APPLICATION

The ST140 Pump Station allows you to remotely monitor and control VFD, Soft Start, Contactor and Relay driven pumps. Each ST140 contains a cellular modem with connection to the Altrac Cloud. Using the Altrac Web App you can control your pump on your smartphone, tablet, or desktop computer. The ST140 also has a physical button you can use to turn the pump on and off when you don't have access to a smart device.

GENERAL INFORMATION

The Altrac Pump Station has three components: (a) cellular powered station used for controlling the pump or VFD, (b) power supply, and (c) 20' control cable.

The Pump Station monitors and controls up to two pumps. It is designed to control a primary irrigation pump and a secondary pump such as for fertigation or sulfur burner. The ST140 monitors pump state(s), HOA switch position, flow meter, and two pressure sensors for irrigation line pressure.

The Pump Station updates every 10 minutes while connected to a power source. During pump operation, the Station updates every 5 minutes or less. If a sensor value changes dramatically the Station will update immediately.

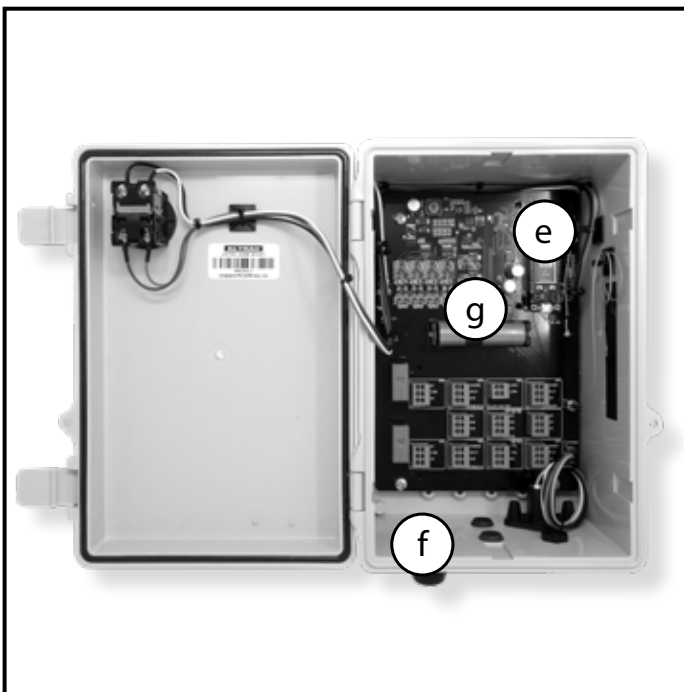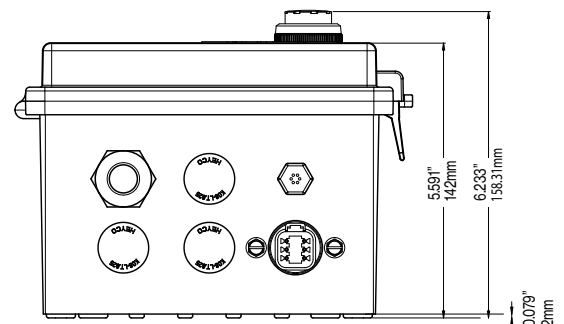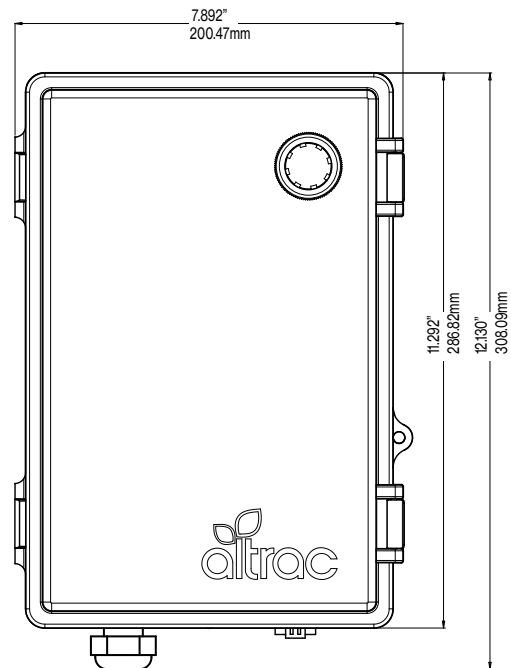## ST140 CELLULAR POWERED STATION

The ST140 includes a cellular modem (e) with an embedded SIM card. It will provide 2G/3G or LTE/5G connectivity to your Pump Station. All sensors plug in directly to the device.

