed to minimize the adverse effects of wind. Its large, 10.0 inch orifice further ensures a more accurate rain sample than does a gauge with a smaller funnel opening. The heavy-gage stainless steel and aluminum construction of the S-163 model makes it ideal for use in the harshest environments or where a heater is needed for collecting samples in the winter months. A built-in level is included.

SPECIFICATIONS

Orifice size:	10.0 inch funnel opening; 500 sq.cm. collector
Screen:	Replaceable, vertical screen in the bottom of the funnel; filters out even small debris
Material:	Main body: 2mm thick, spun stainless steel; Base: marine grade aluminum; white powder coated paint finish
Resolution:	0.20 mm of rain per tip, with an accuracy of $\pm 1\%$ at a capacity of 25 mm (1 inch) per hour to $\pm 5\%$ at a maximum capacity of 120 mm (4.75 inches) per hour
Sensor Type:	Tipping bucket with a contact closure reed switch with built- in resistor. Contact rating: 50 Watts; Supply voltage: 100 V DC maximum; Supply current: 1 A maximum
Heater Option:	A 12V heater option is available in. It includes a controller, heater, temperature sensor, and power connection parts (power items sold separately). The controller will activate the heater when temperature inside the gauge drops to 1 °C and will remain on until 4 °C is reached.
Power:	Non-heated model requires no separate power. The heated model requires 12V regulated power. We offer 110V-220V converters; solar panels and lead-acid batteries (p.42)
Size and Weight:	12.5 inches high (31.5cm) x 10.0 inches wide (25.4cm). Weight: 6 Kg (13.23 lbs.)
Data Loggers:	Works with the Datapod CX6 Series (p.31); DP101 or DP230 (p.35), DPX models (p.32-34) or EasyLogger 900 Series models (p.36-38)

Model: S-163(X) Non-heated, stainless steel RG

Model: S-163H RG with 12V heater option

W E S C O R E N V I R O N M E N T A L P R O D U C T S



DPXc-v5.RT inside the S-162 sensor base

Precipitation

Monitoring

Rain Recording Systems

These systems feature the small, DPXc compact data logger (p.33), which allows mounting of the logger completely inside most of our larger rain gauge sensors. Models are available with or without a built-in temperature sensor mounted to the outside of the logger's enclosure. Models are also available with a moisture detection or water level sensor. Most logger versions are available with optional Cannon connections or cables for connecting to the sensors.

LOGGER SPECIFICATIONS

Memory:	10,000 data points. Choose instantaneous or Min-Max-Ave reports
Power:	User replaceable, 9V battery (alkaline or lithium)
Communications:	RS-232 COM port, 9 pin
Size:	2.56" W x 3.70" L x 3.19" D (65 x 94 x 81 mm) plus the pro- trusions of temp probes and/or connectors

SENSOR SPECIFICATIONS

Rain Gauge:	Choose: S-160; S-161, S-162 or S-163 models (p.7-9) for mounting the logger inside of the sensor using screw-post ter- minal connectors on the outside of the logger enclosure; or choose any rain sensor model when mounting the logger out- side of the rain gauge sensor enclosure using cable connec- tions
Temperature:	Built-in, stainless steel probe; or optional S-061 linear sensor (p.16) with cable connections

Model: DPXc-v1.RG(XX)

Compact rain gauge logger (specify rain gauge sensor)

Model: DPXc-v2.RL(XX)

Compact logger with S-465 moisture detection sensor plus choice of rain sensor; with cable connections

Model: DPXc-v2.RT(XX)

Compact logger with S-061(10) linear temperature sensor plus choice of rain sensor; with cable connections

Model: DPXc-v2.RW(XX)

Compact logger with S-75(XX) water level sensor (specify depth range and cable length) plus choice of rain sensor; with cable connections

Model: DPXc-v3.RL(XX)

Compact logger with S-465 moisture attached via cable; choice of rain sensor; with terminal post connections; for installation inside a rain sensor

Model: DPXc-v3.RT(XX)

Compact logger with S-061(10) temperature sensor attached via cable, choice of rain sensor with terminal post connection; for installation inside a rain sensor

Model: DPXc-v4.RG(XX)

Compact rain gauge logger, choice of rain sensor with terminal post connection; for installation inside a rain sensor

Model: DPXc-v5.RT(XX)

Compact logger with temperature sensor built into the logger case; choice of rain sensor with terminal post connection; for installation inside a rain sensor

-CN

Substitutes a Cannon connector(s) instead of cable gland seals; sensors must have mating Cannon connectors



DPXc-v2.RT with cable connections to the S-061 & S-162 sensors



DPXc-v2. RL with cable connection to the S-161 sensor

Relative Humidity

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Monitoring

S-115 Mid-Range Relative Humidity & Temperature

This very small and reliable sensor incorporates a custom version of the Vaisala 50Y sensor, which never needs calibration. Simply replace a plug-in sensor element when needed.

SENSOR SPECIFICATIONS

RH Range:	0 to 100% RH
RH Accuracy:	0 to 10% RH = ±5% at 20 °C 10 to 90% RH = ±3% at 20 °C 90 to 100% RH = ±5% at 20 °C
Temp. Range:	-10 to 60 °C
Temp. Accuracy:	±0.6°C at 20 °C
Input Power:	7 to 28V DC
Current Consumption:	2 mA
Dimensions:	12mm x 69mm (0.48" x 2.76"); 9 ft cable
Accessories:	Uses FA-116S sensor shield
Data Loggers:	Works with the Datapod CX6 Series (p.31); EasyLogger 900 Series models (p.36-38)



Model: S-115 Custom Vaisala 50Y RH/T

---CN Adds a Cannon connector cable

Model: FA-116S Sensor shield for S-115

S-125 High-Range Relative Humidity & Temperature

This sensor has high accuracy in the 10-100% RH range and carries a three year warranty. We recommend that this sensor come in for calibration every two years.

SENSOR SPECIFICATIONS

RH Range:	0 to 100% RH
RH Accuracy:	0 to 10% RH = ±3% at 20 °C 10 to 90% RH = ±2% at 20 °C 90 to 100% RH = ±2% at 20 °C
Temp.Range:	-20 to 60 °C
Temp. Accuracy:	±0.6°C at 20 °C
Input Power:	5 to 28V DC
Current Consumption:	3.5 mA
Dimensions:	15 x 208mm (0.38 x 5.28 in); 6.5 ft cable
Accessories:	Uses FA-130R sensor shield
Data Loggers:	Works with the Datapod CX6 Series (p.31); or EasyLogger 900 Series models (p.36-38)



Model: S-125 Custom Rotronic OEM RH/T

----CN Adds a Cannon connector cable

Model: FA-130R Sensor shield for S-125



Model: S-130 Custom Vaisala 45HMP RH/T

-CN Adds a Cannon connector cable

Model: FA-130V Sensor shield for S-130

Relative Humidity

Monitoring

S-130 Low Range Relative Humidity & Temperature

This sensor has high accuracy in the 0-10% RH range. It incorporates a custom version of the Vaisala 45HMP sensor. We recommend that this sensor come in for calibration every two years.

SENSOR SPECIFICATIONS

RH Range:	0 to 100% RH
RH Accuracy:	0 to 10% RH = $\pm 2\%$ at 20 °C 10 to 20% RH = $\pm 3\%$ at 20 °C
	90 to 100% RH = \pm 3% at 20 °C
Temp Range:	-40 to 60 °C
Temp Accuracy:	± 0.2 °C
Input Power:	7 to 35V DC
Current Consumption:	<4 mA
Dimensions:	24 x 240mm (0.94 x 9.45 in.); 12 ft cable
Accessories:	Uses FA-130V sensor shield
Data Loggers:	Works with the Datapod CX6 Series (p.32); or EasyLogger 900 Series models (p.37-39)

Relative Humidity & Temperature Recording System

This system incorporates the Datapod CX6 logger (p.31) and your choice of sensors: S-115; S-125; or S-130 (p.11-12). The package includes the mating sensor shield, logger software and RS-232 communications cable. Choose from alkaline battery power or lead-acid battery with either a solar or AC recharger. See also Weather monitoring packages (p.26-27).

Model: CX6-RH-f

Alkaline package; S-115 sensor; FA-116S shield

Model: CX6-RH-g Alkaline package; S-125 sensor; FA-130R shield

Model: CX6-RH-h Alkaline package; S-130 sensor; FA-130V shield

-CN Adds a Cannon connector to logger & sensor

Model: PWR-PBS Solar PowerBox option for above packages

Model: PWR-PBW

110V PowerBox option for above packages

Model: PWR-538A 220V Adapter for 110V PowerBox

Field Accessories: See pages 46-47 (for met poles and other options).

Soil Moisture

Monitoring See also: Water Potential Monitoring

S-270 Custom Watermark Soil Moisture

This sensor estimates soil suction, or water potential, rather than water content of the soil. It consists of two concentric electrodes buried in a special reference matrix material that is held in place by a synthetic membrane. The matrix material neutralizes the effects of soil salinity and is not affected by freezing temperatures; so, it may be left in the soil during the winter. The S-270 sensor has been specifically modified for use with our data logger. The S-270X version is unmodified for use with the non-recording meter. Typical applications include irrigation scheduling, as well as agricultural and soil research. Sensors should be located in the effective root zone of the crop. If readings representing a large volume of soil are needed, sensors can be "networked" into clusters of four or nine, yielding an average value. This sensor works best at the wet end of the moisture spectrum (around 4 bars maximum). For sensors that work at the drier end, see our psychrometry systems (p.25).

W E S C O R E N V I R O N M E N T A L P R O D U C T S



Model: S-270 Custom Watermark with sensor protection cable

Model: S-270X

without sensor protection in cable

Model: S-270

Meter Non-recording meter for S-270X sensors

SENSOR SPECIFICATIONS

Material:	Concentric electrodes in synthetic membrane and an internal gypsum tablet, housed in a perforated stainless steel case
Excitation:	4V AC
Output: Accuracy:	Linear from 10 to 200 centibar (kPa) $\pm 1\%$ over linear range; $\pm 10\%$ for non-calibrated sensors over non-linear range. Accuracy improves if the sensor is cali- brated using the pressure plate or gravimetric techniques
Dimensions:	0.75" x 3.0" (2.0 x 7.6 cm)
Cable:	S-270 = 20 feet; $S-270X = 10$ feet
Loggers / Meters:	S-270 works with the EasyLogger 900 Series models (p.36-38); S-270X works with the Watermark, non-recording, Meter





Model: S-271R-(XX) With resistor (specify cable length: 6', 25' or 50') Note: 6' lengths sold only in lots of 10 ea.

Model: S-271X-(XX) Without resistor (specify cable length: 6', 25' or 50') Note: 6' lengths sold only in lots of 10 ea.

Model: S-271 Meter Non-recording meter for S-271X sensors

Soil Moisture

Monitoring See also: Water Potential Monitoring

S-271R Gypsum Soil Moisture Block

This sensor estimates soil suction, or water potential, rather than water content of the soil. It is a gypsum block sensor cast around two concentric, stainless steel electrodes. While it may last several years, annual replacement is recommended in areas with acidic soils, high moisture content or where it is left out to freeze. A resistor is included with the S-271R models for compatibility with our data logger. The S-271X models have no resistor and are for use with the non-recording meter. Three cable-length options as well as custom-lengths are offered. Crops with root zones greater than 12 inches generally require two or more sensors. If readings representing a large volume of soil are needed, sensors can be "networked" into clusters of four or nine, yielding an average value. This sensor works best at the wet end of the moisture spectrum (around 10 bars maximum). For sensors that work at the drier end, see our psychrometry systems (p.25).

