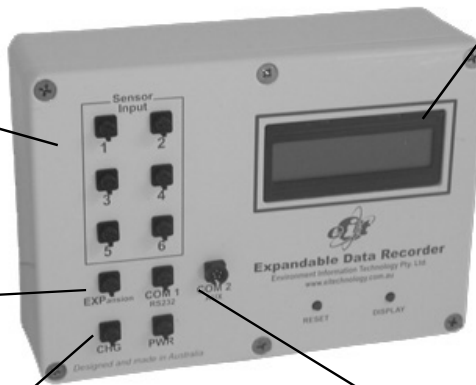

Data Recorders

R Tech series

Analogue, digital
counter inputs.
Software select-
able

EIT wireless com-
munication port

Solar charge input



LCD Display
Time, date, battery,
real time sensor
values

RS 232 communications

General description

The recorder can measure and record a wide range of environmental parameters including temperature, humidity, rainfall, solar radiation, wind speed, wind direction, barometric pressure, water level, soil moisture, and a host of other sensors with analogue, digital and counter outputs. Sensors connect simple and easily to the recorder using high quality plugs.

The recorder interfaces with the EIT range of telemetry products to provide cable free 'wireless' communication between remote sensors via radio.

Typical applications include but are not limited to monitoring weather, environmental conditions, water level and soil moisture.

The data recorders are supplied with powerful software for viewing and displaying data.

The R 20 and R 50 data recorders will store up to 30,000 data points and the R 100 will store approximately 60,000 data points. On board computation of Eto is available on all units. The recorder provides periodic recording and summarised daily information.

Models

All EIT R Tech series data recorders support telemetry communications for collecting data over the EIT wireless network. Sensors can be positioned up to 30 kms from the data recorder.

- **R 20** – supports 6 – 12 sensors connected to the recorder and up to 14 sensors via EIT wireless network
- **R 50** – supports 6 – 12 sensors connected to the recorder and up to an additional 44 sensors via EIT wireless network
- **R 100** – supports 6 – 12 sensors connected directly to the recorder and up to an additional 94 sensors via EIT wireless network

SR 30 – special series data recorder

- Supports 2 * analogue, 2 * counter inputs
- 3 * SD- 12 inputs.

See Telemetry Product Sheet SR 30

Enclosures.

The EIT data recorders are designed to be mounted inside a water proof enclosure for field use.



Environment Information Technology Pty Ltd

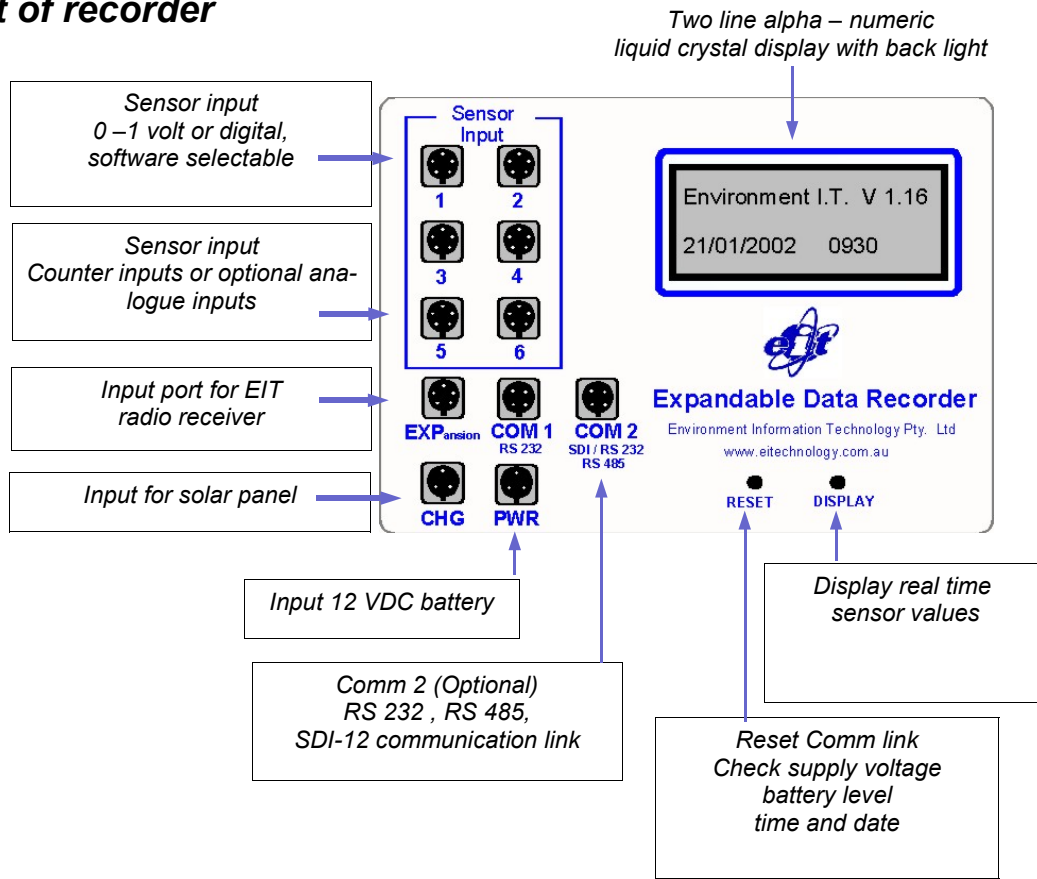
1/19 Kays Ln, Alstonville. Australia. 2477

