

# Solo+

**The Solo+ is a stand-alone, low-cost and robust platform for remote monitoring and single point control applications. It is powered from an integrated lithium battery and remote solar panel.**

The Solo+ is an easily-deployed, solar/battery-powered, cellular-enabled telemetry unit. It is housed in a robust weatherproof enclosure that is easily mounted to a pole or backboard.

The Solo+ can be connected to a wide range of standard sensors such as tank level, flow, soil moisture, and more. In addition, the Solo+ can control a latching valve and relays. When combined with Observant Global™ and Jain Logic™, the Solo+ becomes a powerful, remote management tool allowing alerts, data history, and on-farm equipment control.



## Product Specifications

### Mechanicals

- IP 56, vented, weather-proof, and UV stable enclosure
- Fiberglass reinforced polycarbonate base and pad-lockable, polycarbonate cover.
- Stainless steel latches
- Compact and convenient connections via pluggable terminal blocks
- Dimensions: 220 x 1680 x 100 mm (without mounting brackets)
- Clamp mount suitable for poles or direct wall mount

- Single bottom entry cable gland suitable for conduit sizes up to 25 mm in diameter

### User interface

- Tri-colour LEDs indicating IO, comms and power status
- Piezo sounder for audible alerts and user feedback
- Push button for power control and user programmed gestures
- Pinhole reset button for in-field diagnostics

### Power

- Lifetime rechargeable battery
- 1 x 2.5 mm DC auxiliary input
- Power input tolerant to 30 VDC
- 20 W peak power draw
- 100 mW average power consumption (module only)
- High efficiency battery charger with capacity monitoring
- 5+ days operation without recharge

### Integrated Wireless Communications Options

- Cellular LTE-M connectivity
- Always on cellular connection

### Sensor and Control Connectivity

- All connections protected against short circuit, reverse polarity and voltage transients
- 1 x Sensor port (RS485 / SDI-12 / 4–20 mA)
  - Nominal 12 V sensor power output
  - Auto resetting 600 mA current limit
  - 20 V, 4 – 20 mA loop powered sensor mode
  - Configurable SDI-12 or RS485 line level
- 2 x Dual purpose inputs
  - Configurable digital input (sink or source)
  - Frequency measurement and pulse counting up to 1 kHz (50% duty cycle)
  - 0 – 10 V analog input mode
- 1x High Current Output capable of driving a latching relay or latching solenoid valve
  - Configurable to activate a 2-wire or 3-wire latching solenoid or drive an actuator in either direction.
  - Capable of sinking or sourcing 12 VDC at up to 7A for short periods.
  - Outputs can be pulsed with a configurable pulse width to accommodate a variety of latching coils.
  - Full source-current monitoring and fault diagnostics.

### Standard Features

- Data logging and remote synchronisation of internal and sensor parameters
- Remotely adjustable sensor configuration and valve actuation schedule
- In-built GPS (logged data is geo-coded)
- Internal real-time clock (logged data is timestamped)
- Over-the-air firmware updates
- Extensive internal diagnostics and reporting
- Flexible software architecture allows sensor support expansion
- MicroUSB port for configuration and local monitoring

### Solar Panel

- 5W, 12V Monocrystalline solar panel
- High-performance cells encapsulated in EVA (ethylene-vinyl-acetate)
- Heavy-duty anodized frame
- Rugged design to withstand high winds, hail, and snow load
- Pre-attached 1 m wire with bare ends
- Panel dimensions: 225 x 195 x 18 mm
- Mounts separately from enclosure for flexible deployment