SENSOR SPECIFICATIONS

Material:	Gypsum block cast around two concentric electrodes
Excitation:	4V AC
Output:	30-1,000 centibar (kPa)
Dimensions:	0.88" x 1.25"
Cable:	6 ft, 25 ft or 50 ft options
Loggers/Meters:	S-271R works with the EasyLogger 900 Series models (p.36- 38); S-271X works with the Delmhorst, non-recording, Meter



Model: S-273(X) Standard range; specify 6 or 30 ft. cable

Model: S-273E(X) Extended range; specify 6 or 30 ft. cable

S-273 Custom Gro-Point Soil Moisture

The sensor measures changes in the dieletric constant, which is directly related to soil water content. The probe consists of a small electronic module encapsulated for environmental protection with 8 inch probes attached at one end. Typically used in pairs, one shallow (1/4 the rooting depth) and one deep (3/4 the rooting depth). Sensor output is linear between 5 and 45% soil moisture, so no calibration is required. An extended range model is available which performs better in high clay content soils.

SENSOR SPECIFICATIONS

Range:	5 to 50% soil moisture (volumetric)
Material:	Stainless steel rods and epoxy encapsulated probe head
Excitation:	9-18V DC@ 15mA
Accuracy:	±3% absolute
Dimensions	4 x 2 x 11 inches
Cable:	6 or 30 feet standard
Loggers:	Works with the Datapod DPXe Series (p.34) or the Easy Logger 900 Series (p.36-38)

Soil Moisture

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Monitoring

S-272 Custom Aqua-Tel Soil Moisture/Temperature

This sensor measures changes in the dielectric constant, which is directly related to soil water content. The probe consists of a small electronic module encapsulated for environmental protection with a choice of 29" or 5" long sensors attached to one end, typically used in pairs: one shallow (1/4 the rooting depth); and one deep (3/4 the rooting depth). Calibration data for various soil types is included. Optional temperature measurements are taken at the base of the sensor.

SENSOR SPECIFICATIONS

Soil moisture range:	Air dry to saturation
Sensor material:	Exposed metal is stainless steel: choose the 29 inch length for the best accuracy; choose the 5 inch length for its size advan- tage
Excitation:	12V DC ±20% @ 40mA
Output:	Soil moisture: 0-5V Temperature (optional): 5 mV/°C
Overall dimensions:	34" x 3" x 1" or 10" x 3" x 1"
Cable:	25 feet
Loggers:	EasyLogger 900 Series models (p.36-38)



Model: S-272 Soil moisture only

Model: S-272-T Soil moisture plus soil temperature

Soil Moisture Measuring System

This system features the EasyLogger EL-924D logger packaged for outdoor use with your choice of power options. Up to five of the S-272 sensors may be used on the system; or up to ten of the S-273 models (p.14).

SPECIFICATIONS

Logger packages:	Choice of any of the EL-924N or EL-924H packages (p.38)
Sensor Options:	Choose any combination of the two S-272 models, keeping
	within the limits of the logger; or choose the S-273 models



Model: EL9N-128A-(XX) 128K DSP; alkaline batteries; (specify sensors)

Model: EL9N-128S-(XX)

Same but with 7 ah lead-acid battery and solar panel charger

Model: EL9N-128W-(XX)

Same but with 7 ah lead-acid battery and 110V AC charger



Model: S-221 PAR Lite Quantum sensor; includes MF —CN Adds a Cannon connector cable



Model: FA-SMA-SR Pole sensor mounting arm



Model: S-225 Standard Solar Sensor; includes MLF

—CN Adds a Cannon connector cable



Model: FA-SMA Pole sensor mounting arm

Solar Radiation

Monitoring

S-221 PAR Lite Quantum

The S-221 sensor is designed to measure the wavelength range of light most important for plants, photosynthetically active radiation (PAR). Applications include agricultural meteorology, crop growth and greenhouse studies. The sensor can be used under all weather conditions, under a vegetation canopy or in a greenhouse. A mounting fixture is built-in. This sensor should come in for calibration every two years.

SENSOR SPECIFICATIONS

Sensor:	Silicon photodiode
Spectral range:	400 to 700 nm
Sensor range:	0 to 10,000 μmol s ⁻¹ m ⁻²
Sensitivity:	4-6 μ V/ μ mol s ⁻¹ m ⁻² (nominal)
Response time:	<0.1 sec
Temp. dependence:	<±0.1%/°C
Operating temp.:	-30 to 70 °C
Cable:	9 feet; custom sensor protection built-in; optional Cannon connector cable
Accessories:	FA-SMA-SR pole mounting arm
Data Loggers:	Works with the Datapod CX6 Series (p.31); or EasyLogger 900 Series models (p.36-38)

S-225 Standard Solar Radiation

This sensor measures solar radiation in watts per square meter and solar energy in Langleys. Diffuser element and housing are carefully designed for excellent cosine response. Silicon photodiode provides a good match to the solar spectrum. Two-piece housing minimizes radiation heating, allows convection cooling of the sensor, and prevents the trapping of water or dust. Includes mounting and leveling hardware.

SENSOR SPECIFICATIONS

Sensor:	Silicon photodiode
Spectral range:	400 to 1,000 nm
Sensor range:	0 to 1500 $Wm^{-2} \pm 5\%$
Operating temp.:	-30 to 60 °C
Cable:	16 feet; optional Cannon connector cable
Accessories:	Uses the FA-SMA pole mounting arm
Data Loggers:	Works with: Datapod DPX (p.32-34); Datapod CX6 Series (p.31); or EasyLogger 900 Series models (p.36-38)

Solar Radiation

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Monitoring

S-231 SP Lite Pyranometer

This sensor is designed to measure sun plus sky radiation in the visible wavelength range. This sensor should not be used under artificial light or plant canopies. A mounting fixture is built-in. It is recommended that this sensor be recalibrated every two years.

SENSOR SPECIFICATIONS

Sensor:	Silicon photodiode
Spectral range:	400 to 1,100 nm
Sensitivity:	100 µV/Wm -2 (nominal)
Max. irradiance	2,000 Wm ²
Response Time:	<1 sec
Temp. Dependence:	± 0.15%/°C
Operating Temp.:	-30 to 70 °C
Cable:	9 feet; optional Cannon connector cable
Accessories:	Uses the FA-SMA pole mounting arm
Data Loggers:	Works with the Datapod CX6 Series (p.31), or EasyLogger
	900 Series models (p.36-38)



Model: S-231 SP Lite Silicon Pyranometer; includes MF

---CN Adds a Cannon connector cable



Model: FA-SMA-SR Pole sensor mounting arm

S-232 Thermopile Pyranometer

This sensor is an ISO Secondary Standard pyranometer (World Radiometric Reference Standard traceable). It is slower in response time, but senses a wider wavelength range and is more stable than the S-231 model. A mounting fixture is built-in. Calibration is not required for up to five years.

SENSOR SPECIFICATIONS

Sensor:	Radial 64 thermocouple sensing element
Spectral range:	305 to 2,800 nm
Spectral sensitivity:	±5% (305 to 1,500 nm)
Sensitivity:	10 to 35 μ V/Wm ²
Response Time:	95% in 18 sec.
Stability:	<1% change/year
Operating Temp.:	-40 to 80 °C
Cable:	15 feet; optional Cannon connector cable
Accessories:	uses the FA-SMA pole mounting arm.
Data Loggers:	Works with the Datapod CX6 Series (p.31), or EasyLogger
	900 Series models (p.36-38)



Model: S-232 Thermopile Pyranometer; includes MF

----CN Adds a Cannon connector cable

Model: FA-SMA-SR Pole sensor mounting arm



Model: S-240 Net Radiometer

--- CN Adds a Cannon connector cable

Solar Radiation

Monitoring

S-240 Net Radiometer

This sensor measures solar and far infrared radiation balance which equals net or total radiation. The sensor has two halves: the top half measures solar and far infrared energy received from the entire hemisphere (180° field of view) while the bottom half measures the energy received from the soil surface. The bottom sensor readings are automatically subtracted from the top sensor readings and converted to one output signal. The resulting output represents the net radiation, which can be interpreted as the radiative energy that is absorbed by the soil surface.

SENSOR SPECIFICATIONS

Sensitivity:	$10 \mu\text{V} \text{ per Wm}^{-2}$
Stability:	$< \pm 2\%$ over a 1 year period
Response Time:	< 20 sec
Operating Temp.:	-30 to 70 °C
Cable:	9 feet
Data Loggers:	Works with the Datapod CX6 Series (p.31); or EasyLogger 900 Series models (p.36-38)



Model: CX6-SR-n CX6 logger; S-231 sensor; FA-SMA-SR

Model: CX6-ST-nD Adds the S-061 temp sensor & FA-116S shield

--- CN Adds Cannon connectors

Model: CX6-CC RS-232 com cable

Model: DA-MBP Aluminum pole mounting bracket plate kit

Solar Radiation & Temperature Monitoring System

This system uses the Datapod CX6 logger (p.31) along with the S-231 solar sensor (p.17) and FA-SMA pole sensor mounting arm. Add the S-061 temperature sensor (p.19) and you have a system for estimating evapotranspiration. See also our Weather monitoring systems (p.26-27); the EasyLogger 900 Series models (p.36-38) and the other solar sensor options (p.16-18).

Temperature

Monitoring

S-060 Thermistor Temperature Sensor (air, soil or water) All S-060 sensors are interchangeable without calibration. They are sealed for use in all environments. (See also p.23 for 4-20 mA sensor; and p.11-12 for relative humidity and temperature sensors.)

SENSOR SPECIFICATIONS

Material:	Fenwall thermistor in half-bridge configuration, encapsulated in a stainless steel casing; 3-wire, waterproof cable
Range:	-50 to 80 °C
Accuracy:	±0.25 °C
Excitation Required:	5V DC
Output Signal:	0 to 5V DC
Dimensions:	0.25" x 3.0"
Cable options:	Choice of cable lengths to 200 ft; choice of bare wire ends or with Cannon connector
Accessories:	FA-116S sensor shield for use in direct sunlight
Data Loggers:	Works with the Biophenometer (p.5); Datapod DP112 & DP212 models (p.35); or EasyLogger 900 Series models (p.36-38)

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PRODUCTS

Model: S-060(XX) Bare wire end version (specify cable lengths: 10, 25, 50, 100 foot or custom lengths)

---CN Adds a Cannon connector cable

Model: FA-116S Sensor shield for use in direct sunlight

S-061 Linear Temperature Sensor (air, soil or water) This sensor looks identical to the S-060 model except that the S-061 has a red shrink wrap "identification band". It is especially designed for our loggers which will not work with the long formulas required for use with thermistors. It must be pre-calibrated at the factory and recalibrated when attached to a logger. It is sealed for use in all environments.

SENSOR SPECIFICATIONS

Material	Analog temperature transducer encapsulated in a stainless
Waterial.	steel casing; 3-wire, waterproof cable
Range:	-55 to 150 °C
Accuracy:	±0.5°C (at -30 to 50 °C; 12V)
Operation Voltage:	4 to 30V DC range
Output Signal:	1 to 3V DC
Current Consumption:	400 μA @ 150 °C
Dimensions:	0.25" x 3.0"
Cable options:	Choice of cable lengths to 200 ft; choice of bare wire ends or with Cannon connector
Accessories:	FA-116S sensor shield for use in direct sunlight
Data Loggers:	Works with the Datapod CX6 (p.31); DPX Series models (p.32-34); or EasyLogger 900 Series models (p.36-38)



Model: S-061(XX) Bare wire end version (specify cable lengths: 10, 25, 50, 100 foot or custom lengths)

---CN Adds a Cannon connector cable

Model: FA-116S Sensor shield for use in direct sunlight



Model: S-70(XX) 4-20 mA PTX (specify depth range & cable length)

Model: S-70H(XX) Haz-Mat PTX (specify depth range & cable length)



Model: S-299CX(10) DryerBox with Conxall connector; up to 10' extra cable

Water Level

Monitoring

S-70(XX) PTX Series Water Level

This 4-20 mA pressure transmitter is ideal for applications where there is a high chance of radio or electrical interference. Its sensing element is sealed so that moisture which might enter the vent tube will not damage the sensor. An optional Haz-Mat version is housed in a thicker stainless steel casing. A highly accurate and reliable sensor for water monitoring in wells, lakes, streams, tanks, or weirs. Various depth ranges and cable lengths are available. The DryerBox with a Conxall connector option allows exchangeability of sensors with the same logger.

