

SOLARPack 210

Integrated Solar Power Control and Communication System for SCADA Sense 4203

Features:

- Easily Interfaces with SCADA Sense 4203
- Precision Adaptive-Charging Algorithm
- Battery Fault Detection and Response
- Intelligent Over-Current Protection
- Alarm Output
- Auxiliary Power Supply Output
- Integrated Spread Spectrum Radio including SCADA Wave KR30
- Dual-Acting Pulse Outputs
- Class I, Division 2 Hazardous Area Rating, cCSAus

As an integrated solar power control and communication system the SOLARPack 210 combines solar-power technology, intelligent battery charging and versatile radio communication with the industry-renowned SCADA Sense 4203 gas flow computer. Based on an innovative design the SOLARPack 210 provides all the necessary components to ensure installation is quick and easy. Just attach a solar panel, connect the SCADA Sense 4203, and the system is ready to go. With a wide range of available battery and solar panel options the SOLARPack 210 can ensure autonomous flow computer operation with uninterrupted power during periods of little or no sunshine lasting up to four weeks.

Flexible Configuration Options

Two enclosure options are available to support internal or external batteries. The internal option conveniently incorporates the charging electronics and battery within a single NEMA 4 enclosure. The external option uses a separate vented battery enclosure to reduce temperature and extend battery life. Both sealed gel and absorbed glass material batteries can be ordered from Control Microsystems in either 31 or 51 Ah formats (based on 20-hour

discharge). Solar panels are available with 20, 30 and 50 W capacities. Users can choose to substitute third-party batteries including most valve regulated lead acid (VRLA) types. Solar panels can also be purchased separately.

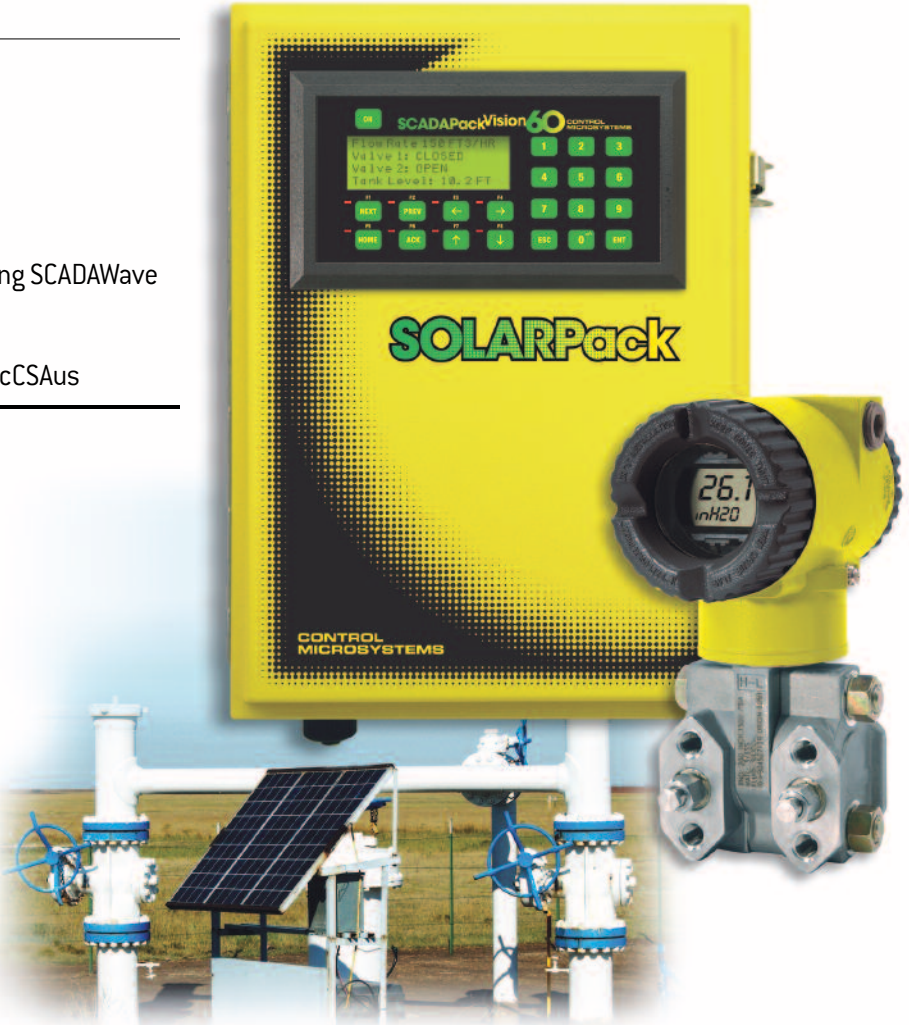
Reliable Communications

The SOLARPack 210 uses spread spectrum radio technology to provide long-range, secure and reliable data transfer between the unit and a SCADA host. For flexible integration with existing systems, users can choose from four radio types: SCADA Wave Ultra

KR30, FreeWave, MDS TransNET, and MaxStream. Several antenna and cabling options complete the communications package.