The housing is a weatherproof enclosure with a (f) cable gland that provides IP67 waterproofing.
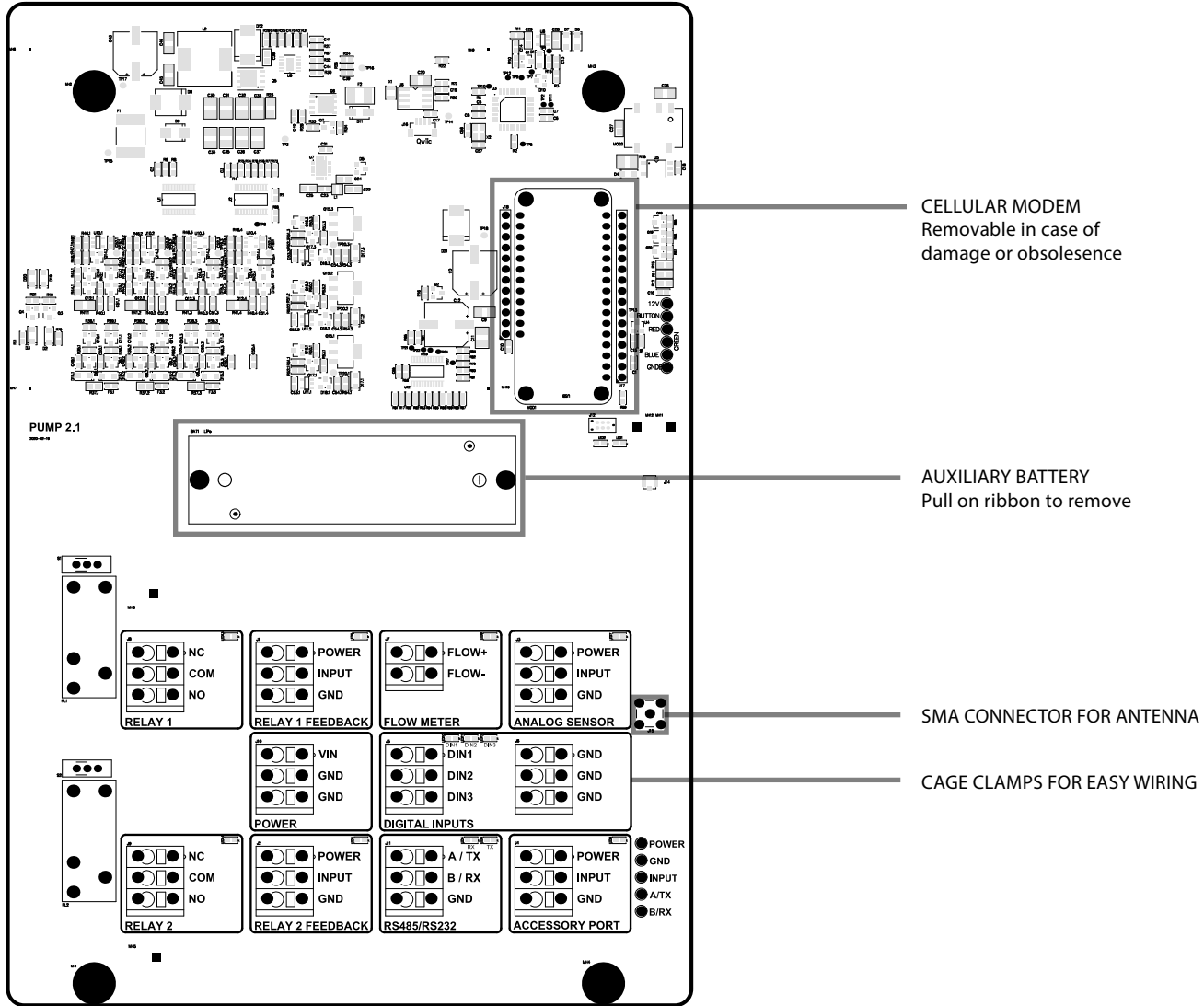
An auxiliary 3.6V 18650 Li-ion battery (g) is included in the event of a power outage. The battery will power the device for up to 3 hours during an outage and is intended primarily to warn a user when a pump station has lost power. When on battery, the ST140 cannot continue to run a pump.