SENSOR SPECIFICATIONS

Material:	Stainless steel casing with silicon & epoxy to encapsulate the sensor and connections; micro- screened nose cap to protect the sensing element against silt, mud or sludge
Linearity & Hysteresis:	$\pm 0.1\%$ Full Scale
Overall Accuracy:	$\pm0.2\%$ (35 to 70 °F)
Over Pressure:	x 4; Burst Pressure x 10
Environment:	32 to 140 °F (0 to 60 °C)
Size:	0.75" x 8.0"
Cable:	Heavy polyurethane jacket; 3 wire, waterproof conductor cable 22AWG, foil shield with draw wire, internal polypro vent tube. Lengths to 500'
Depth Ranges:	01 PSI - Range: 0-3' 06 PSI - Range: 0-14' 12 PSI - Range: 0-28' 25 PSI - Range: 0-60' 65 PSI - Range: 0-150' Custom PSI ranges
Data Loggers:	Works with the Datapod DPXe models (p.34); or EasyLogger 900 Series models (p.36-38)

Water Level

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Monitoring

S-75(XX) PTX Series Water Level

This 0-5V pressure transducer is a low-cost, low-power water level sensor. Its sensing element is sealed so that moisture which might enter the vent tube will not damage the sensor. A highly accurate and reliable sensor for water monitoring in wells, lakes, streams, tanks, or weirs. Various depth ranges and cable lengths are available. The DryerBox with a Conxall connector option allows exchangeability of sensors with the same logger.

SENSOR SPECIFICATIONS

Material:	Stainless steel casing with silicon & epoxy to encapsulate the sensor and connections; micro-screened nose cap to protect the sensing element against silt, mud or sludge
Linearity & Hysteresis:	± 0.1% Full Scale
Overall Accuracy:	± 0.2% (35 to 70 °F)
Over Pressure:	x 4; Burst Pressure x 10
Environment:	32 to 140 °F (0 to 60 °C)
Size:	0.75" x 8.0"
Cable:	Heavy polyurethane jacket; 3 wire, waterproof conductor cable 22AWG, foil shield with draw wire, internal polypro vent tube. Lengths to 500 feet
Depth Ranges:	01 PSI - Range: 0-3' 06 PSI - Range: 0-14' 12 PSI - Range: 0-28' 25 PSI - Range: 0-60' 65 PSI - Range: 0-150' Custom PSI ranges
Data Loggers:	Works with the Datapod DPX-WL and DPXc- WL models (p.19); or EasyLogger 900 Series models (p.36-38)



Model: S-75(XX) 0-5V PTX (specify depth range & cable length)



Model: S-299CX(10) DryerBox with Conxall connector; up to 10' extra cable



Model: DPXc-v1.WL(XX) Logger & Sensor (specify depth range and cable length)

Model: DPX-CC2 RS-232 COM cable & software for DPX-WL logger

Model: DPX-MBC Cable mounting kit - especially for installing in a pipe

Model: DPX-MBP Aluminum mounting bracket plate kit

Model: FA-SV0806 Steel VandalBox 8x6x4 with hasp lock

Water Level

Monitoring

Datapod DPXc-WL Water Level Recording System

This system uses the compact version DPX logger version (p.33). It includes the S-75(XX) water level sensor (p.21). This small system comes fully calibrated and operating right out of the box. Its simple set-up menu allows you to include a Location ID, change the recording interval, and recalibrate the sensor when needed. All data values are downloaded to a laptop or palmtop PC via a 9-pin RS-232 COM port. It can be mounted completely inside a well pipe as small as 3.5 inches (9 cm) in diameter. It is ideal for ground, surface or waste water level recording in open water or in flumes, tanks, weirs or wells. Specify the depth range and cable length.

LOGGER SPECIFICATIONS

Materials:	Polycarbonate, NEMA 4X rated, sealed case which houses the logger, battery, sensor, sensor connection parts and RS-232 COM port
Size:	2.56 x 3.70 x 3.19 inches (65 x 94 x 81 mm)
Memory:	10,000 data points; non-volatile memory. Choose "wrap- around" or "stop when full" options
Power:	A user-replaceable 9V alkaline (or optional lithium) battery provides up to 1 year of operation time
Environment:	-30 to 140 °F (-35 to 60 °C); 0-100% RH
Communications:	9-pin RS-232 connection to any DOS PC or terminal. Data is transferred in binary and converted to ASCII characters which can be saved to a DOS file. User-settable location ID; recording interval with choice of MIN-MAX-AVE or instanta- neous readings with date and time stamps; sensor warm-up and calibration data can all be entered by the user into the simple menu-driven software

SENSOR SPECIFICATIONS

Material:	Stainless steel casing with silicon & epoxy to encapsulate the sensor and connections; micro-screened nose cap to protect the sensing element against silt, mud or sludge
Linearity & Hysteresis:	± 0.1% Full Scale
Overall Accuracy:	± 0.2% (35 to 70 °F)
Over Pressure:	x 4; Burst Pressure x 10
Environment:	32 to 140 °F (0 to 60 °C)
Size:	0.75" x 8.0"
Cable:	Heavy polyurethane jacket; 3 wire, waterproof conductor cable 22AWG, foil shield with draw wire, internal polypro vent tube. Lengths to 500'
Depth Ranges:	01 PSI - Range: 0-3' 06 PSI - Range: 0-14' 12 PSI - Range: 0-28' 25 PSI - Range: 0-60' 65 PSI - Range: 0-150' Custom PSI ranges

Water Quality

WESCOR ENVIRONMENTAL PRODUCTS

Monitoring

The following Water Quality sensors have these common specifications:

COMMON SPECIFICATIONS

Output:	4-20 mA
Power Requirements:	12V DC
Cable Length:	25 feet; custom lengths available
Data Loggers:	Works with the Datapod DPXe models (p.34); or EasyLogger 900 Series models (p.36-38)

S-WCN Conductivity

SPECIFIC SPECIFICATIONS

Range:	0 to 5,000 µS
Accuracy:	1% of full scale
Operating Temperature	-40 to 55 °C
Turn on time:	600 ms
Measurements:	1" x 8"; 1 lb.

S-WDO Dissolved Oxygen

SPECIFIC SPECIFICATIONS

Range:	0 to 40 mg/L
Accuracy:	1% of full scale
Operating Temperature	-40 to 55 °C
Turn on time:	15 ms
Measurements:	8" x 7/8"; 1 lb.

S-WpH pH

SPECIFIC SPECIFICATIONS

Range:	0 to 14
Accuracy:	1% of full scale
Operating Temperature	-40 to 55 °C
Turn on time:	10 ms
Measurements:	0.8" x 8"; 1 lb.

S-WTP Water Temperature (see also p.17)

SPECIFIC SPECIFICATIONS

Range:	-50 to 50 °C
Accuracy:	$\pm 0.2^{\circ}F(\pm 0.1^{\circ}C)$
Operating Temperature	-40 to 55 °C
Turn on time:	10 ms
Measurements:	5/8" x 8"; 8 oz



Model: S-WCN Water Conductivity sensor



Model: S-WDO Water Dissolved Oxygen sensor



Model: S-WpH Water pH sensor



Model: S-WTP Water Temperature sensor



Model: S-710-A Turbidity: standard 0-200 NTU

Model: S-710-B Turbidity: optional 0-10 NTU

Model: S-710-C Turbidity: optional 0-2000 NTU



Water Turbidity

Monitoring

S-710 Series Turbidity

For use inside 2" diameter groundwater wells, in stilling wells installed in streams and rivers or inserted into process streams in pipes through a 1" compression fitting.

SENSOR SPECIFICATIONS

Output:	4-20 mA
Power Requirements:	12V DC
Cable Length:	25 feet; custom lengths available
Range:	0 to 200 NTU
Accuracy:	± 0.1 NTU
Operating Temperature	-10 to 70 °C
Turn on time:	2 seconds
Measurements:	1.7" x 8"; 2 lbs.
Data Loggers:	Works with the Datapod DPXe models (see p.34), or EasyLogger 900 Series models (see p.36-38)

Turbidity Monitoring System

This system uses the Datapod DPXe logger (p.34) with an S-710 Turbidity sensor (this page) pre-attached. The system includes software and an RS-232 cable. Choose the standard alkaline battery model or the optional solar or AC powered, rechargeable systems. Specify the turbidity range.

Model: DPXe-TB(X)A Alkaline package; S-710(X) sensor; specify range

Model: DPXe-TB(X)S Solar package; S-710(X) sensor; specify range

Model: DPXe-TB(X)W 110V package; S-710(X) sensor; specify range

Model: PWR-538A 220V Adapter for 110V package

Model: DPX-CC RS-232 COM cable for DPXe loggers

Model: DA-MBP Pole Mounting Bracket Plate & U-bolts

Model: FA-HND-U Handle for portability

Field Accessories: See pages 46-47 for lockable enclosures.

Water Potential

Monitoring

Note: See our separate Water Potential Catalog for a full listing of all water potential products.

HR-33T Dew Point Microvoltmeter

The HR-33T is a self-contained electronic system designed specifically for measuring water potential with thermocouple transducers. It contains sophisticated sensing and control circuitry that automatically maintains the temperature of the thermocouple junction at the dew point temperature when operating in the dew point mode. It can be used in either dew point or wet bulb mode so that the advantages of each can be utilized. When combined with the C-52 Sample Chamber, the HR-33T becomes a complete portable laboratory for sample measurements.

FEATURES

- Functions in either hygrometric (automatic dew point depression) or psychrometric wet bulb depression mode
- Low noise, low drift, chopper-stabilized microvoltmeter
- Integral precision panel meter with mirrored scale
- Optional battery: alkaline or rechargeable NICAD
- Optional power supply modules: 110V or 230V
- Recorder output
- SUREFASTTM convenient sensor connection option
- Rugged aluminum carrying case

SPECIFICATIONS

Ranges	10, 30, 100 and 300 microvolts full scale 0 to 30 °C and 0 to 100 °C temperature scales
Accuracy:	\pm 1% of full scale (recorder output) \pm 2% of full scale (panel meter) \pm 0.5°C (0 to 40 °C)
Zero Drift:	$<0.5~\mu V$ per 24 hours; $<0.1~\mu V$ per $^{\circ}C$
Noise:	0.1 μV peak-to-peak
Input Impedance:	1 Meg ohm
Source Impedance:	Maximum 100 ohm (higher impedances will degrade accuracy)
Rise Time:	2 seconds
Zero Suppression:	$\pm 75\mu V$
Recorder Output:	10 V full scale (10 mA)
Connectors:	Binding posts or SUREFAST connector option
Battery Options:	Alkaline = 10 hours operating time NICAD =10 hours per charge
Dimensions:	23.5 cm x 30.5 cm x 13.3 cm; weight: 3.3 kg
Accessories:	See the separate Water Potential Catalog





Model: HR-33T Alkaline battery version

Model: HR-33T-R NICAD Rechargeable battery version

Model: 5106 110V AC 50-60 Hz power supply

Model: 5109 230V AC 50-60 Hz power supply





Model: C-52-SF Sample Chamber with SUREFAST connector

Model: L-51-SF Leaf Hygrometer/Psychrometer with SUREFAST connector

Model: PST-55-15-SF

Soil Hygrometer/Psychrometer with SUREFAST connector

See separate catalog for full list of instruments, transducers and options.