Phone 02 66 283400 international 612 66 283400. Fax 02 66 283500 International 612 66 283500

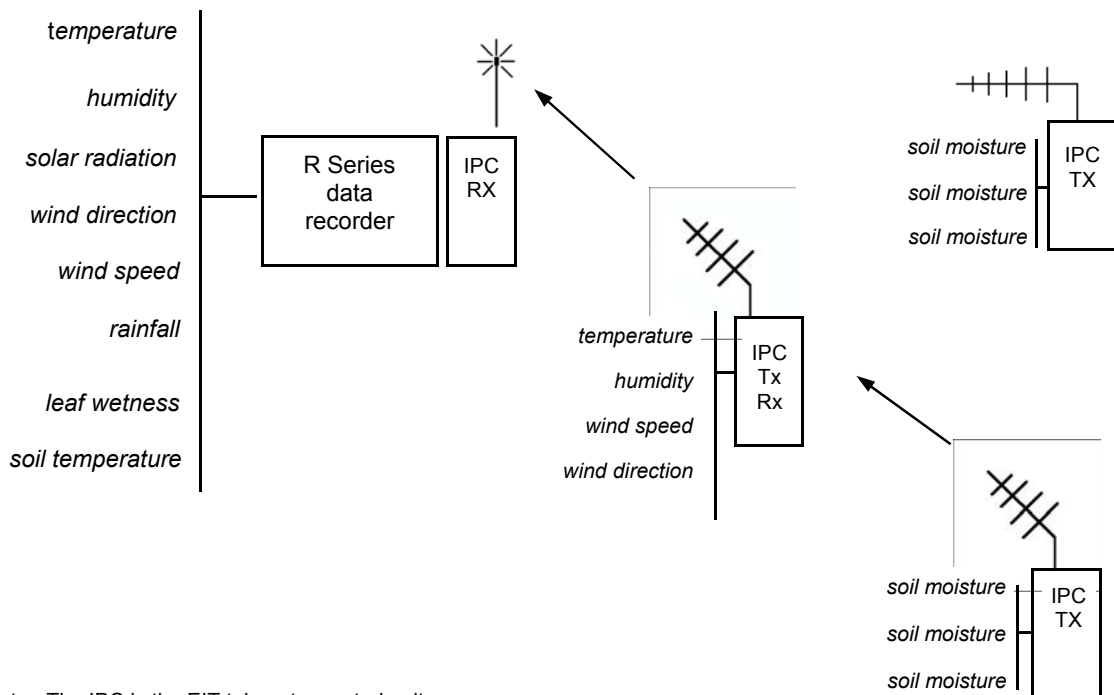
General specifications

Product description	R 20 , R 50 , R 100
Physical analogue inputs	4 or 5 differential analogue expandable to 12 using EIT Exp. expansion module (0-1 VDC) or digital (user defined)
Optional analogue input	0 – 2.5 and 0 - 5 VDC
Counter input	1 or 2 digital inputs (user selectable)
Total number sensors supported	R 20 = 20 (14 via EIT wireless link) R 50 = 50 (44 via EIT wireless link) R 100 = 100 (94 via EIT wireless link)
Microprocessor type	Rabbit 2000 (Rabbit Semiconductors USA)
Memory capacity std	R 20 / R 50 store up to 32,000 data points R 100 store up to 64,000 data points
Memory expansion (opt)	Factory Upgradeable
Program memory type	Flash
Data storage	NVRAM
Minimum log period	3 seconds
Minimum scan period	3 seconds
Power	Nominal 12 VDC (9 - 15)
Operating current	4 mAmps in sleep mode, 60 mA in wake mode
On board display	2 line 16 alphanumeric LCD with back light
Communications (COM 1)	Serial RS 232 Modbus ASCII
Communications (COM 2)	RS 232, SDI-12, RS 485 (Com 2 optional extra)
Communication (COM 3)	EIT Radio and Sensor Expansion port (std)
PC - communication baud rate	1200, 2400, 4800,9600,19200
Communications options	Landline modem, GSM, EIT 433 radio modems, UHF radio (satellite pending June 2003)
Operating software	Windows 95 and later
Data storage format	dBase IV / Paradox
