

SCADAPack 350E | 357E

Smart RTU





Built on a native DNP3 architecture, the SCADAPack 350E and 357E feature high-performance 32-bit processing, high-speed LAN, serial and USB communications, integrated power supply, advanced power-management, and a wide range of digital and analog I/O in a cost-effective, compact Smart RTU. The level 4 compliant DNP3 protocol comes with optional Secure Authentication and/or AGA-12 Encryption to improve message security for critical operations, and supports the open protocols of Modbus and IEC60870-5. The SCADAPack 350E / 357E can be programmed locally or remotely using the IEC61131-3 programming language and is optionally configurable directly from ClearSCADA host software.

This product features an integrated 12 to 24VDC converter and a flexible I/O format with the SCADAPack 350E or our largest I/O offering with the SCADAPack 357E. All SCADAPacks may be further expanded with I/O Expansion modules.

Product Data Sheet SCADAPack 350E | 357E

Specifications

> P350E: 5209 controller board only

Controller

Processors	<ul style="list-style-type: none"> CPU: 32-bit ARM7 microcontroller, 32 MHz clock, integrated watchdog timer Two Microcontroller co-processors, 20 MHz clock
Memory	16MB FLASH ROM, 4MB CMOS RAM, 4kB EEPROM
Non-Volatile RAM	CMOS SRAM with lithium battery retains contents for 2 years with no power
Event Logging Capacity	20,000 events
Maximum Database Points	1,000 typical

I/O

Analog Inputs	<ul style="list-style-type: none"> 5, user selectable 0-10V (15-bit) or 0-20mA plus overrange (14-bit) 1, 0-32.7VDC (15-bit)
Analog Outputs	<ul style="list-style-type: none"> Standard: None 2, 0-20/4-20mA (12-bit) with optional 5305
Digital I/O	8, user selectable as dry contact inputs or open drain outputs
Counter Inputs	<ul style="list-style-type: none"> 1, 0-10Hz (dry contact) 2, 0-10kHz (turbine or dry contact)

Communications

Serial Port COM1	RS-485 port, 2-pole removable terminal block, 2-wire, half duplex
Serial Port COM2	<ul style="list-style-type: none"> RS-232 port, 8-pin modular RJ45 jack, full or half duplex, or RS-485 port, 2-wire, half duplex
Serial Port COM3	RS-232 port, 8-pin modular RJ45 jack, half duplex with RTS/CTS control and operator interface power control
Baud Rates	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200
Serial Protocols	DNP3 Slave, DNP3 Master, IEC60870-5-101 Slave, IEC60870-5-103 Master, Modbus RTU Master, Modbus RTU Slave, DF1
Ethernet Port	RJ45, 10/100BaseT
Ethernet Protocols	DNP3 in TCP Master/Slave, DNP3 in UDP Master/Slave, Modbus/TCP Client and Server, IEC60870-5-104 Slave, NTP Server, Telnet Server, FTP Server, BOOTP Server
USB Peripheral Port	USB 2.0 compliant "B"-type receptacle, DNP3 protocol
Wireless ¹	Spread spectrum radio at 900MHz ² and 2.4GHz ²

General

I/O Terminations	6 and 12- pole removable terminal blocks, 12 to 22AWG, 15A contacts
Dimensions	8.40 inch (213mm) wide, 5.00 inch (127mm) high, 1.80 inch (45mm) deep
Packaging	Corrosion resistant zinc-plated steel with black enamel paint
Environment	5% RH to 95%, non-condensing, -40°C (-40°F) to 70°C (158°F)
Power Input	<ul style="list-style-type: none"> 11 - 30VDC, 4.6W typical Add 25 to 100mW when enabling the LED 12W at 24V maximum. 5V supply fully loaded and Vloop on and boosted, fully loaded
Voltage Converter	12VDC to 24VDC
Warranty	3 years on parts and labor

Certifications

Hazardous Locations North America	Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations. Temperature Code T4, UL listed and CSA certified to the requirements of: <ul style="list-style-type: none"> CSA Std. C22.2 No. 213-M1987 - Hazardous Locations. UL Std. No. 1604 - Hazardous (Classified) Locations.
Hazardous Locations - Europe	ATEX II 3G, Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2). Does not include Wireless versions.
Hazardous Locations	IECEX, Ex nA IIC T4 per IEC 60079-15, protection type n (Zone 2) Does not include Wireless versions.

- 1 Available only with optional integrated wireless modules or with stand-alone wireless modules.
2 Not applicable in all countries.

Disclaimer: Schneider Electric reserves the right to change product specifications. For more information visit www.schneider-electric.com.