Model: Q1-CX6-cf Quick-One weather package See page 2 for other sensor options



Model: W1-CX6-jfmb Basic weather package



Model: W1-CX6-kg@c Deluxe weather package

Weather

Monitoring

Quick-One Weather Package

This system is designed for portability; it includes the Datapod CX6 logger (p.31), RS-232 cable and software, along with the following:

SENSORS

RH/Temp:	S-115 & FA-116S shield
Wind:	S-055

FIELD ACCESSORIES

Met Pole:	FA-MTA3; DA-MBP
Cases:	Tote bag for the portable, aluminum tripod tower; hard case for the logger and all sensors

Weather-One Packages

These systems include the Datapod CX6 logger (p.31), alkaline battery power, software and an RS-232 cable, along with the following:

BASIC PACKAGE:

SENSORS:

Rain:	S-161 & S-161S mounting shelf		
RH/Temp:	S-115 & FA-116S shield		
Solar:	S-225 & FA-SMA sensor mounting arm		
Wind:	S-045		

FIELD ACCESSORIES:

Met Pole:	FA-MPS2; FA-MGR/G grounding & guying kit
Enclosure:	FA-SV1212 steel VandalBox & DA-MB4 mounting brackets

DELUXE PACKAGE:

SENSORS:

Rain:	S-162 & S-162MP steel mounting plate
RH/Temp:	S-125 & FA-130R shield
Solar:	S-231 & FA-SMA-SR sensor mounting arm
Wind:	S-055

FIELD ACCESSORIES:

Met Pole:	FA-MPS3; FA-MGR/G grounding & guying kit
Enclosure:	FA-SV1212 steel VandalBox & DA-MB4 mounting brackets

See pages 2-3 for other sensor options; pages 41-43 for other power options; pages 49-50 for other met pole/tower options.

WESCOR ENVIRONMENTAL PRODUCTS

Monitoring

Expanded Weather Packages

This system includes the EasyLogger EL-924N-128S solar powered package (p.38) along with the following:

SENSORS

Barometer:	S-470			
Rain:	S-162 & S-162MP steel mounting plate			
RH / Temp:	S-125 & FA-130R shield			
Solar:	S-231 & FA-SMA-SR sensor mounting arm			
Wind:	S-055			

FIELD ACCESSORIES

Met Pole:

FA-MPS3; FA-MGR/G grounding & guying kit; FA-P1210





Model: W1-EL128S-skg@c Custom Weather package

See pages 2-3 for other sensor options; page 36 for other memory sizes; pages 36-37 for other power or communications; pages 49-50 for other met pole/tower options.



Model: S-045 Wind sensor; pole mounting hardware

Model: FA-SMA Optional Sensor Mounting Arm

Model: S-045RWC Replacement wind cup set

Model: S-045RWV Replacement wind vane set



Model: S-055 Wind Speed and Direction sensor

Model: S-055SP Speed only sensor

Model: FA-SMA-WS Optional Sensor Mounting Arm extension for S-055SP Replacement wind cup-single

Model: S-055RWC Replacement wind cup-set & mounting parts

Model: S-055RWV

Replacement wind vane set

Wind

Monitoring

S-045 Wind Speed and Direction (anemometer)

This 3 cup anemometer and wind vane sensor enables you to measure wind speed and direction when attached to an appropriate data logger. This sensor is custom-built with an in-line resistor. It is ideal for use in meteorological studies, irrigation and pesticide scheduling, and other wind related studies.

SENSOR SPECIFICATIONS:

Speed:	Frequency/counter; 0-150 mph range		
Start-up:	2.0 mph threshold		
Direction:	5V DC excitation		
Accuracy:	± 5%		
Data Loggers:	Works with the Datapod CX6 Series (p.31); or EasyLogger 900 Series models (p.36-38)		

S-055 Wind Speed and Direction (anemometer)

This precision 3 cup anemometer and wind vane sensor can be ordered as a combination speed and direction sensor or a speed only sensor. The sensor housing is a clear coated anodized aluminum alloy, for long-life. Pole mounting hardware is included. It is ideal for all wind studies.

SENSOR SPECIFICATIONS:

Speed:	Frequency/counter; 0-175 mph range; low inertia, ABS 3 cup on ballrace-supported stainless steel shaft; Bremag 10 magnet with long-life mercury wetted reed switch for bounce-free rotation signals	
Start-up:	1.1 mph threshold	
Direction:	5V DC excitation; dynamically balanced vane operating a triple ballrace-supported shaft & micro-torque potentiometer	
Accuracy:	± 2%	
Data Loggers:	Works with the Datapod CX6 Series (p.31); or EasyLogger 900 Series models (p.36-38)	



Wind Monitoring System

This system includes the Datapod CX6 logger, 'C' size alkaline batteries, software (p.31), and the following sensor and field accessories:

SPECIFICATIONS:

Wind sensor:	S-055 deluxe speed & direction sensor
Met pole kit:	FA-MPS2 - 2 meter; FA-MGR/G grounding & guying kit;
	DA-MBP logger pole mounting kit



Model: CX6-wind-c Logger; software; S-055; FA-MPS2; FA-MGR/G

Model: CX6-CC RS-232 COM cable

Model: FA-SV0806 Optional steel VandalBox

See p.41-43 for power options. See p.49-50 for met tower/pole options.

Hand-Held Wind Meter

This simple, hand-held meter reads air velocity from as low as 2 mph to as high as 66 mph. Just hold into the wind and read the speed. It is pocket-sized yet professional quality. We provide this meter to the United States Forest Service as part of their fire-fighting kits. It includes a protective pouch and three chemically treated stem cleaners.



Model: WM-Dwyer Dwyer hand-held wind/air velocity meter

Loggers Summary of all Loggers

	ANA	ALOG	Cou	NTER	
Brand	Model	Ch	Ch	Applications	Sensors
1. Biophenometer	BIO-51 (all)	1	0	Growing Degree Day monitoring	Temp: S-060
2. Datapod	CX6	4	2	General Weather	Wind: S-045; S-055 Temp: S-061 Rain: S-160; S-161; S-162; S-163 RH/T: S-115; S-125; S-130 Solar: S-221; S-225; S-231; S-232; S-240
3. Datapod	DPX	1	1	Water Level; Limited Weather	Temp: S-061 Rain: S-160; S-161; S-162; S-163 Solar: S-225 Water: S-75(XX)
4. Datapod	DPXc	1	1	Water Level; Limited Weather	Temp: S-061 (or built-in probe) Rain: S-160; S-161; S-162; S-163 Solar: S-225 Leafwetness: S-465 Water: S-75(XX)
5. Datapod	DPXe	1	1	Water Level, Turbidity, Quality; Limited Weather	Temp: S-061 Rain: S-160; S-161; S-162; S-163 Solar: S-225 Soil: S-273 Water: S-70(XX); S-710; S-75(XX); S-WCN; S-WDO; S-WPH; S-WTP
6. Datapod	DPXp	1	0	Water Level	Water: S-75(XX)
7. Datapod	DP112	1	0	Temperature/Voltage	Temp: S-060
8. Datapod	DP212	2	0	Temperature/Voltage	Temp: S-060
9. Datapod	DP220	2	0	Temperature & Solar Radiation	Temp: S-060
				Hygrothermograph	Solar: S-221; S-231
10. Datapod	DP223	2	0	Temperature & Leaf Wetness	Temp: S-060
					Leaf W: S-460
11. EasyLogger with:	EL-924D EA-110 Including: EL-924H EL-924N	12 26	3 3	General Purpose Applications Multiplexer for EasyLogger	Including: Temp: S-060; S-061 Rain: S-160; S-161; S-162; S-163 RH/T: S-115; S-125; S-130 Solar: S-221; S-225; S-231; S-232; S-240 Soil: S-270; S-271; S-272; S-273 Leaf Wetness: S-460; S-465 Barometer: S-470 Water: S-70(XX); S-710; S-75(XX); S-WCN; S-WDO; S-WPH; S-WTP
12. Polycorder	PC-710	10	3	General Purpose	
13. Polycorder	PC-720	10	0	General Purpose	

Datapod[®] CX6 Series

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Loggers

The CX6 Weather System logger and sensors can be purchased separately or as a part of a complete monitoring package. As a package, all sensors are pre-installed and the software pre-set with formulas to match the specific sensors chosen. The package approach simplifies the setup and data collection procedures and ensures complete sensor compatibility.

CX6 SERIES TECHNICAL SPECIFICATIONS

Memory:	128K Capacitor-backed RAM (64,000 data points)				
Analog:	4 Channels: dedicated to wind direction, relative humidity, temperature, solar and net sensors. 0-4 Volts; 12 bit resolutio (0.025%) Note: input amplifiers added for Temp, Solar & No sensors				
Digital:	2 Channels: 1 slow pulse for a tipping bucket rain gauge, 1 fast pulse for a wind speed sensor				
Power:	9V: six 'C' alkaline batteries; optional PowerBox with rechargeable battery pack & Solar Panel kit. Output: 5V @ 30 mA Maximum; 4.096V REF Volt				
Scanning Interval:	All channels: once per second				
Logging Interval:	User-settable from once a minute to once a day (1 second res- olution). Also, "real time" display mode				
Reports:	File Report: Name of data file; length of data file; number of records; name of logfile used; header notes; log interval; wind gust period; start date; start time; channel numbers used. Tabulated Report: Real Time Display - all channels; wind direction; wind speed AVE, MAX, MIN; RH; Temp; Solar or Net Radiation; Rain. Conversion option: from Binary to ASCII for spreadsbeets				
Communications	RS-232 Communications cable with reset button and LED PC software included (Windows or DOS compatible)				
Temperature:	-25 to 50 °C (-13 to 122 °F)				
Case:	NEMA 4X with optional pole mounting hardware; size: 180mm x 254mm x 91mm (7 x 10 x 3.5 in.). 4 Cable Gland Seals for attaching sensors; or, order with the optional Cannon sensor connectors. Sealed RS-232 port: on the outside of the case				



The CX6 is compatible with these sensors:

Rain: S-160; S-161; S-162; S-163

Relative Humidity & Temperature: S-115; S-125; S-130

Solar Radiation: S-221; S-225; S-231; S-232; S-240

Temperature: S-061

Wind Speed & Direction: S-045; S-055



Model: CX6 Base logger for WSD, Rain, RH/T & Solar sensors

--CN Adds Cannon connector(s); specify sensor

Model: CX6-CC RS-232 9 pin COM Cable w/reset and LED

Model: DA-MBP CX6 & PowerBox pole mounting bracket plate

Model: DA-MB4 4 corner mounting brackets

Model: FA-146D-S Desiccant pillows for inside CX6

Power options: see p.41-43; Terminal options: see p.44; Sensor options: see p.2-3; Field Accessories: see p.46-47; Packaged systems: see Table of Contents.