Convenient User Interface

Gas flow and system operational data is readily available at a glance with an optional SCADAPack Vision mounted on the enclosure door. The SCADAPack Vision is a fully programmable Operator Interface Terminal (OIT), providing a back-lit display and LEDs for system feedback. The SCADAPack Vision OIT



also provides customizable data entry keys for local process control and is available in either the Vision10 or Vision50 models to suit the application. To facilitate the downloading of SCADASense 4203 applications and flow computer configurations, or for the

indicators (i.e. lights) for operators to note at a distance. To quickly determine the operational condition of the SOLARPack 210, field technicians can make use of four diagnostic LEDs that indicate battery/system status and radio activity.

To aid in the precise regulation of charge and float voltages a digital temperature sensor is mounted directly on the battery. By adjusting for battery temperature the SOLARPack 210 minimizes the effects of overcharging and the build up of hydrogen gas within the battery, thus increasing battery life.

Pulse Outputs for Additional Control

To control latching solenoid valves, the SOLARPack 210 includes built-in timing logic to convert the SCADASense 4203 digital outputs into dual acting 75mS pulse outputs (different valve timing requirements can be supported upon request). The latching solenoid valves which these pulse outputs can control, are often found in plunger lift control and other advanced well optimization applications.

If latching solenoid valves are not being used, the pulse outputs can be configured to switch higher currents than are possible with the standard SCADASense 4203 output. The SOLARPack 210 pulse outputs are

current-sourcing with the Pulse Open output being Form A (N.O.) and the Pulse Close output being Form B (N.C.).

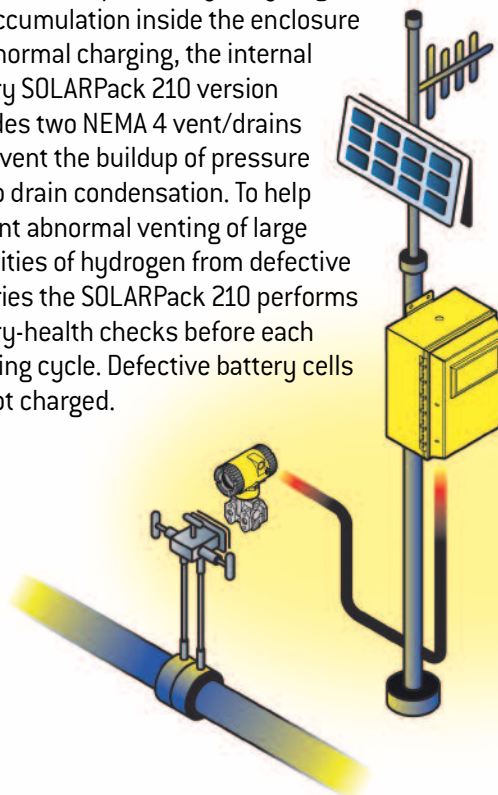


uploading of EFM history, the SOLARPack 210 is equipped with an industrial quality RJ-45 connector mounted on the bottom of the enclosure. This weatherproof jack permits a laptop computer to be plugged directly to the SCADASense 4203 without opening the enclosure door thereby allowing quick access to the processor in hazardous or remote locations.

Safe and Reliable

The SOLARPack 210 provides a number of features that enhance safe and reliable operation including automatic self-resetting circuit breakers, sustained over-current protection, intelligent power output circuit breakers, current limiting, battery-fault detection, and enclosure locks. At sites where maintenance access is difficult, the SOLARPack 210 provides an alarm output that can energize external

To address the possibility of hydrogen gas accumulation inside the enclosure from normal charging, the internal battery SOLARPack 210 version provides two NEMA 4 vent/drains to prevent the buildup of pressure and to drain condensation. To help prevent abnormal venting of large quantities of hydrogen from defective batteries the SOLARPack 210 performs battery-health checks before each charging cycle. Defective battery cells are not charged.



Model Code

Model	SOLARPack 210
S210	SOLARPack 210, for use with SCADASense 4203, c/w "ISPC" module (solar battery charger, field terminals & optional
Code	Enclosure
A	Single Enclosure System, includes NEMA 4 enclosure with integral housing for battery
B	Two Enclosure System, includes one NEMA 4 enclosure for ISPC, vented enclosure for battery, 6 ft. Liquid-tight conduit
Code	Vision Display
0	None
1	Integrated Vision10, LCD Display, 2 lines x 16 characters, 6 programmable function keys, includes Vision Shield
2	Integrated Vision50, LCD Display, 4 lines x 20 characters, 20 programmable function keys, includes Vision Shield
Code	Radio
0	None (RS232 serial connection provided for user supplied radio)
1	FreeWave FGR-Series OEM Spread Spectrum Wireless Radio, integrated directly into the SOLARPack 210 "ISPC" Module
2	MDS TransNET 900™ 902-928 MHz Transceiver, integrated directly into the SOLARPack 210 "ISPC" Module
3	Integrated MaxStream XTend™ 900MHz OEM RF Module, integrated directly into the SOLARPack 210 "ISPC" Module
B	SCADAWave KR30 integrated Spread Spectrum Radio with encryption, 902-928MHz (FCC / IC)
C	SCADAWave KR30 integrated Spread Spectrum Radio with encryption, 915-928MHz (AUS)
D	SCADAWave KR30 Integrated Spread Spectrum Radio, 915-928MHz (BRAZIL)
E	SCADAWave KR30 Integrated Spread Spectrum Radio, 921-928MHz (NZ)
Code	Reserved
A	
Code	Reserved
0	
Part #	Accessories
	Batteries
298248	Deka - East Penn, Sealed Gel, 31 Amp-Hour
298250	Deka - East Penn, Sealed Gel, 51 Amp-Hour
298249	Deka - East Penn, Absorbed Glass Mat, 31 Amp-Hour
298251	Deka - East Penn, Absorbed Glass Mat, 51 Amp-Hour
	Solar Panels
298273	11 Watt Solar Panel with adjustable pole mounting bracket
298274	22 Watt Solar Panel with adjustable pole mounting bracket
298275	32 Watt Solar Panel with adjustable pole mounting bracket
298276	50 Watt Solar Panel with adjustable pole mounting bracket
298284	50 Watt Solar Panel with vertical (90 Degree) pole mounting bracket

