

- Monitor and Control Equipment Anywhere From the Integralert Web Site
- Dual Mode (Analog/Digital) Cellular Communication Without A Local Cellular Account
- Receive Voice or E-Mail Message Within Seconds
- 120Vac Power Source
- (8) Dry Contact Digital Inputs
- (4) Selectable 4-20ma or 0-10V Analog Inputs
- (4) 250Vac/8 Amp Relay Outputs



### **GENERAL DESCRIPTION**

The ESI-844 is a web-to-wireless remote monitor and control system. Its internal cellular modem provides 2-way communications to the automated Network Operation Center (NOC) and the [www.integralert.com](http://www.integralert.com) web site. Dual mode (analog/digital) cellular communication provides wide coverage throughout North America with no requirement for local cellular account.

The ESI-844 comes assembled in a NEMA 4X fiberglass enclosure which is easily installed inside an existing enclosure or outside.

The inputs and outputs are suitable for a wide range of direct connect monitoring and control applications. The ESI-844 can monitor up to (8) digital inputs, (4) analog inputs and (4) control relay outputs. The analog inputs and control relay outputs are standard.

### **Basic Operation**

Operation is simple.

- 1.) Connect the ESI-844 to switches, sensors and other devices to be monitored and controlled. Apply power.
- 2.) The ESI-844 will automatically establish 2-way communications over the cellular network to the [www.integralert.com](http://www.integralert.com) web site.

3.) Log onto your private secure web page to:

- View the last reported status of your equipment – switch positions, on/off status, tank levels, temperature, pressure, flow rate, number of pulses received
- Send a remote control command or request an up-to-date report from the unit
- Configure selected alarms or events to trigger an immediate user notification
- Configure time/date scheduled command sequences

### **Digital Inputs**

The ESI-844 is equipped with (8) configurable dry contact digital inputs. All inputs are opto-isolated and protected with surge suppression circuitry per ANSI C37.90.1-2002 to minimize the effects of external transient voltages. In the standard system, the Inputs are defined as follows:

- All inputs monitor a digital dry contact and reports state changes.
- Inputs 1 through 4 can be configured as a counter/timer
- Counters can count up to 5 digits 00000-99999
- Timers reported as 'mmmm.ss' where 'm' is minutes and 's' is seconds

### **Analog Inputs**

Additionally, the ESI-844 is equipped with (4) configurable analog inputs designed to monitor 4-20mA or 0-10Vdc signals

- Protected with surge suppression per ANSI C37.90.1
- Programmable set points and trigger time for each input
- Offsets and scalars available on the web server to convert the raw values into meaningful values (temperature, tank level, pressure, etc.)

### **Relay Outputs**

Optionally, the ESI-844 is equipped with (4) Form "C" mechanical relays.

- Capable of switching 250Vac/30Vdc at 8 Amps
- Remote control commands from the web server can set steady state ON or OFF, or can initiate a temporary (1 sec to 160 hrs) open or closed condition

### **Power Supply & Battery Backup**

The standard ESI-844 system operates by 120Vac power source. Optionally, the system can be powered by 15Vdc for battery powered systems or 12Vdc for solar power applications. Regardless if powered by 120Vac or 15Vdc, the ESI-800 will:

- Continually charge a 12Vdc backup battery up to 5 A-Hr while AC power is present
- Monitor loss of power and send a power outage report to the NOC

### **Low Power Mode**

The ESI-844 system can be configured for a low power mode to conserve power. In this mode, the radio is always powered off except to send reports to the NOC. This mode is limited to monitoring the sending reports only. It is ideal for solar powered applications.

### **Daily Reports Limits**

To reduce the number of event based reports sent to the NOC resulting from over-active inputs or power cycling conditions, the system

can be configured to limit the number of reports sent per day from 1 to 20. Time scheduled and user requested reports are not limited. Daily limits may be reset from the NOC.

### **Web Server**

The central web server records and displays all incoming status reports. Depending on the report options, the user is notified by e-mail, text message or telephone (using a text-to-speech voice message) of the event.

After entering a unique user Id and password the user may:

- View latest and historical data
- Request current status reports
- Send control commands
- Export data to spreadsheet
- Customize data field labels, scaling factors, and units of measure
- Create notification contact lists
- Configure user notification messages
- Configure time scheduled reports

Users can also dial a toll-free number to hear the current status report of their equipment from any telephone in North America.

### **Reporting Options**

Reports are triggered for three reasons: 1) a specified alarm condition occurs, 2) a time scheduled report is due, or 3) a status report requested from the web site.

Typical alarm conditions are:

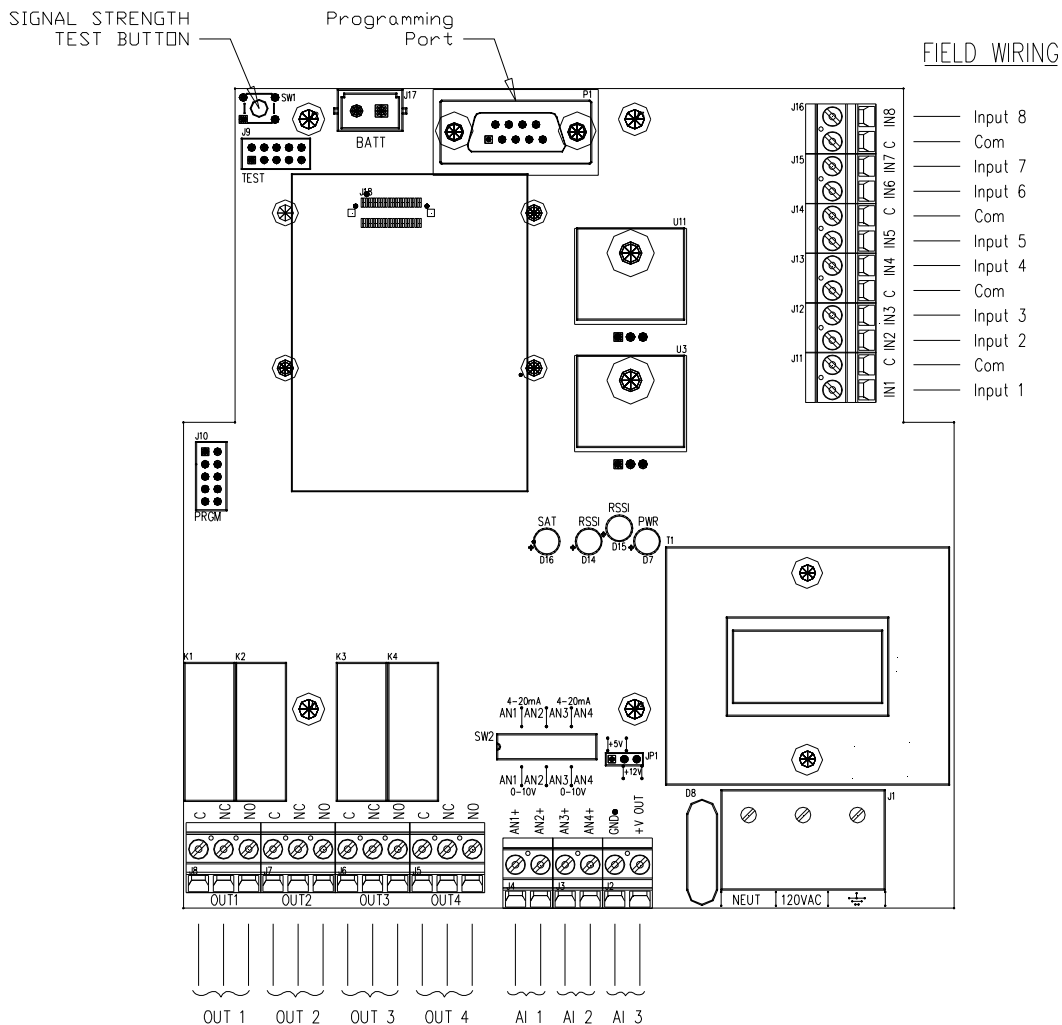
- Digital state change
- Analog limit value reached
- Power outage
- or Missing System (loss of communication)

Time scheduled reports can be set for a predefined frequency anywhere from once every hour to once every 240 hours (10 days).

Reports can be requested at any time from the web site.

### Hardware Specifications

- Input Power 120Vac +/- 10% 0.5A max
- (8) Digital Dry Contact Inputs
- (4) Selectable 4-20mA or 0-10Vdc Analog Inputs
- (4) Form "C" Output Control Relays, 250Vac @ 8Amp
- Fiberglass enclosure (NEMA 4X)
- Operating Temperature (-22 to 140 °F) or (-30 to 60 °C)
- Relative Humidity (5 – 95%) non-condensing
- Supports Amps 800MHz, Digital CDMA 800MHz, and CDMA PCS 1900MHz
- Battery backup 12Vdc Sealed Lead Acid (SLA), 0.8 A-Hr
- 1 Year Limited Warranty



**Ordering Information:**

ESI-8xx Part Number Description						
Complete Order Code						
ESI-8	xx	-10	-20	-30	-40	
xx	I/O Options					
	00	(8) Digital Inputs				
	04	(8) Digital Inputs, (4) Control Relay Output (Form C), 250Vac @ 8Amp				
	40	(8) Digital Inputs, (4) Analog Inputs (4-20mA/0-10V)				
	44	(8) Digital Inputs, (4) Analog Inputs (4-20mA/0-10V), (4) Control Relay Output (Form C)				
10	Enclosure Options					
	PC	Fiberglass (NEMA 4X)				
20	Radio Options					
		01	Analog/Digital Dual Mode CDMA Cellular			
		02	GSM/GPRS/EDGE Cellular			
		03	Satellite			
30	Digital Input Options					
			01	Dry contact		
40	Power Supply Options					
				AC120	120Vac, 60Hz	
				DC12	12Vdc (without Backup Battery)	
				DC15	15Vdc	
Example Order Code - ESI-844-PC-01-01-AC120						
ESI-8	44	PC	01	01	AC120	Remote Monitoring System Fiberglass Enclosure, Cellular, CDMA, (8)-Dry contact Inputs, (4)-Analog Input (4-20mA/0-10V), (4)-Control Relay Output (Form C, 250Vac @ 8Amp), 2.5dBi Gain Internal Antenna, 120/240/480Vac Input Power

**NOTE:** Preliminary Specifications and Subject to Change

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## About

Integralert is a wholly-owned product of Delta Process Equipment, a DXP Enterprises company.

Integralert telemetry systems transfer data between machines and machines, and more importantly, between machines and man.

Telemetry is the science of remote, automated measurement and transmission of the collected data for storage, analysis and remote operation.

The advent of internet, cellular and satellite technology enabled current telemetry systems. Integralert devices collect data from systems and transfer it to the internet. Cellular infrastructure is the preferred carrier technology, though satellite communication is available where cellular service is not.

The installation location is evaluated to determine whether CDMA (Verizon) and GPRS (AT&T) cellular technologies provide the best coverage. Once the technology is mated to the site, it is not necessary to enter into a contract with the cellular provider. Integralert airtime is invoiced by Delta Process on a monthly or annual basis.

Once the remote data reaches the internet, the data is available to the user through a private, password protected website that can be viewed by smart phone or computer. Website tools include charting and data trending.



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# Contact

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Please call or email to find the distributor for your area. Firms interested in becoming a distributor, call or email for available territory.



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