Dedicated DPX models are compatible with these sensors:

Rain: S-160; S-161; S-162; S-163 **Solar Radiation:** S-225

Temperature: S-061

Water Level: S-75(XX)

Leaf Wetness: S-465

Model: DPX-(XX) Base logger; 6 case versions

Model: DPX-LW Dedicated to a Leaf Wetness Moisture Detection sensor (p.6)

Model: DPX-RG Dedicated to a Rain Gauge sensor (p.7-9)

Model: DPX-RT Dedicated to Rain & Temperature sensors (p.6)

Model: DPX-SR Dedicated to a Solar Radiation sensor (p.13)

Model: DPX-TP Dedicated to a Temperature sensor (p.16) Model: DPX-WL Dedicated to a Water Level sensor (p.18)

Model: DPX-CC RS-232 cable

Model: DA-MBP Aluminum mounting bracket plate kit

Datapod[®] DPX Packages

Standard Version Loggers

The DPX Series is a miniature, battery-operated data logger designed to be left unattended in the field while taking measurements of environmental parameters.

DPX SERIES TECHNICAL SPECIFICATIONS:

Analog Input:	One channel; 0-5 Volts (model specific)
Digital Input:	One channel counter (model specific)
Output Trigger:	25 mA output signal; software triggered
Enclosure:	NEMA 4X rated sealed case which houses the logger, the bat- tery, the sensor connection parts (cable gland seal or Cannon connector), desiccant, and the RS-232 COM port with rubber plug seal
Memory:	10,000 data points can be stored in wrap-around non-volatile EPROM
Power	A user replaceable, 9V alkaline or 9V lithium battery operates the logger and sensor for up to one year, depending on the sensor and recording interval. Non-volatile EPROM holds all set-up instructions and data indefinitely. A separate lithium battery is used to back up the clock
User Options:	With a PC or terminal attached, a menu selection allows you to choose from once a second to once a day recording intervals. Choose "Instantaneous" or "MIN-MAX-AVE" recordings. A location "ID" can be recorded for each logger. The date and time stamp is resettable. A sensor delay option allows the sensor to warm up. Software settable reference formulas
Communications:	An RS-232 COM Port connects the logger to any DOS PC. The data is transferred in standard spreadsheet (ASCII) format to a DOS file. Software included
Size:	3.70" W x 5.12" L x 2.24" D (9.9 x 13.1 x 5.6 cm)
Weight:	11 ounces
Environment:	30 to 140 $^{\circ}\text{F}$ (-35 to 60 $^{\circ}\text{C}$); 0 to 100% Relative Humidity

Datapod[®] DPXc Packages Compact Version Loggers

W E S C O R E N V I R O N M E N T A L P R O D U C T S

The DPXc model is a compact, battery-operated data logger designed to be left unattended in the field while taking measurements of environmental parameters.

DPXc PACKAGE TECHNICAL SPECIFICATIONS:

Analog Input:	One channel; 0-5 Volts (model specific)
Digital Input:	One channel counter (model specific)
Output Trigger:	25 mA output signal; software triggered
Enclosure:	NEMA 4X rated sealed case which houses the logger, the bat- tery, the sensor connection parts (cable gland seal, Cannon connector, terminal posts or built-in sensor), desiccant, and the RS-232 COM port with rubber plug seal
Memory:	10,000 data points can be stored in wrap-around non-volatile EPROM; choose stop when full or wrap around option
Power	A user replaceable, 9V alkaline or 9V lithium battery operates the logger and sensor for up to one year, depending on the sensor and recording interval. Non-volatile EPROM holds all set-up instructions and data indefinitely. A separate lithium battery backs up the clock. That battery can be turned off allowing prolonged storage
User Options:	With a PC or terminal attached, a menu selection allows you to choose from once a second to once a day recording inter- vals. Choose "Instantaneous" or "MIN-MAX-AVE" record- ings. A location "ID" can be recorded for each logger. The date and time stamp is resettable. A sensor delay option allows the sensor to warm up. Software settable reference for- mulas
Communications:	An RS-232 COM Port connects the logger to any DOS PC. The data is transferred in standard spreadsheet (ASCII) format to a DOS file. Software included
Size:	2.56" W x 3.70" L x 3.19"D (6.5 x 9.4 x 8.1 cm)
Weight:	9 ounces
Environment:	-30 to 140 °F (-35 to 60 °C); 0 to 100% Relative Humidity







Model: DPXc-v1(XX) 1 cable gland seal for use with an analog or counter sensor

Model: DPXc-v2(XX) 2 cable gland seals for use with 1 analog & 1 counter sensor

Model: DPXc-v3(XX) 1 cable gland seal for analog sensor; terminal post connectors for counter sensor

Model: DPXc-v4(XX) Terminal post connectors only for counter sensor

Model: DPXc-v5(XX) Built-in temperature sensor plus terminal post connector for counter sensor

Model: DPXc-v6.TP Built-in temperature sensor; no other sensor connections

Model: DPX-CC2 RS-232 cable with LED

Model: DPX-OCS(XX) Output signal cable; connects to DPS com port

Model: DPX-MBP Aluminum mounting bracket plate kit

Dedicated DPXc models are compatible with these sensors:

Rain: S-160; S-161; S-162; S-163 Temperature: S-061 or a pre-attached probe Water Level: S-75(XX) Leaf Wetness or Moisture Detection: S-465 Solar Padiaton:

Solar Radiaton: S-225

See p.2-3 for sensors; p.41-43 for power options; p.46-47 for field accessories; p.44 for terminal options.



Dedicated DPXe models are compatible with these sensors:

Barometer: S-470

Soil Moisture: S-273

Water Level: S-75(XX)

Water Quality: S-WCN; S-WDO; S-WPH, S-WTP

Model: DPXe-(XX)-A 0-5 Volt model; 12V alkaline batteries

Model: DPXe-(XX)-R 0-5 Volt model; 12V rechargeable, 7 ah battery

Model: DPXe-BP Dedicated to Barometric Pressure sensor (p.4)

Model: DPXe-SM Dedicated to the S-273 Soil Moisture sensor (p.14)

Model: DPXe-WL Dedicated to Water Level sensors (p.20-21)

Model: DPXe-WQ Dedicated to Water Quality sensors (p.23)

Model: DPXe-TB Dedicated to Water Turbidity sensor (p.24)

Model: DPX-CC RS-232 cable

Model: DA-MBP Aluminum mounting bracket plate kit

Model: DA-HND-U Handle for portability

Model: PWR-155 Solar panel

Model: PWR-160 110 V AC to 12V charger

Model: PWR-538A 220V Converter option

Datapod[®] DPXe Packages

Expanded Power Version Loggers

The DPXe Model is an expanded power version of the standard DPX Series. It is a battery operated data logger designed to be left unattended in the field while taking measurements of environmental parameters.

DPXe PACKAGE TECHNICAL SPECIFICATIONS:

Analog Input:	One channel; 0-5 Volts or 4-20 mA (model specific)
Digital Input:	One channel counter (model specific)
Output Trigger:	25 mA output signal; software triggered
Enclosure:	NEMA 4X rated sealed case which houses the logger, the bat- tery, the sensor connection parts (cable gland seal or Cannon connector), desiccant pillow, and the RS-232 COM port with rubber plug seal
Memory:	10,000 data points can be stored in wrap- around non-volatile EPROM; choose stop when full or wrap around option
Power	User replaceable, 8 each 'D' size alkaline batteries operate the logger and sensor; or choose optional rechargeable batteries. Non-volatile EPROM holds all set-up instructions and data indefinitely. A separate lithium battery backs up the clock. That battery can be turned off allowing prolonged storage
User Options:	With a PC or terminal attached, a menu selection allows you to choose from once a second to once a day recording intervals. Choose "Instantaneous" or "MIN-MAX-AVE" recordings. A location "ID" can be recorded for each logger. The date and time stamp are resettable. A sensor delay option allows the sensor to warm up. Software settable reference formulas
Communications:	An RS-232 COM Port connects the logger to any DOS PC. The data is transferred in ASCII format to a DOS file. Software included.
Size:	7.0" W x 10.0" L x 3.5" D (18.0 x 25.4 x 9.1 cm)
Environment:	-30 to 140 °F (-35 to 60 °C); 0 to 100% Relative Humidity.

Power options: see p.41-43. Terminal options: see p.44. Sensor options: see p.2-3. Field Accessories: see p.46-47. Packaged systems: See Table of Contents.

Datapod[®]**EPROM Series**[™]

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Loggers

The EPROM Series is a miniature, battery operated data logger designed to be left unattended in the field while taking measurements of environmental parameters.

SPECIFICATIONS

Enclosure:	NEMA 4X Rated Sealed case which houses the logger, the battery, and sensor connector
Memory:	2,047 readings (1,023 per channel on the 2 channel models) can be stored on the removable, non-volatile EPROM solid state Data Storage Module. (DSM sold separately; requires a separate, optional DSM Reader and Eraser). User Options: instantaneous or MIN-MAX-AVE settings
Display:	Liquid Crystal
PC Files:	With the optional EPROM Reader attached to a PC, the data can be transferred directly to your computer
Power:	User replaceable, 8 alkaline 'AA' batteries operate the logger and sensor(s) for up to 9 months, depending on the recording interval settings and temperature conditions. Batteries are not included
Size:	3.3" W x 6.3" L x 2.3" D (8.4 x 16.0 x 5.9 cm)
Weight	20 ounces (plus sensor)
Environment:	-30 to 140 °F (-35 to 60 °C); 0 to 100% Relative Humidity

SYSTEM COMPONENTS: Accessories and Options

- DSM1000 **Data Storage Module (DSM).** EPROM with 24 pin carrier, for storage of data on the Datapod EPROM Series. Two DSMs are recommended for each Datapod.
- DP-217D **DSM EPROM Reader**. Allows transfer of data from the Datapod's DSM via an RS-232 interface to your computer in the office. 110V and 220V models are available. One Reader can accommodate multiple Datapods.
- DP-SC254 **Replacement RS-232 Communications Cable**. Used to attach the Reader to a PC, a printer, or to a modem. (Included with the 217D Reader.) Use CrossTalk or Procomm communications software.
- DP-514T **DSM EPROM Eraser**. Ultraviolet lamp for the erasure of DSMs. Accommodates up to four DSMs. 110V and 220V models are available. One Eraser can accommodate multiple Datapods. 514T-EB Replacement Bulb for 514T Eraser.
- C-CN-10 Cannon connector with 10 feet of 3 wire conductor cable. Used for attaching non-standard sensors to the Datapod EPROM Series recorders. Custom lengths available.
- DP-CAL22X Calibration Plug. Used to zero the offset analog circuitry.
- FA-DC245 **Replacement Desiccant Capsules**. Used for the absorption of moisture inside of the Datapod recorders.



MODELS CONFIGURED TO MATCH SPECIFIC SENSOR APPLICATION.

Model: DP101 1 channel for Precipitation sensor (p.7-9)

Model: DP112

1 channel for S-060 Temperature sensor (p.19)

Model: DP212 2 channel for S-060 Temperature sensor (p.19)

Model: DP219

2 channel for S-060 Temperature & S-230 sensors (p.17) (S-230 Solar Sensor--Call)

Model: DP223

2 channel for S-060 Temperature & S-460 sensors (p.16, p.19)

Model: DP230

2 channel for S-060 Temperature & Precipitation sensors (p.7-9, p.17)

-CN

Adds a Cannon connector(s) to the logger model; sensor must have mated Cannon connector



WESCOR ENVIRONMENTAL PRODUCTS



EL-924D Field Unit package

Model: EL-924D-128 Package with 128K DSP (55,000 data pts)

Model: EL-924D-256 Package with 256K DSP (85,000 data pts)

Model: EL-924D-512 Package with 512K DSP (145,000 data pts)

Model: EA-110 16-Channel multiplexer option

EasyLogger[™]900Series Packaged Logger Systems

900 Series Logger System:

This microcomputer provides for sensor measurements, date and time recording, communications, data reduction and report formatting. A menudriven operating system with 104K of usable RAM is standard and is capable of storing up to 25,000 data points by itself. The removable Data Storage Packs (DSP) provide unlimited protection for your program setup instructions as well as for your data, in case of power interruptions, and are available in four memory sizes. The removable Sensor Terminal Pack (STP) makes it easy to wire multiple sensors to the field unit. The STP is also available with an optional thermocouple reference junction. Lighted diodes indicate when the logger is receiving power and when it is writing to the DSP. The EL-924D requires a regulated 12V power supply.