Export functions	dBase, Paradox, ASCII text, Excel, EnviroSCAN ES 4.0, Ausvit
Daily summary	On board daily summaries of physical input channels
Period summary	Instantaneous or averaging of period values
On board calculations	Evapotranspiration
Sensors supported	air temp, soil temp, water temp, humidity solar radiation, wind speed, wind direction, leaf wetness, rainfall, soil moisture, barometric pressure pump run times, digital inputs, counter inputs SDI -12 based sensors including Sentek soil moisture probes RS 485 based sensors including Sentek soil moisture probes

Layout of recorder



R Tech series wireless sensor network



Note : The IPC is the EIT telemetry control unit.

Communications

Communication to the recorder is via RS 232 serial link using Modbus ASCII protocol

- EIT 900 MHz spread spectrum radio
- Land line modem
- GSM (Wavecom) modem
- Satellite (pending June 2003)
- Direct cable connection

Programming

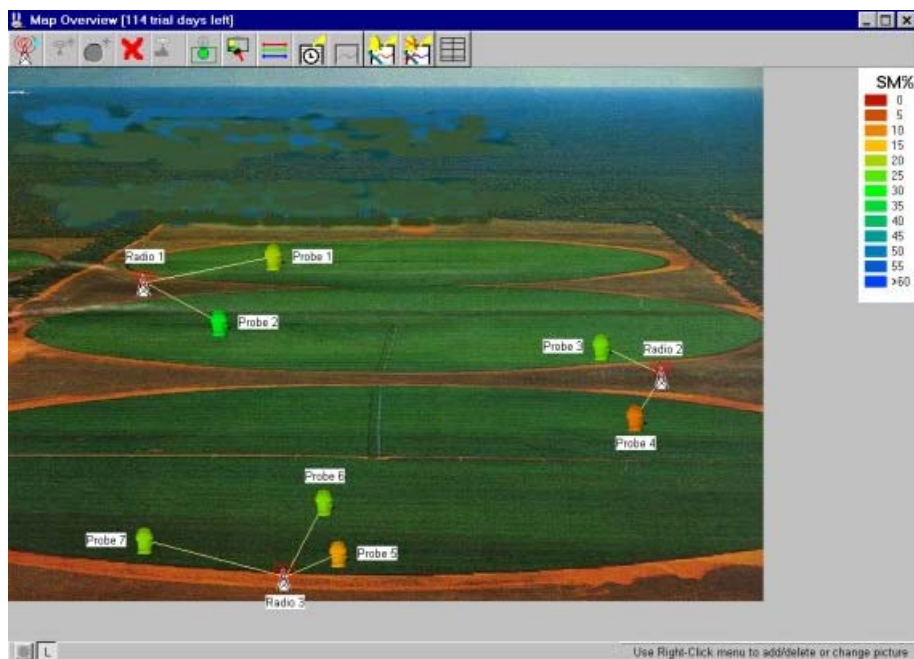
EIT data recorders are supplied with software for programming up the recorder, downloading information, creating reports and graphs.

The software also includes a weather display consul to show temperature, humidity, wind speed, wind direction, rainfall, solar radiation and evapotranspiration.

Evapotranspiration – calculation based on Modified – Penman Montheith. The user can adjust variables for day and night time stomatal resistance, plant aerodynamic conductance and albedo.

