

ELAN

Technologies

Inc.



ELAN SCADA IN-A-BOX™

Spread Spectrum Telemetry Package

Pre-Configured non-licensed radio and RTU for SCADA and Telemetry Applications

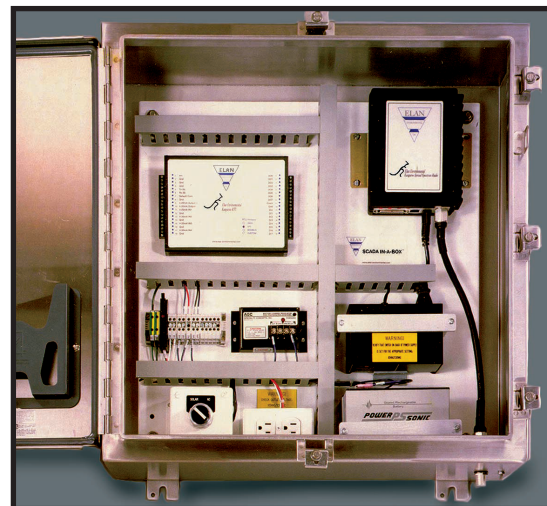


- No ladder logic programming required
- Pre-configured
- Easy equipment tie in
- Expandable
- Multiple protocols
- Non-proprietary
- True network or point-to-point radios

The Elan SCADA IN-A-BOX™ spread Spectrum Telemetry Package is at the heart of Elan Environmental's line of intelligent monitoring solutions.

SCADA IN-A-BOX™ consists of a field programmable Elan Remote Terminal Unit (RTU) integrated with an Elan Kangaroo spread spectrum radio.

The Elan RTU is programmed through a Windows screen with simple point-and-click commands and standard engineering units. No ladder logic programming is required. Elan ships the RTU configured for the basic application. However, field changes are easy to accomplish by hooking up to a laptop or PC operating Elan's RTU software. The Elan RTU is available in a number of industry standard protocols including Allen Bradley DFI Full Duplex, Modbus, ASCII and others. The Elan RTU can operate in both standard polling or "report by exception" modes or in a combination thereof. The Elan RTU not only monitors, but multiple analog and digital inputs and outputs allow controls on site, too, allowing the Elan RTU to replace more expensive PLC's in many cases.



The Elan Kangaroo spread spectrum radio is preconfigured at the factory prior to shipment for minimal field set up. Elan can offer either type of spread spectrum radio, synchronous or asynchronous, allowing you flexibility in installing traditional polling or true radio network solutions.



The standard Elan SCADA IN-A-BOX™ package consists of an Elan Kangaroo spread spectrum radio, Elan RTU, power supply and back up battery housed in a NEMA 4X stainless steel enclosure with condensation protection. The package includes lightning protection and a bulkhead connector for antenna cable connection. The standard package includes a 3dB antenna and 25' antenna cable. Optional antennas are available as well as cable lengths to 300'.

Contact ELAN Technologies

ELAN also offers data logging rain gauges, multiple channel dataloggers, solar powered instruments and other innovative monitoring solutions. Contact ELAN Technologies at 815-463-8105 for details.

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Design Specifications

General

- Power: 120 VAC 1A
- Temperature: -40 to +70 degrees C

Analog Input

- Optionally power 4-20 mA loop.
- Accuracy
- Current: $\pm 12.2 \text{ É A}$
- Voltage: $\pm 6.1 \text{ mV}$
- A/D Resolution: 22 bit
- Isolation: 1400 V input to power

Digital Inputs

- Type: 5-36 Vdc with pulse counting
- Isolation: 3000 V to chassis ground

Analog Outputs

- Accuracy
- Current: $\pm 32 \text{ uA}$
- Isolation: 1400 V output to power
- D/A Resolution: 16 bits

Digital Outputs

- Capacity: 36 Vdc
- FET Relay
- Load Current: 2A continuous per output
- Isolation: 3700 V to chassis ground

900 MHz Model Radio specifications

- Data Rate: 106 Kbps over-the-air
- Frequency Band: 902-928 MHz ISM band
- Spreading Mode: Frequency Hopping Spread Spectrum
- Range1:
- Typical Fixed Range: 25 miles
- Maximum Fixed Range: 60 miles
- System Gain: 136 dB
- Carrier Power: 0.1 to 1 watt (20 to 30 dBm)
- Receiver Sensitivity: -106 dBm (1 x 10⁻⁶ BER) typical

2.4 GHz Model Radio specifications

- Future Availability: Anticipated 2nd Quarter, 2007
- Data Rate: 106 Kbps over-the-air
- Frequency Band: 2.4016-2.4778 GHz ISM band
- Spreading Mode: Frequency Hopping Spread Spectrum
- Frequency Channels: Selectable 80 to 128 in increments of 16
- Range1:
- Typical Fixed Range: 6 miles
- Maximum Fixed Range: 15 miles
- System Gain: 131 dB
- Carrier Power: 0.1 to 0.5 watts (20 to 27 dBm)
- Receiver Sensitivity: -104 dBm (1 x 10⁻⁶ BER) typical

Agency Approvals

- FCC Part 15.247
- IC - Industry Canada - RSS210

Highlights

- 1 Analog input, 1 Analog Output,
- 2 Discrete inputs, 2 Discrete Outputs
- I/O expansion available as needed
- Wireless I/O expansion up to 3000 ft
- Power supply with surge protection
- Battery backup available
- Solar power available
- 900 MHz radio communications
- Small installed footprint
- Stand alone operation or integrated to existing PLC

Options

- Solar power kit for remote areas with no AC Power available.
- Remote I/O that communicates with SCADA IN-A-BOX™ using wireless 802.15.4 specifications. Remote range up to 3000 ft.



Rugged, weather-tight enclosure with locking door