SPECIFICATIONS:

12 Analog inp	out channels: 5 Ranges:	+5V' + 1V' + 100 mV' + 50 mV' + 10 mV
	Resolution:	13 to 16 bits, user selectable
3 pulse/freque	ency/counter ch	annels
4 digital input	S	
4 digital outpu	ıts	
Two Serial Po	orts	
Remote comn	nunications	
Multitasking (CPU	
Auto re-boot 1	nechanism	

On-board conversion formulas for Thermistor and types E, J, K, and T Thermocouples **BUILT-IN DATA REDUCTION FUNCTIONS:**

	INStantaneous
	AVErage
	MAXimum
	MINimum
	RNG = Max - Min
	Time of MAXimum
	Time of MINimum
	Standard DEViation
	SUM since last report
	TOTAL since beginning of report
Size:	6.2" W x 10.0" L x 1.3" D (15.90 x 25.64 x 3.33 cm)
Weight:	28 ounces (0.8 kg) without DSP or STP attached

EasyLogger[™]900Series

WESCOR ENVIRONMENTAL PRODUCTS

Packaged Logger Systems

DSP Reader Option

If you like the option of removing the DSP and bringing it back to your office for reading the data, choose our EL-910 DSP Reader option. Plug this reader into your desk or laptop PC and read and erase the DSP. Be sure to order spare DSPs if you choose this option.



Model: EL-910US 110V AC Reader

Model: EL-910EU 220V AC Reader

Model: EM-9128 Spare DSP: Stores up to 30,000 data points

Model: EM-9256 Spare DSP: Stores up to 60,000 data points

Model: EM-9512 Spare DSP: Stores up to 120,000 data points



Model: EL-909C RS-232 SmartCable with ring button: EL-924D to a PC

Model: SW-116 EasyTools communications software

Model: SW-120 Weather-Base Data Management software

Cables and Software Options Power options: see p.41-43. Terminal options: see p.44.

Remote communication: see p.45. Sensor options: see p.2-3. Field Accessories: see p.46-47.

WESCOR ENVIRONMENTAL PRODUCTS



EasyLogger[™]900Series

Packaged Logger Systems

EL-924N Packages (for in situ applications)

Includes: EL-924D logger; Data Storage Pack (specify size); Sensor Terminal Pack (specify standard or thermocouple version); EL-909C SmartCable; SW-116 EasyTools software; FA-F1210 fiberglass NEMA 4X rated field enclosure with 4 FA-CCG-S sensor cable gland seals; desiccant pillow; 12 V power (rechargeable & non-rechargeable options).

Model: EL-924N-128A

128K DSP; standard STP; alkaline battery power (PWR- 9XBAT & PWR-'D' batteries)

Model: EL-924N-128S 128K DSP; standard STP; solar power (PWR-155 solar panel & PWR-BAT-L 7ah lead-acid batterv)

Model: EL-924N-128W 128K DSP; standard STP; wall-mount, 110V charger (PWR-160 charger & PWR-BAT-L 7 ah leadacid battery)

xxxxx-256X Substitute 256K DSP

xxxxxx-512X Substitute 512K DSP

xxxxx-xxxxT Substitute Thermocouple STP

xxxxxx-xxxCN Substitute Cannon connectors for cable gland seals



xxxxxx-xxxCX Substitute Conxall connectors for cable gland seals

Model: EL-924H-128A 128K DSP; standard STP; alkaline battery power (PWR-9XBAT & PWR-'D' batteries)

Model: EL-924H-128W 128K DSP; standard STP; wall-mount, 110V charger (PWR-160 charger & PWR-BAT-L 7 ah lead-acid battery)

xxxxxx-256X Substitute 256K DSP

xxxxxx-512X Substitute 512K DSP

xxxxx-xxxxT Substitute Thermocouple STP

xxxxxx-xxxCN Substitute Cannon connectors for cable seals

xxxxxx-xxxCX

Substitute Conxall connectors for cable seals

EL-924H Packages (for portable applications)

Includes: EL-924D logger; Data Storage Pack (specify size); Sensor Terminal Pack (specify standard or thermocouple version); EL-909C SmartCable; SW-116 EasyTools software; FA-H1210 sealed enclosure with built-in handle; choose cable gland seals, Cannon or Conxall sensor connectors; desiccant pillow; 12 V power (rechargeable & nonrechargeable options).

Terminal options: see p.44. Remote communication: see p.45. Sensor options: see p.2-3. Field Accessories: see p.46-47.

Polycorder[®] 710 Series

710 SERIES TECHNICAL SPECIFICATIONS:

W E S C O R E N V I R O N M E N T A L P R O D U C T S

Memory:	Choice of: 128K, 256K, or 448K RAM
Display:	Backlit LCD; 64 alpha-numeric characters; 4 rows of 16 characters
Keyboard:	Sealed membrane with tactile response; 21 keys: 0-9; Alpha (via shift key); Function; Control; Escape; Enter; Cursor arrows
Analog:	10 Channels; 12 bit resolution, 8 gain ranges; 76.8 kHz single channel sample rate; hardware/software trigger; excitation voltages for strain gauges and accelerometers. Range: \pm 10 V; \pm 5 V; \pm 1 V; \pm 500 mV; \pm 250 mV; \pm 100 mV; \pm 25 mV; \pm 10 mV
Frequency:	3 independent channels; selectable for frequency, period, or pulse accumulation. Digital: 8 inputs; 3 outputs; 4 program- mable
Power:	NICAD battery pack; 110V AC charger
Communications:	25 pin RS-232 COM port; also used for bar code wand input, barcode power, digital inputs and outputs. 37 pin sensor connection port. All ports are sealed and come with a plug to protect the pins
Operating Temperature:	-20 to 50 °C (- 4 to 122 °F); 0 to 100% RH (condensing)
Case:	Polycarbonate; sealed against dust and accidental drops into water. 8.0" L x 4.0" W x 2.1" D (20.3 x 10.2 x 5.3 cm); 2 lbs 6 oz
General Purpose Interface Enclosure:	Polycarbonate case; screw-post terminal connections for easy attachment of all sensors; attaches to Polycorder via a 37-pin cable set. 8.0" L x 4.0" W x 2.1" D (20.3 x 10.2 x 5.3 cm)
PolyTools Software:	This applications development and communications software is designed for use with DOS based computers. PolyTools facilitates data collection programming and data transfer with the Polycorder 710 Series logger. You develop data acquisi- tion programs on your PC, then load them directly to the Polycorder, and transfer collected data back to the PC for analysis and storage. A library of commonly used subroutines and utilities is included





Model: PC710-12801 128K high speed analog

Model: PC710-25601 256K high speed analog

Model: PC710-44801 448K high speed analog

Model: PA-008 Nylon carrying case for Polycorder or PA-710-GPIE

Model: PA-009AT RS-232 COM cable, 25 to 9 pin

Model: PA-710-GPIE General Purpose Interface Enclosure

Model: PA-710-01 Cable for PA-710-GPIE to PC710: 1 foot length

Model: PA-710-10 Cable for PA-710-GPIE to PC710: 10 foot length

Model: PA-730 PolyTools programmer's software

Model: PR-700 Replacement battery pack for 710 Series

Model: FA-245D-S Replacement desiccant capsule for 710 Series

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Model: PC720-12801 128K low speed analog

Model: PC720-25601 256K low speed analog

Model: PC720-44801 448K low speed analog

Model: PA-008 Nylon carrying case for Polycorder or PA-710-GPIE

Model: PA-009AT RS-232 COM cable, 25 to 9 pin

Model: PA-630LT PolyTools programmer's software for 720 Series

Model: PA-710-GPIE General Purpose Interface Enclosure

Model: PA-710-01 Cable for PA-710-GPIE to PC720: 1 foot length

Model: PA-710-10 Cable for PA-710-GPIE to PC720: 10 foot length

Model: PR-720 I Replacement battery pack for 720 Series

Model: FA-245D-S Replacement desiccant capsule for 720 Series

Polycorder[®] 720 Series

Loggers

The Polycorder 720 Series is basically a 600 Series Electronic Notebook with a special analog board. It comes with the 600 Series manual and a 720 Addendum manual. It is designed for those who do not need the higher scan rates, voltage input ranges or frequency/counters of the 710 Series.

720 SERIES TECHNICAL SPECIFICATIONS:

Memory:	Choice of: 128K, 256K, or 448K RAM
Display:	Backlit LCD; 64 alpha-numeric characters; 4 rows of 16 characters
Keyboard:	Sealed membrane with tactile response; 21 keys: 0-9; Alpha (via shift key); Function; Control; Escape; Enter; Cursor arrows
Analog:	10 Channels; 16 bit resolution; 0.1% accuracy FS Scan Rate: 25 samples/second - single channel; 8 samples/sec through- put on multiple channels
Range:	5 V; ± 50 mV.
Digital:	12 inputs; 3 outputs
Power:	NICAD battery pack; 110V AC charger; 10 to 50 operating hours
Communications:	25 pin RS-232 COM port; also used for barcode wand input, barcode power, digital inputs and outputs. 37 pin sensor connection port. All ports are sealed and come with a plug to protect the pins
Operating Temperature:	-20° to 50°C (- 4 ° to 122 °F), 0 to 100% RH (condensing)
Case:	Polycarbonate; sealed against dust and accidental drops into water. 8.0" L x 4.0" W x 2.1" D (20.3 x 10.2 x 5.3 cm); 2 lbs 6 oz
General Purpose	
Interface Enclosure:	Polycarbonate case; screw-post terminal connections for easy attachment of all sensors; attaches to Polycorder via a 37-pin cable set. 8.0" L x 4.0" W x 2.1" D (20.3 x 10.2 x 5.3 cm)
PolyTools	
LT Software:	This applications development and communications software is designed for use with DOS based computers. PolyTools facilitates data collection programming and data transfer with the Polycorder 720 Series logger. You develop data acquisi- tion programs on your PC then load them directly to the Polycorder, and transfer collected data back to the PC for analysis and storage. A library of commonly used subroutines and utilities is included

Power Options

OPTION	DESCRIPTION	loggef BIO	R MODEL: CX6	DP-EPR	DPX	DPXc	DPXe	EL-924
PWR-140	Set (2) 6V, 7 ah Lead-Acid	NO	YES-1	NO	NO	NO	YES-2	YES
PWR-155	10W Regulated solar panel	NO	YES-1	NO	NO	NO	YES-2	YES-2
PWR-160	110V AC Charger	NO	YES	NO	NO	NO	YES-2	YES
PWR-538A	220V Adapter	NO	YES-3	NO	NO	NO	YES-3	YES-3
PWR-9VA	9V Alkaline	NO	NO	NO	YES	YES	YES	NO
PWR-9VL	9V Lithium	NO	NO	NO	YES	YES	YES	NO
PWR-9XBAT	Aluminum 'D' Alkaline holder	NO	NO	NO	NO	NO	NO	YES
PWR-AA	Set of 8 'AA' Alkaline	YES	NO	YES	NO	NO	NO	NO
PWR-BAT-H	12V, 18 ah Lead-Acid	NO	YES	NO	NO	NO	NO	YES
PWR-BAT-L	12V, 7 ah Lead-Acid	NO	YES	NO	NO	NO	NO	YES
PWR-C	Set of 6 'C' Alkaline	NO	YES	NO	NO	NO	NO	NO
PWR-D	Set of 8 'D' Alkaline	NO	YES-4	NO	NO	NO	YES	YES-4
PWR-PBA	PowerBox w/8 Alkaline 'D'	NO	YES	NO	NO	NO	NO	YES
PWR-PBS	PowerBox w/PWR-140 & 155	NO	YES	NO	NO	NO	YES	YES
PWR-PBW	PowerBox s/PWR-140 & 160	NO	YES	NO	NO	NO	YES	YES

YES - 1 = when using the PWR-PBS or PBW option

YES - 2 = when using the DPX-GEL option or any Lead-Acid battery

YES -3 = when using the PWR-160 option

YES - 4 = when using the PWR-9XBAT or PWR-PBA option

NOTE:

All power items which cannot be housed inside the logger or PowerBox enclosure must be housed in a separate NEMA 4X rated enclosure. See pages 46-47 for Field Accessory options.