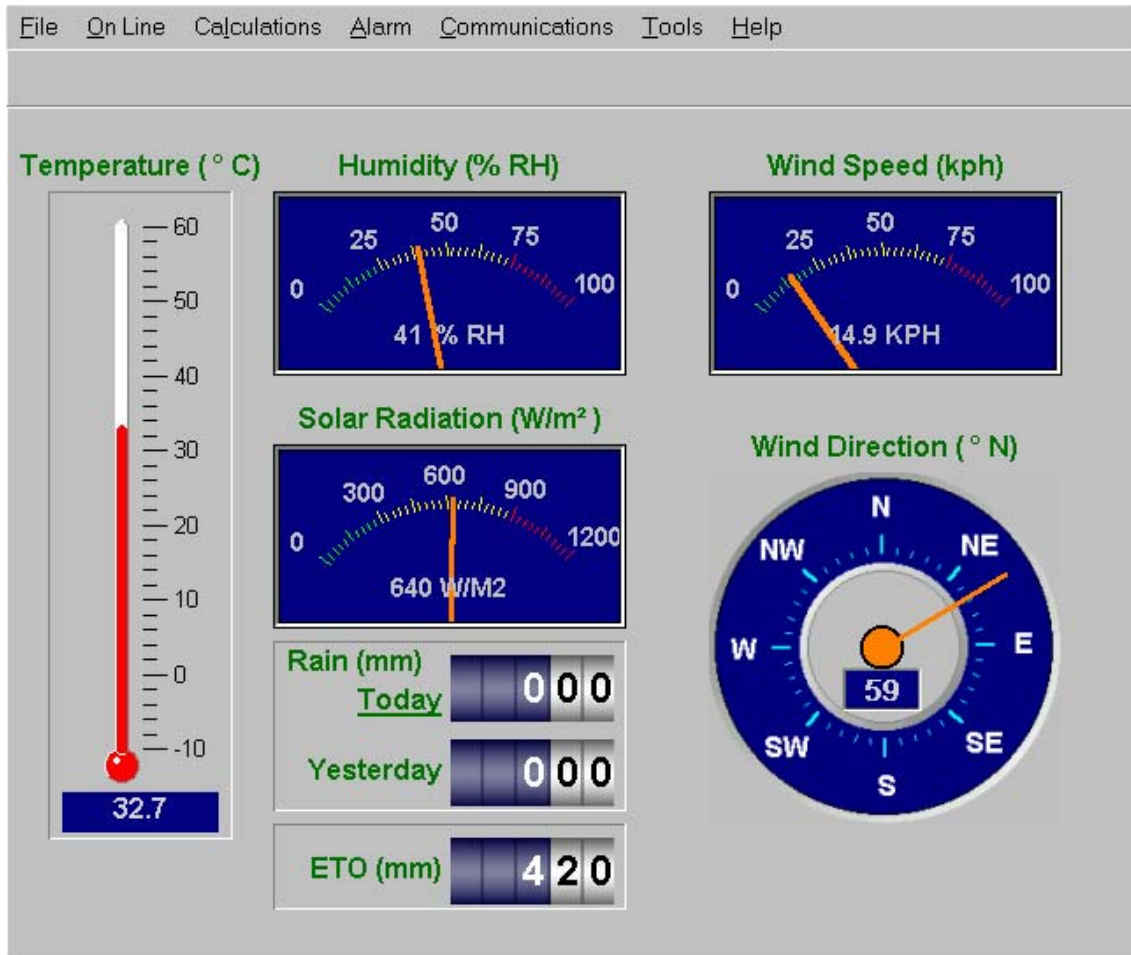
GIS thematic mapping.

The EIT data recorder is supplied with optional mapping module. This allows the user to 'place' sensors on a map, diagram or image of the monitoring area. This function is used for presenting soil moisture data in irrigated agriculture. Soil moisture sensors are colour coded according to real time soil moisture values.



Weather station display consul

The data recorders are supplied with a weather display consul for displaying real time values of temperature, humidity, solar radiation, wind speed, wind direction, rainfall, Eto.



Environment Information Technology Pty Ltd

1/19 Kays Lane
PO Box 20
Alstonville
New South Wales
Australia. 2477

Phone 02 66 283400
International 612 66 283400

Fax 02 66 283400
Fax international 612 66 283400
E-mail info@eitechnology.com.au
Web www.eitechnology.com.au