

APPLICATION

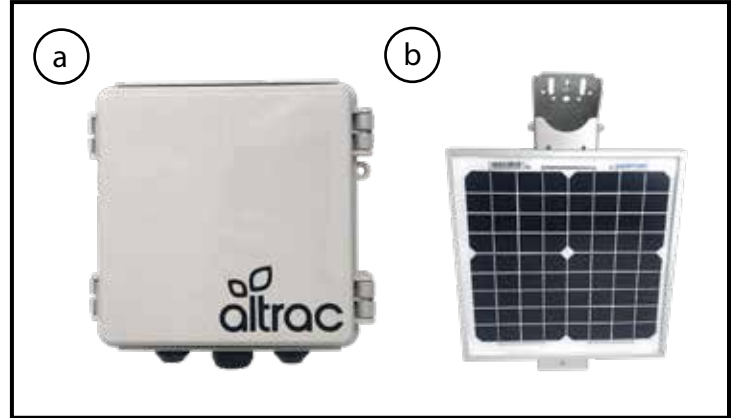
The ST160 Cellular Station allows you to remotely monitor and control two latching solenoid valves, two pressure sensors, and one flow meter. Each ST160 contains a cellular modem which sends data to the Altrac Cloud. Using the Altrac Web App you can control and monitor your valves or flow meter from your smartphone, tablet, or desktop computer.

GENERAL OVERVIEW

The Altrac ST160 has two components: (a) cellular powered station and (b) solar panel.

(a) The Station contains a LiFePO4 battery, cellular modem, circuit board with inputs and outputs, and integrated MPPT solar power management circuit. The Station connects to the cloud every 10 minutes to transmit data and receive instructions.

(b) The solar panel is sized for the application and comes with included brackets for mounting to a pole, post, or flat surface. Often a 5W panel is used for sunny locations and a 10W for northern latitudes or rainy/cloudy locations.

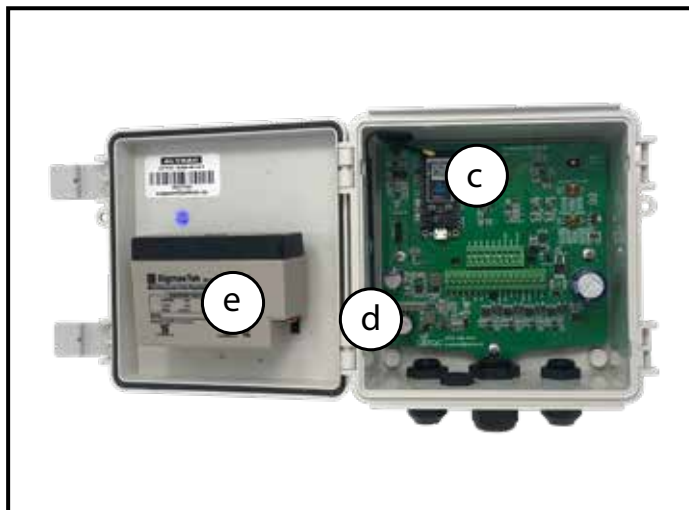


ST160 DETAILS

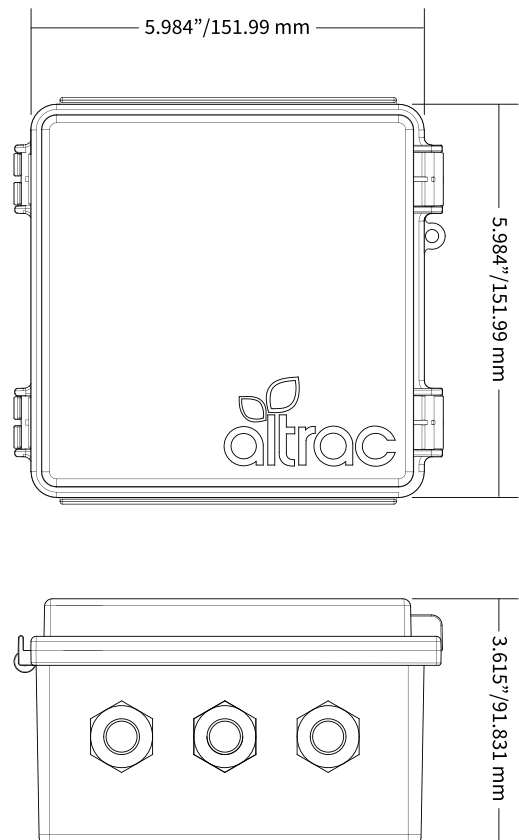
The ST160 includes a cellular modem (c) with an embedded SIM card. You need to specify a 2G/3G or LTE/5G modem based on your location and network availability. An internal antenna (d) provides reception for the modem.