LEGEND:

BIO	Biophenometer	CX6	Datapod CX6 Series
DP-EPR	Datapod EPROM Series	DPX	Datapod DPX in standard package
DPXc	Datapod DPX in compact package	DPXe	Datapod DPX with expanded power

EL-924 EasyLogger 924D Series including EL-924H & EL-924N packages



Power Options

External Alkaline Battery Holder

This aluminum battery holder accommodates eight 'D' size batteries. It comes with a power cable, jack plug and pre-drilled mounting lips.

Model: PWR-9XBAT Battery holder (batteries not included)

Model: PWR-D Set (8) industrial 'D' alkaline batteries



Model: PWR-BAT-H Heavy-duty, 18 ah battery

Model: PWR-BAT-L Light-duty, 7 ah battery

Model: PWR-140 Set of (2) 6V, 7 ah batteries



Model: PWR-155 10W regulated solar panel



Model: PWR-160 110V AC Charger

Model: PWR-538A 220V Adapter for PWR-160

External 12V Rechargeable Batteries

For the most flexibility in keeping your system under power, choose one of our sealed, lead-acid, rechargeable batteries. These batteries require either our PWR-155 solar panel or our PWR-160 AC charger to provide continuous recharging. Lead wires are used to plug into the "-/+ /EXT BATT" terminal positions on the logger.

10 Watt Regulated Solar Panel

Use this solar panel to recharge your PWR-BAT or PWR-140 batteries. This high quality panel is regulated to provide the exact power requirements, and it will operate in extremely low light conditions.

AC Adapter/Charger

If AC power is available, choose this adapter to charge any of the 12V rechargeable batteries instead of using a solar panel.

Power Options

PowerBox - 12V Alkaline

Housed in a NEMA 4X case, this PowerBox includes 8 'D' alkaline batteries (PWR-D). 3 feet of cable exits the PowerBox via a cable gland seal. That cable enters the logger via a cable gland seal and attaches to the power terminal posts.



Model: PWR-PBA PowerBox with alkaline 'D' batteries

PowerBox - 12V Solar Rechargeable

Housed in a NEMA 4X case, this PowerBox comes with 2, 6V lead-acid, rechargeable batteries (PWR-140) and a solar panel (PWR-155). All connections to the logger and PowerBox are made via cable gland seals.



Model: PWR-PBS PowerBox with solar panel & lead-acid batteries

PowerBox - 12V Wall-Mount Rechargeable

Housed in a NEMA 4X case, this PowerBox comes with two, 6V lead-acid, rechargeable batteries (PWR-140) and a wall-mount charger (PWR- 160). All connections to the logger and PowerBox are made via cable gland seals.

Replaceable Batteries (Industrial Grade)

Model: PWR-9VA 9V Alkaline battery (1)

Model: PWR-9VL 9V Lithium battery (1)

Model: PWR-AA 'AA' Alkaline batteries: set of 8

Model: PWR-C 'C' Alkaline batteries: set of 6

Model: PWR-D 'D' Alkaline batteries: set of 8



Model: PWR-PBW PowerBox: 110V wall charger/lead-acid batteries

Model: PWR-538A 220V converter for PWR-PBW



Model: T32-404P Terminal package with 4M Flash

Model: T32-410P Terminal package with 10M Flash

Model: T32-415P Terminal package with 15M Flash

Model: T32A-3040 110V Wall Mount charger

Model: T32A-3042 220V Wall Mount charger

Model: T32A-3045 110V Stand-alone charger

Model: T32A-3046 220V Stand-alone charger

Model: T32A-FC Optional Black Nylon Field Case

Model: T32A-PA009 RS-232 COM Cable: 9 p to 9 p

Model: T32A-BAT Replacement battery



Model: T600-128(XX) Terminal with 62K data storage capacity (EA or DA)

Model: T600-256(XX) Terminal with 192K data storage capacity (EA or DA)

Model: T600-448(XX) Terminal with 378K data storage capacity (EA or DA)

Model: PA-008 Optional Red Nylon Case w/neck straps

Model: PA-009 RS-232C COM. Cable T600 to PC

Model: PR-004 Replacement Battery Pack

Terminal Options

T32 Series

Sealed, Rugged DOS Terminal

The T32 Series is a portable, rugged DOS terminal designed to be used in harsh, outdoor data collection applications. Use it instead of a laptop PC, both as a terminal and download data from your Datapod CX6, DPX, DSX or EasyLogger 900 Series data loggers. The data can be stored in a portion of the onboard Flash Memory or on a removable PCMCIA card.

T32 SERIES TECHNICAL SPECIFICATIONS:

Enclosure:	NEMA 4X Rated, sealed polycarbonate/ABS blend with corrosive-resistant connectors
Communications:	2 Serial ports (16C450 UARTs); +5V power on COM2; COM2 supports RS-422/RS-485; Bi-directional parallel port; 2 PCMCIA type II slots (or 1 type III); digital input/output lines
Memory:	4 MB of working RAM; 4, 10 or 15 MB of internal Flash Memory (with a Flash file system which works like a hard- drive); or use PC Cards for unlimited memory expansion
Display:	Supertwist LCD with electroluminescent backlight; full screen CGA; 80 x 25 character set; 9 x 3 inch viewing area; 640 x 200 pixel graphics
Keyboard:	64 Key QWERTY layout; electroluminescent backlight; sepa- rate cursor control keys; 10 function keys
Power:	User replaceable Duracell DR17 NI-HY battery pack; typical 10 hour battery life. 110V AC wall charger (220V option). Optional stand-alone battery charger
Operating System:	ROM DOS 6.22; System Soft PCMCIA; AMD Elan 25MHz processor
Input/Output:	2 RS-232 Serial Ports; supports RS422/485; Bi-directional parallel port; 2 PCMCIA type II or 1 PCMCIA type III cards
Size:	11.8 x 9.1 x 1.8 in. (30 x 23 x 4.5 cm)
Weight:	4 lbs. 6 oz. (2.1 kg)
Range:	-4 to 122 °F (-20 to 50 °C)

T600 Series

Hand-held, Sealed, Rugged Terminal

One easy way to setup and/or collect your data from your EasyLogger 900 Series data logger, while in the field, is with the optional T600 Series Hand Terminal. Unlike a PC, the T600 Series is sealed against weather and rugged so that it can withstand harsh treatment. Not only can you address all the setup commands, you can also download your data into the battery-backed memory of the T600 Series. All memory sizes come standard with: the EA-PC-6 cable to connect the T600 Series to the 900 Series; EasyTerm software; rechargeable batteries; AC adapter; and a reset clip.

Remote Communications

Modems

External data/fax modems, using 110 AC (or 220V with the optional PWR-538A converter) are the most reliable.

FEATURES

- 33,600 bps Data
- 14,400 bps Fax
- 115,200 bps maximum data throughput
- Auto dial/answer
- Windows and MS-DOS software included (on CD ROM)
- Windows 95 compatible
- Requires 640K RAM; hard disk drive
- Interfaces: RJ-11, RS-232
- Size: 6.8" x 4.6" x 1.1" (fits inside our PowerBox)
- Lighted LEDs indicate modem function
- Supports Hayes Standard AT Command Set



ENVIRONMENTAL

WESCOR

PRODUCTS

Model: REM-941 PMT Modem: 110V

Model: REM-941 CPMT Modem Cable

Model: PWR-538A 220V Converter

Fully tested to work with the EasyLogger 924D models. If your PC does not have a built-in modem, order an additional modem for use with your PC.

This modem is for applications where dedicated power and telephone lines are in place. We are currently testing modems for use with battery power and cellular phones. If your application calls for such a modem, please check with your sales representative.

Auto Dialer

System set-up, voice recording, and programming is accomplished via an external rotary pulse or touch tone phone which plugs into a standard phone jack on the system's front panel. The user simply follows voice instructions given over the phone. You set the parameters. When the readings pass the threshold you set, the auto dialer will call you so that you can take action. Use this auto dialer with your EasyLogger water or weather monitoring stations.

SPECIFICATIONS:

Power:	User supplied; 10-14V DC, 500 mA Maximum; 200 mA standby; 500 mA when active; automatic alarm if external power fails
Inputs:	Digital inputs: open contacts = 5V DC, closed contacts = 5 mA DC RJ-11 phone line jack connector. Compatible with most pager, cellular & voice mail systems
Program:	Dials up to 8 different numbers (up to 60 digits long each) Time between alarm phone calls programmable from 0.1 to 99.9 min
Size:	6.85"H x 8.85"W x 2.85" D; Weight: 4 lbs 6 ounces
Environment:	20 °F to 130 °F (0 to 95% Relative Humidity); optional NEMA 4X enclosure for use outdoors



Model: REM-GuardIt Auto Dialer

Model: REM-GAC 110V AC Power option

Model: REM-GBB Battery back-up option

Field Accessories and Options

FIELD OPTION	DESCRIPTION	FITS THESE LOGGER, SENSOR OR ACCESSORY MODELS:	
FA-MPS2	2 Meter Steel Met Pole	All NEMA 4X enclosures; all sensors and sensor mounting arms	
FA-MPS3	3 Meter Steel Met Pole	All NEMA 4X enclosures; all sensors and sensor mounting arms	
FA-MTS3	3 Meter Steel Tripod Tower	All NEMA 4X enclosures; all sensors and sensor mounting arms	
FA-MTA3	3 Meter Aluminum Tripod	All NEMA 4X enclosures; all sensors and sensor mounting arms	
FA-MTA10-(4-35)	10 Meter Aluminum Tower	All NEMA 4X enclosures; all sensors and sensor mounting arms	
FA-MGRN	Grounding kit	All Met Poles or towers; All NEMA enclosures; CX6, DPXe, 900 Series loggers	
FA-MGUY	Guying Kit	All Met Poles or Tripod towers	
FA-SMA	Sensor Mounting Arm	S-045; S-161S; S-225; S-465; FA-1168	
FA-SMA-SR	Sensor Mounting Arm	S-220 or S-221; S-230; S-231; S-232	
FA-SMA-WS	Sensor Mounting Arm	S-055 or S-055WS	
FA-116S	Sensor Shield	S-060; S-061; S-115	
FA-130R	Sensor Shield	S-125	
FA-130V	Sensor Shield	S-130	