ST140 HOUSING DIMENSIONS

CELLULAR MODEM
Removable in case of
damage or obsolesence

PUMP 2.1
2000-00-00

AUXILIARY BATTERY
Pull on ribbon to remove

RELAY 1	RELAY 1 FEEDBACK	FLOW METER	ANALOG SENSOR
NC	POWER	FLOW+	POWER
COM	INPUT	FLOW-	INPUT
NO	GND		GND

SMA CONNECTOR FOR ANTENNA

POWER	DIGITAL INPUTS	
VIN	DIN1	GND
GND	DIN2	GND
GND	DIN3	GND

CAGE CLAMPS FOR EASY WIRING

RELAY 2	RELAY 2 FEEDBACK	RS485/RS232	ACCESSORY PORT
NC	POWER	A / TX	POWER
COM	INPUT	B / RX	INPUT
NO	GND	GND	GND

POWER
GND
INPUT
A/TX
B/RX

POWER SUPPLY

Altrac recommends powering the ST140 with a 15VDC power source. The
Altrac provided option is:

PUMP STATION (ST140) SPECIFICATIONS
Power Supply Voltage: 12-15VDC
Power Consumption: 2A peak usage

POWER SUPPLY SPECIFICATIONS
Altrac Part Number: PW200
Input Voltage: 100-265VAC
Output Voltage: 15VDC
Current: 2.5A
Wattage: 60W
Weatherproofing: IP67
Wire Length: 12' (3.6m)
Mounting Method: Brackets on body of power supply

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MOUNTING THE ST140

The ST140 has an antenna mounted inside the enclosure. Because of this, the ST140'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 ST140 at a local cellular tower

- Metal weakens cellular signals. If possible, mount as farm 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 FOR GREATER CELLULAR RANGE.

GENERAL SPECIFICATIONS

SPECIFICATION	ST140_3G	ST140_5G
CELLULAR MODEM	2G/3G	LTE CATM1 (5G)
CELLULAR NETWORKS	AT&T, T-MOBILE	AT&T
POWER SUPPLY	15VDC	
PEAK ELECTRICAL CONSUMPTION	40W	
OPERATING TEMPERATURES	40°C TO 80°C (-40°F TO 176°F)	
WEATHERPROOFING	IP66, NEMA 1, 2, 3, 3R, 4, 4X, 12, 13	
ENCLOSURE MATERIAL	PBT/PC BLENDED PLASTIC	
UL RATING	UL94V-0 FLAMMABILITY RATING	
SUNLIGHT PROTECTION	UV STABALIZED	
ON/OFF BUTTON	INCLUDED	
RELAY 1	12A, 250VAC, 85°C	
RELAY 1 FEEDBACK	4-20mA or 0-10VDC	
RELAY 2	12A, 250VAC, 85°C	
RELAY 2 FEEDBACK	4-20mA or 0-10VDC	
ANALOG SENSOR 1: PRESSURE SENSOR 1	4-20mA or 0-10VDC	
ANALOG SENSOR 2: PRESSURE SENSOR 2	4-20mA or 0-10VDC	
FLOW METER	PULSE OUTPUT	
DIGITAL INPUT 1: HOA SWITCH LOCATION	INCLUDED	
DIGITAL INPUT 2: OPEN	INCLUDED	
DIGITAL INPUT 3: OPEN	INCLUDED	
RS485/RS232: VFD COMMUNICATION	AVAILABLE: CONTACT ALTRAC SUPPORT	

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SOFTWARE SPECIFICATIONS

Software Package	Standard Software	SW142: Advanced Software Features
Connection Frequency	Every 10 minutes when pump is OFF. Every 5 minutes or less when pump is ON.	
Webapp Access	Included	
Pump 1 Remote Control	Included	
Pump 2 Remote Control	Not Included	Included
Pump Scheduling Software	Included	
Flow Meter: Instant Flow Rate	Included	
Flow Meter: Cumulative Flow	Not Included	Included
Pressure 1 (PSI)	Included	
Pressure 2 (PSI)	Not Included	Included
Pressure Differential	Not Included	Included
Alerts: Text, Email, Phone	Included	
Reports: Daily, Weekly, Yearly	Included	
RS485/RS232: VFD Communication	Not Included	Available: Contact Altrac Support
Frost Water Automation Software	Available	

HOW TO ORDER

Distributors:
https://altrac.io/pages/distributors

Get more info about our products:
sales@altrac.io

Website:
https://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

CONTACT ALTRAC

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