The enclosure is an IP67 weatherproof enclosure. Cable glands for several different cable diameters are included.

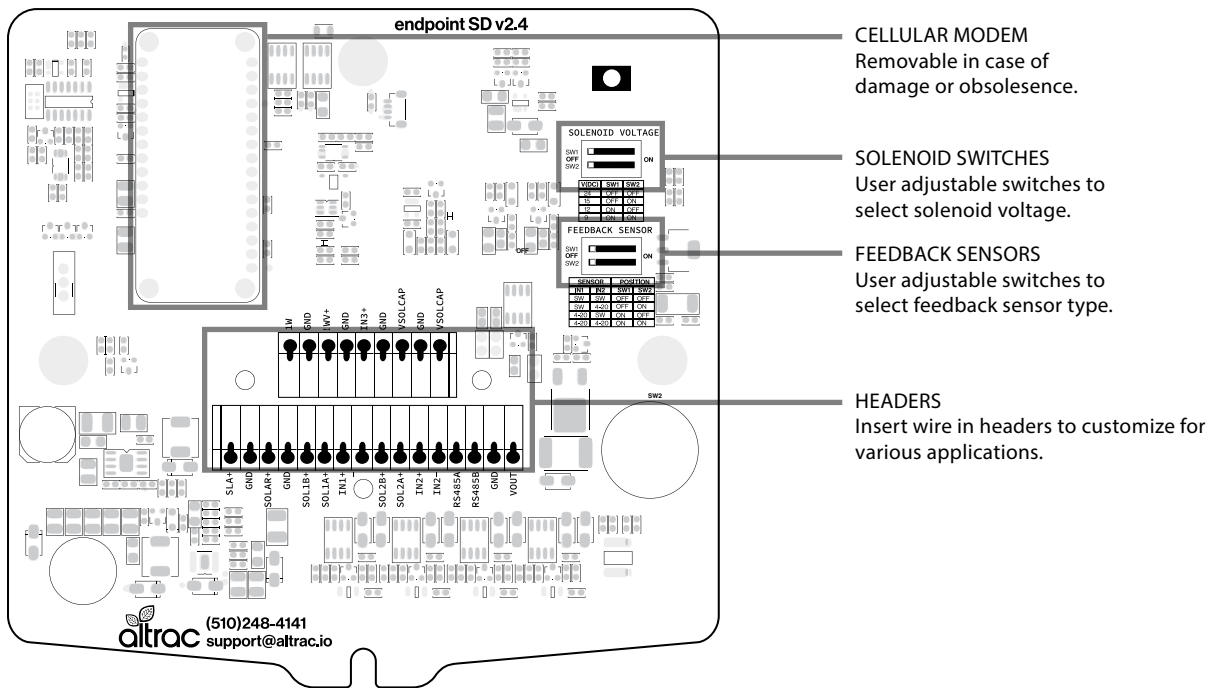
A 12.8v 3Ah LiFePO4 Battery (e) is the default battery option, but a 12v SLA battery is recommended if the Station will be used in locations with temperatures that regularly drop below 0°C (32°F) for extended periods of time.



ST160 HOUSING DIMENSIONS



CIRCUIT BOARD DIAGRAM



POWER SUPPLY

The ST160 is powered by a 24VDC power supply. Altrac offers solar panels of various sizes as well as a power supply that plugs into a 120VAC outlet.

CELLULAR STATION (ST160) SPECIFICATIONS

Power Supply Voltage: 18-30VDC
 Power Consumption: 2A peak usage

SOLAR PANEL SPECIFICATIONS

Altrac Part Number: PW300_X
 Optimum Circuit Voltage: 17.5VDC
 Wattage: 5W, 10W, 20W
 Weatherproofing: IP67
 Wire Length: 3' (3.6m)
 Mounting Method: Brackets included for mounting to pole, post, or flat surface.