FA-F1008	NEMA 4X Fiberglass: 10x8	BIO; DP-EPR; DPX; DPXc	
FA-P1008	Pole Mounting brackets	FA-F1008	
FA-F1210	NEMA 4X Fiberglass: 12x10	CX6; DPXe; EL-924D (with PWR-9XBAT or PWR-BAT-L)	
FA-P1210	Pole Mounting brackets	FA-F1210	
FA-F1816	NEMA 4X Fiberglass: 18x16	CX6; DPXe; EL-924D (with PWR-BAT-H & Modem)	
FA-S1816	NEMA 4X Steel: 18x16	CX6; DPXe; EL-924D (with PWR-BAT-H & Modem)	
FA-S1816LK	Cylinder lock	FA-S1816	
FA-P1816	Pole Mounting brackets	FA-F1816 or FA-S1816	
FA-HUM-Card	Humidity indicator card	Fits inside any NEMA enclosure or logger	
FA-CGS-L	Cable Gland Seal - Large	Fits any NEMA 4X enclosure; can accommodate one to three sensor cables	

Field Accessories and Options

FIELD OPTION	DESCRIPTION	FITS THESE LOGGER, SENSOR OR ACCESSORY MODELS:	
FA-CGS-S	Cable Gland Seal - Small	Fits any NEMA 4X enclosure; recommended for only one sensor cable .	
FA-SV0806	Steel VandalBox: 8 x 6	BIO (without Cannon connectors); DP-EPR (without Cannon connectors); DPX; DPXc	
FA-SV1212	Steel VandalBox 12x12	BIO; DP-EPR; CX6; DPXe	
FA-SV2412	Steel VandalBox 24x12	CX6 (plus one PWR-PBA, PBS or PBW)	
FA-ZN-PZ	Power line ZapNot	All power lines of any sensor & logger where a separate NEMA 4X enclosure is used	
FA-ZN-SZ	Signal line ZapNot	All signal lines of any sensor & logger where a separate NEMA 4X enclosure is used	
FA-ZN11BT	ZapNot Bustrack	Holds 10 signal or power ZapNots and one ground	
FA-ZN15BT	ZapNot Bustrack	Holds 14 signal or power ZapNots and one ground	
FA-145D-C	Desiccant Canister (1)	FA-F1816; FA-S1816 - all large NEMA 4X field enclosures	
FA-145D-P	Desiccant Pillow (10)	Large Pillow: Use instead of the FA-145D-C	
FA-145D-S	Desiccant Pillow (1)	Same as FA-145D-P except a single pillow vs a package of 10	
FA-146D-P	Desiccant Pillow (25)	CX6; DPX; DPXe; DPXp; DSX - or use DP-DC245 desiccant	
FA-146D-S	Desiccant Pillow (1)	Same as FA-146D-P except a single pillow vs a package of 25	
FA-DC245-P	Desiccant Capsules (25)	DP-EPR; DPX; DPXc; DPXe; DPXp	
FA-DC245-S	Desiccant Capsules (1)	Same as DP-DC245 except a single capsule vs a package of 25	

LEGEND:

BIO	Biophenometer	CX6	Datapod CX6 Series
DPX	Datapod DPX Series	DPXc	Datapod DPXc (compact) Series
DPXe	Datapod DPXe (extended) Series	DPXp	Datapod DPXp (pipe) Series
DP-EPR	Datapod EPROM Series	EL-924D	EasyLogger 924D Series (includes EL-924H and EL-924N packages)

WESCOR ENVIRONMENTAL PRODUCTS







Model: FA-H1210(X)

12 x 10 portable, sealed enclosure; (specify cable gland seals, Cannon or Conxall connectors)

- CGS-S Small cable gland seal; specify quantity)

– CN Cannon sensor connectors; specify quantity)

- CX Conxall sensor connectors; specify quantity)

Model: FA-ZN-SZ ZapNot protection for sensor signal lines

Model: FA-ZN-PZ ZapNot protection for sensor power lines

Model: FA-ZN-11 11 place ZapNot bustrack

Model: FA-ZN-15 15 place ZapNot bustrack

Field Accessories and Options

NEMA Rated Field Enclosures

NEMA 4X rating provides for all weather protection including blowing rain. NEMA 3R rating sheds rain and snow but is not sealed. NEMA 1 rating provides locking protection but is not sealed. Use NEMA 3R or 1 rated enclosures only when a NEMA 4X logger or PowerBox is inside. Use NEMA 4X rated enclosures for non-sealed loggers, power and bare wire connections. All have a hasp(s) for padlock(s) except for FA-S1816 and SV2412 which have key or cylinder locks.

Model: FA-F1008 Model: FA-P1008 Model: FA-F1210 Model: FA-P1210 Model: FA-F1816 Model: FA-S1816 Model: FA-P1816 Model: FA-SV1212 Model: FA-SV2412

10" x 8" NEMA 4X Fiberglass enclosure Pole mounting brackets and hardware 12" x 10" NEMA 4X Fiberglass enclosure Pole mounting brackets and hardware 18" x 16" NEMA 4X Fiberglass enclosure 18" x 16" NEMA 4X Steel enclosure Model: FA-S1816LK Cylinder lock for FA-S1816 Pole mounting brackets and hardware Model: FA-SV0806 8" x 6" NEMA 3R Steel VandalBox 12" x 12" NEMA 3R Steel VandalBox 24" x 12" NEMA 1 Steel VandalBox

Sealed, Portable Enclosures

These enclosures are designed for applications which require portability in all weather conditions. A handle is integrated into the enclosure. Padlocks may be used to secure the contents. The enclosure is adequate for housing the Datapod models: CX6, DPX, DPXc, DPXe and EPROM Series loggers. It will also accommodate the EasyLogger 900 Series logger and either the PWR-9XBAT, alkaline battery option, or the PWR-140, 7 ah lead-acid rechargeable battery option. The sensor cables enter the enclosure either via cable gland seals or are attached using Cannon or Conxall sealed connectors.



Field Accessories and Options

10 Meter Aluminum Towers

These are free-standing towers requiring no guying wires. The above-ground portion of the tower comes in three sections. Each section is built in an equilateral triangular welded truss. A separate base section is cemented into the ground. The tower is assembled on the ground and attached to two of the three legs of the base. All sensors, field accessories, etc. are attached to the tower while it is on the ground. The assembled tower is then raised upright and the third leg of the tower is attached to the base. This tower is offered in five different models. Choose the model that will match the wind load of the area where it will be installed.

WESCOR ENVIRONMENTAL PRODUCTS



Model: FA-MTA10-9 Aluminum tower & base; wind load of 9 sq. ft.

Model: FA-MTA10-12 Aluminum tower & base; wind load of 12 sq. ft.

Model: FA-MTA10-21 Aluminum tower & base; wind load of 21 sq. ft.

Model: FA-MTA10-35 Aluminum tower & base; wind load of 35 sq. ft.

WESCOR ENVIRONMENTAL PRODUCTS

Field Accessories and Options



Meteorological Poles and Tripod Towers

Field enclosures, loggers and sensors often must be mounted on poles or towers to achieve the needed data. While a wooden post set in concrete can be used in some installations, most often you will need one of the steel or aluminum poles or tripod towers listed below. Guying kits are required for all Met Poles and are recommended for Met Tripod towers where wind is a problem. Grounding kits are recommended for all field installations.

Model: FA-MPS2 Model: FA-MPS3 Model: FA-MTA3 Model: FA-MTS3 Model: FA-MGRN Model: FA-MGUY

Steel Met Pole: 2 meter height Steel Met Pole: 3 meter height Aluminum Met Tripod: 9 foot 2 inch height Steel Met Tripod: 3 meter height Met Grounding kit: all poles or towers Met Guying kit: all poles or towers



Sensor Mounting Arms and Accessories

Some sensors come with pole mounting hardware; others require additional mounting arms or shields. Check with your salesperson to ensure that you have identified the correct accessories needed to mount the sensors you have chosen.

Model: FA-SMA

Sensor Mounting Arm Model: FA-SMA-SR Sensor Mounting Arm with S-221, S-231 mounting plate Model: FA-SMA-WS Sensor Mounting Arm with Wind Speed plate





Sensor Shields for Temperature/RH probes

Direct sunlight will adversely affect temperature readings if the sensor is not placed inside a shield. Each Sensor Shield is designed for use with specific sensors. They mount onto a pole or tower or onto a Sensor Mounting Arm.

Model: FA-116S Model: FA-130R Model: FA-130V

Sensor Shield for S-060, S-061, S-115 Sensor Shield for S-125 Sensor Shield for S-130

Packaged Accessories and Options



Placing Orders

ALL ORDERS MUST BE MADE OUT TO:

Wescor, Inc

Environmental Products Div. DataLoggers division of Omnidata is now part of Wescor Environmental

MAIL ORDERS:

P.O. Box 361, Logan, UT 84323-0361 USA E-MAIL ORDERS: enviro@wescor.com PHONE ORDERS: 435-753-8311 FAX ORDERS: 435-753-8177

PRICING AND FEES:

All prices are in U.S. Dollars, F.O.B. Logan, UT, and are subject to change, prior to order acceptance. The pricing listed on the purchase order must match the current pricing approved by Wescor for that order. Once the order is accepted, no price changes will be applicable, unless covered by separate, written agreements.

Shipping and handling fees and any applicable taxes are added to each order. Shipments within the continental United States are shipped at UPS ground rate, unless otherwise specified on the order. All orders are insured (unless we are instructed differently). All insurance is at the purchaser's expense.

Minimum order: \$25; \$5.50 handling fee for orders below that minimum. Pre-payment must accompany all orders which are not approved for open account billing. Wescor accepts cash, checks, MasterCard and Visa. Upon approved, open account, credit orders, Wescor pre-pays the shipping and insurance charges and adds those costs to the invoice. Orders for delivery outside the U.S., where open account terms are not granted, must be covered by an irrevocable letter of credit (due upon receipt by a designated U.S. bank) or payment must be made in advance of shipment. Contact our order department for complete details on international orders. C.O.D. shipments will be made only within the continental U.S. All past due invoices and uncollected funds due shall be charged interest at the rate of 1.5% per month.

CONSULTING AND INSTALLATION SERVICES

Available upon request. Ask for a specific price quote.

Effective 01 Jun 99

RETURNS

Returns for credit are not permitted without a written authorization, Return to Stock Number (RSN), from Wescor. Approved returns are subject to a minimum of 15% restocking fee. Special orders are not returnable. To return an item for either warranty or non-warranty repair, a Return Materials Authorization (RMA) number must first be obtained from Wescor. Authorization can be arranged by phone, fax, mail or email

ACCEPTANCE

Wescor reserves the right to refuse any and all orders placed by the customer (purchaser) which do not meet Wescor's current ordering terms.

The customer must provide Wescor with a written or facsimile copy of a firm, non-cancelable purchase order for the products and/or services requested to be delivered to the customer by Wescor. Issuance of said purchase order implies full acceptance of all terms and conditions set forth in this document. No other terms or conditions shall be binding upon Wescor unless covered by separate, written agreements.

LIMITED WARRANTY

Wescor warrants that all factory new products manufactured by it, and unmodified in any way, shall be free from defects in materials and workmanship for a period of one year (except for thermocouple psychrometers/hygrometers, which carry a 90 day warranty) when properly installed and operated in accordance with the instruction manuals provided by, or available through, Wescor, and when used within the design specifications of said product. Sensors and accessory products, which are manufactured by others, carry the warranty of that manufacturer, or thirty days, whichever is greater. Any responsibility and/or liability of Wescor, in connection with a warranted product, shall be limited in maximum to the original purchase price of the product, less all applicable shipping and handling costs.

FOR MORE INFORMATION REGARDING WESCOR ENVIRONMENTAL PRODUCTS CONTACT:

WESCOR, INC Environmental Products Division P.O. Box 361 Logan, Utah 84323-0361 USA

TELEPHONE: 435 753 8311

FAX: 435 753 8177

E-MAIL: enviro@wescor.com

WEB PAGE: www.wescor.com

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