Specifications

Battery Charger	
Solar Panel	Power - 100W max.
Regulation	Shunt regulation
Charge voltage	DIP switch selectable for 14.4V or 13.8V
Float voltage	DIP switch selectable for 13.8V or 13.5V
Battery types	VRLA: Gelled Electrolyte (Gel), Absorbed Glass Mat (AGM)
LEDs	
Functions	TX, RX, Battery Charger Status, System Status
Outputs	
Solenoid	2, Sourcing Current Limit - Self-resetting circuit breaker Pulse operation if enabled - 75ms
Auxiliary	1, Sourcing Current Limit - Self-resetting circuit breaker
Alarm	1, Sinking
4203	1, Sourcing Current Limit - Self-resetting circuit breaker
Power Supplies and Power Consumption	
System Voltage	13.5V nominal
SOLARPack 210 Current	7mA with LEDs disabled
SCADAPack Vision	Voltage - 5V Current - 100mA (SCADAPack Vision 10) Current - 150mA (SCADAPack Vision 50)
Radio Options	<ul style="list-style-type: none"> ■ SCADAWave Ultra KR30 900 MHz Spread Spectrum, 400mA max. @ 13.8VDC ■ FreeWave FGR09CSU 900 MHz Spread Spectrum, 520mA max. @ 13.8VDC ■ MDS TransNET 900 MHz Spread Spectrum Transceiver, 510mA max @ 13.8VDC ■ MaxStream XTend OEM RF 900 MHz Spread Spectrum, 380mA max. @ 13.8VDC
Radio Load-shedding	DIP switch enable/disable.
General	
I/O Terminations	Screw terminations, 12 to 24 AWG, 20A contacts
Mounting	2 inch pipe or wall mount
Packaging	SOLARPack 210: <ul style="list-style-type: none"> ■ Designed to NEMA 4X ■ Mild steel with powder coat paint ■ Includes drain and breather Battery enclosure: <ul style="list-style-type: none"> ■ Mild steel with powder coat paint ■ Ventilated

Dimensions	SOLARPack 210 Internal Battery 10.40 inch wide, 14.15 inch high, 9.15 inch deep SOLARPack 210 External Battery 10.40 inch wide, 8.12 inch high, 6.35 inch deep Battery Enclosure 9.92 inch wide, 8.62 inch high, 7.74 inch deep
Environment	SOLARPack 210 (not including the Vision and battery) <ul style="list-style-type: none"> ■ 5% RH to 95% RH, non-condensing ■ -40°C to 55°C (-40°F to 131°F) operation and storage. ■ Operation above 50°C is not recommended for battery life. Vision Operator Interface <ul style="list-style-type: none"> ■ 10% RH to 90% RH, non-condensing ■ -20°C to 60°C (-4°F to 140°F) operation and storage. Battery capacity and life expectancy are limited at the temperature extremes.
Warranty	SOLARPack 210 and all radios: <ul style="list-style-type: none"> ■ 3 years on parts and labor. Vision: <ul style="list-style-type: none"> ■ 1 year on parts and labor. Battery and Solar Panel: <ul style="list-style-type: none"> ■ Refer to original manufacturer's warranty.
Approvals and Certifications	
Safety	Electrical Equipment for Use in Class I, Division 2. Groups A, B, C and D Hazardous Locations, cCSAus Temperature Code T3C.
Digital Emissions	FCC 47 CFR Part 15, Subpart B, Class A Verification EN61000-6-4: 2001 Electromagnetic Compatibility Generic Emission Standard Part 6-4: Industrial Environment
Immunity	EN61000-6-2: 2001 Electromagnetic Compatibility Generic Standards Part 6-2: Immunity for Industrial Environments
Declaration	This product conforms to the above Emissions and Immunity Standards and therefore conforms with the requirements of Council Directive 89/336/EEC (as amended) relating to electromagnetic compatibility and is eligible to bear the CE mark. The Low Voltage Directive is not applicable to this product.