POWER SUPPLY SPECIFICATIONS

Altrac Part Number: PW200
 Input Voltage: 100-265VAC
 Output Voltage: 24VDC
 Current: 2.5A
 Wattage: 60W
 Weatherproofing: IP67
 Wire Length: 12' (3.6m)
 Mounting Method: Brackets on body of power supply



MOUNTING THE ST160

The Station has an antenna mounted inside the enclosure. Because of this, the Station's mounting location can affect cellular signal strength. Follow these guidelines in order to maximize cellular reception:

- Locate as high above the ground as practical.
- In an area clear of vegetation.
- Face the right or left side of the enclosure toward a cellular tower
- Metal weakens cellular signals. If you have a weak cellular signal, mount as far from metal as possible
- Changing device location by a few feet or rotating device can have a large effect on cellular reception. Try a few different positions if experiencing cellular reception issues.

IF REQUIRED, ALTRAC CAN PROVIDE AN EXTERNAL ANTENNA TO INCREASE CELLULAR RANGE

GENERAL SPECIFICATIONS

SPECIFICATION	ST160_3G	ST160_5G
CELLULAR MODEM	2G/3G	4G/LTE and 5G CATM1
CELLULAR NETWORKS	AT&T, T-MOBILE	AT&T
POWER SUPPLY	17.5VDC SOLAR PANEL OR 24VDC POWER SUPPLY	
PEAK ELECTRICAL CONSUMPTION	40W	
OPERATING TEMPERATURES	-40°F (40°C) - 176°F (80°C)	
BATTERY	LiFePO4 - 12.8v, 3Ah	
BATTERY OPERATING TEMPERATURES (LiFePO4)	32°F (0°C) - 131°F (55°C)	
WEATHERPROOFING	IP67, NEMA 1, 2, 3, 3R, 4, 4X, 12, 13	
ENCLOSURE MATERIAL	PBT/PC BLENDED PLASTIC	
UL RATING	UL94V-0 FLAMMABILITY RATING	
SUNLIGHT PROTECTION	UV STABILIZED	
SOLENOID 1	9, 12, 15, or 24VDC LATCHING SOLENOID	
FEEDBACK SENSOR 1 (IN1)	PRESSURE SWITCH OR PRESSURE TRANSDUCER (4-20mA)	
SOLENOID 2	9, 12, 15, or 24VDC LATCHING SOLENOID	
FEEDBACK SENSOR 2 (IN2)	PRESSURE SWITCH OR PRESSURE TRANSDUCER (4-20mA)	
FLOW METER INPUT (IN3)	OPEN COLLECTOR PULSE	
TEMPERATURE SENSOR	1 WIRE TEMPERATURE PROBE	
RS485/RS232	AVAILABLE: CONTACT ALTRAC SUPPORT	

SOFTWARE SPECIFICATIONS

Feature	SW130 - Flow Meter	SW160 - Valve Control
Connection Frequency	Every 10 minutes.	Every 10 minutes when valve is CLOSED. Every 60-90 second when valve is OPEN.
Webapp Access	Included	
User Accounts	Unlimited	
Alerts: Text, Email, Phone	Included	
Management Reports	Included. Daily, Monthly, or Yearly.	
Valve State	Not Included	Included
Valve Scheduling	Not Included	Included
Pressure Sensor Feedback	Not Included	Included
Flow Meter (Instant Readings)	Included	Not Included. Need addon SW130.
Flow Meter (Cumulative)	Included	Not Included. Need addon SW130.
Ambient Air Temperature	Included. Must purchase SN100 Temp Probe.	Included. Must purchase SN100 Temp Probe.
Soil Moisture	Not Included. Need addon SW120.	Not Included. Need addon SW120.
API Access	Contact support@altrac.io to setup.	Contact support@altrac.io to setup.

HOW TO ORDER

PHONE: (510) 248-4141
 EMAIL: sales@altrac.io
 WEBSITE: altrac.io

FOR SUPPORT

Customer Support for Existing Devices:
support@altrac.io
<https://altrac.io/support>

Altrac YouTube Channel for Installation Videos:
<https://altrac.io/support/videos>

MAILING ADDRESS

20885 REDWOOD ROAD BOX 218
 CASTRO VALLEY, CA 94546