

STARTER-PACK



The Starter-Pack provides for autonomous local and/or remote monitoring of a single well that can be equipped with a Lufkin Pump Off Controller and local tanks, or tied to a Central Tank Battery or Multi-Well Pad installation.

The Starter-Pack provides for complete on-site control of the facility, also providing monitoring, controlling, and full safety over your wellhead systems.

All Starter-Pack models are designed with an all-weather protected, local user control interface. Each Battery Pack is in an enclosure with a Nema 4X Class 1, Div2 Rating.

The Starter-Pack is designed to work in conjunction with the *Battery-Pack 300*. In this configuration it is the well location controller module that is placed on the remote wellhead location of a well that feeds its production to the Centralized Tank Battery location. The Starter-Pack is placed at the wellhead and communicates to the *Battery-Pack* via radio communications, reporting wellhead information and pumping unit information for either an electric powered pumping unit, a gas powered pumping unit, or a hydraulically operated pumping unit.

Starter-Pack EPU

The Starter-Pack GPU is designed specifically to be placed on locations equipped with rod beam pumping units powered by electric motors that are equipped with smart controllers, such as a Lufkin SAM POC. The Start-Pack GPU interfaces to the SAM POC to provide additional control and monitoring between the wellhead and the tank battery, and back to a Host SCADA system.

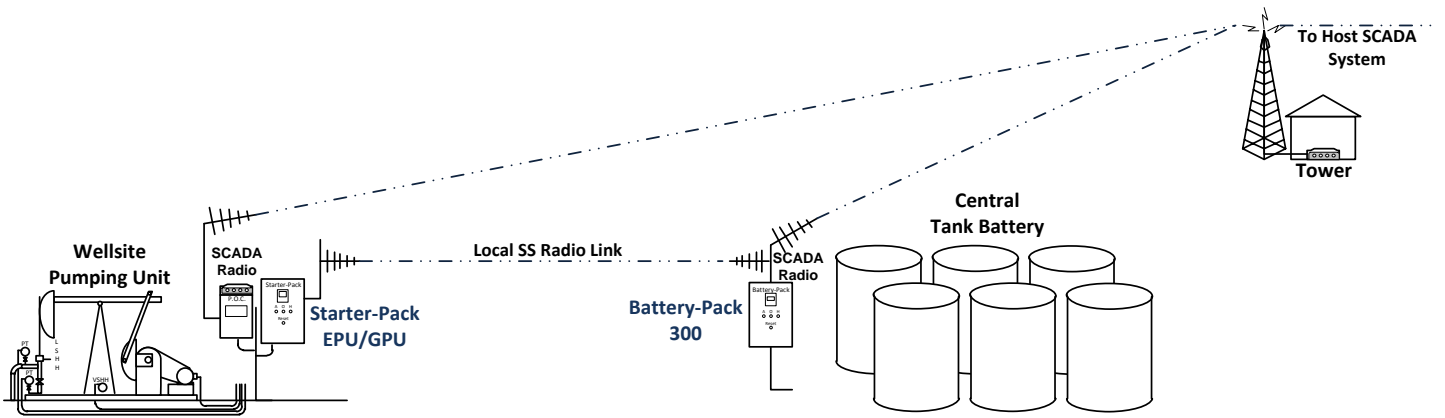
Starter-Pack GPU

The Starter-Pack GPU is designed specifically to be placed on locations equipped with rod beam pumping units powered by gas engines that are equipped with smart controllers, such as a Lufkin SAM POC. The Starter-Pack GPU interfaces to the SAM POC to provide additional control and monitoring between the wellhead and the tank battery, and back to a Host SCADA system.

Starter-Pack HPU

The Starter-Pack HPU is designed specifically to be placed on locations equipped with a specialty hydraulic pump used for lifting the polished rod in place of the more traditional rod beam pumping unit. The Starter-Pack HPU interfaces to the local electrical control panel to provide additional control and monitoring between the wellhead

Starter-Pack to Battery-Pack Diagram



The diagram above shows how the Starter-Pack can interface to the *Battery-Pack, making the remote wellhead and the Tank Battery one controlled location. If there is any type of critical alarm at the Tank Battery Location, the Battery-Pack via local Spread Spectrum radio sends a signal to the Starter-Pack, which in turn will shut in the well location. The Battery-Pack will then send an alarm signal to your central SCADA system alerting you that there is an alarm and that the well location has been shut-in.

- 2 Tank Level
- 2 Saltwater Tanks
- 1 Line Heater
- 1 Free Water Knock Outs (FWKO)
- 1 Tubing Pressure
- 1 Casing Pressure
- 1 Line Pressure
- 1 Circulating Pumps
- 1 Saltwater Pumps
- 1 Chemical Pumps
- Support for up to 1 local meter runs
- Tubing Pressure and Flow Rate
- Casing Pressure
- Seven days Tubing Flow History
- Seven days Chemical Pump Flow History
- Pumping Unit Controller Configuration variables
- Provides local alarms and critical shutdowns
- Local configurable shutdown settings
- Local configurable alarm settings
- All alarms and shutdowns are displayed locally
- PLC Battery Voltage
- Storage Battery, and Charge Voltage and Current
- PLC Clock Information

Common Starter-Pack Specifications:

Battery-Pack is built on the SCADA-Pack PLC Platform with the following Specifications
 32-bit CMOS microcontroller, Non Volatile RAM CMOS RAM with lithium battery retains contents for 2 years with no power
 Serial Port COM1 Configurable RS-232 or RS-485, 2 wire half duplex or 4 wire full/half duplex
 Serial Ports COM2, COM4 • RS-232, DTE, 8 pin modular jack, full or half duplex with RTS/CTS control
 Serial Port COM3 Located on 5604 I/O module. Same specifications as COM2 and COM4
 Baud Rates COM1, COM2, COM4 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200
 Baud Rate COM3 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200
 Serial Protocols Modbus RTU, Modbus ASCII, DNP3, DF1, PPP
 Ethernet Port Protocols Modbus TCP, Modbus RTU in UDP, Modbus ASCII in UDP, DNP in TCP, DNP in UDP
 Wireless1 Spread Spectrum radio at 900MHz2 and 2.4GHz2
 Environment 5% RH to 95% RH, non-condensing, -40°C (-40°F) to 70°C (158°F)
 Power Input 11 - 30 VDC, 4.3W typical (10.8W full I/O capacity in use)

Base Battery-Pack Models are UL Certified, Insight Technical Services, Inc. is a UL Certified Manufacturing Facility
 Nema 4X Enclosure, Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations
 Systems can be ordered, 120 VAC, 24 VDC, 12 VDC. Charging systems available. Solar calculations available per region.
 Spread Spectrum and Licensed Radios available upon request as specified.

*See the Battery-Pack Brochure for more information pertaining to its operation, or call for more information.

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