Product Data Sheet SCADAPack 350E | 357E

Specifications



P357E: 5209 controller board and integrated 5606 I/O board

Controller

Processors	<ul style="list-style-type: none"> CPU: 32-bit ARM7 microcontroller, 32 MHz clock, integrated watchdog timer Microcontroller co-processor, 20 MHz clock
Memory	16MB FLASH ROM, 4MB CMOS RAM, 4kB EEPROM
Non-Volatile RAM	CMOS SRAM with lithium battery retains contents for 2 years with no power
Event Logging Capacity	20,000 events
Maximum Database Points	1,000 typical

I/O

Analog Inputs	<ul style="list-style-type: none"> 5, user selectable 0-10V (15-bit) or 0-20mA plus overrange (14-bit) 1, 0-32.7VDC (15-bit) ; 8, 0-20/4-20mA / 0-5/0-10V (15-bit) software configurable
Analog Outputs	<ul style="list-style-type: none"> Standard: None 2, 0-20/4-20mA (12-bit) with optional 5305 on 5209 controller board 2, 0-20/4-20mA (12-bit) with optional 5305 on 5606 I/O board
Digital I/O	<ul style="list-style-type: none"> 8, user selectable as dry contact inputs or open drain outputs 32, 12/24V, 48V, 115/125V, 240V digital inputs; 16, relay outputs - dry contact or DC solid state
Counter Inputs	1, 0-10Hz (dry contact); 2, 0-10kHz (turbine or dry contact)

Communications

Serial Port COM1	RS-485 port, 2-pole removable terminal block, 2-wire, half duplex
Serial Port COM2	<ul style="list-style-type: none"> RS-232 port, 8-pin modular RJ45 jack, full or half duplex RS-232, or RS-485 port, 2-wire, half duplex
Serial Port COM3	RS-232 port, 8-pin modular RJ45 jack, half duplex with RTS/CTS control and operator interface power control
Baud Rates	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200
Serial Protocols	DNP3 Slave, DNP3 Master, IEC60870-5-101 Slave, IEC60870-5-103 Master, Modbus RTU Master, Modbus RTU Slave, DF1
Ethernet Port	RJ45, 10/100BaseT
Ethernet Protocols	DNP3 in TCP Master/Slave, DNP3 in UDP Master/Slave, Modbus/TCP Client and Server, IEC60870-5-104 Slave, NTP Server, Telnet Server, FTP Server, BOOTP Server
USB Peripheral Port	USB 2.0 compliant "B"-type receptacle, DNP3 protocol
Wireless ¹	Spread spectrum radio at 900MHz ² and 2.4GHz ²

General

I/O Terminations	5, 6, 9, 10 and 12-pole removable terminal blocks, 12 to 22AWG, 15A contacts
Dimensions	8.40 inch (213mm) wide, 6.13 inch (155mm) high, 2.80 inch (72mm) deep
Packaging	Corrosion resistant zinc-plated steel with black enamel paint
Environment	5% RH to 95%, non-condensing, -40°C (-40°F) to 70°C (158°F)

Power

5209 Controller Board	<ul style="list-style-type: none"> 11 - 30VDC, 9.2W typical Add 25 to 100mW when enabling the LEDs 12W at 24V maximum. 5V supply fully loaded and Vloop on and boosted, fully loaded
5606 I/O Module	<ul style="list-style-type: none"> 600mA (max.) at 5V required from 5209 controller board 11 - 30VDC, 12mA plus analog outputs
Voltage Converter	12VDC to 24VDC
Warranty	3 years on parts and labor

Certifications

Hazardous Locations North America	Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations. Temperature Code T4, UL listed and CSA certified to the requirements of: <ul style="list-style-type: none"> CSA Std. C22.2 No. 213-M1987 - Hazardous Locations. UL Std. No. 1604 - Hazardous (Classified) Locations.
Hazardous Locations - Europe	ATEX II 3G, Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2). Does not include Wireless versions.
Hazardous Locations	IECEX, Ex nA IIC T4 per IEC 60079-15, protection type n (Zone 2) Does not include Wireless version

1 Available only with optional integrated wireless modules or with stand-alone wireless modules.

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Product Data Sheet SCADAPack 350E | 357E

Model Code

	TBUP350-EA55-AA00 represents a sample code for a SCADAPack 350E with 8 digital I/O
Model	Select: Controller
TBUP350	SCADAPack 350E , 32 Bit controller, 5 A/I, 8 configurable Digital I/O, 3 Counters, 2 RS232, 1 RS485, 2 USB, 1 Ethernet
TBUP357	SCADAPack 357E, with Model 5606 I/O board, comes with the above plus 8 Analog I/P, 32 Digital I/P and 16 Digital O/P
Code	Select: Platform
E	E Firmware platform (Configuration Software included), executes two IEC61131-3 kernels, Workbench required
Code	Select: SCADA Security
A	None
B	AGA-12 Encryption for DNP3
C	DNP3 Secure Authentication SAv2
D	DNP3 Secure Authentication with AGA-12
	Note: The Security Administrator Application must be purchased to generate and manage security keys for Secure Authentication and/or Encryption (AGA-12)
Code	Select: Protocol Option
5	Modbus, DNP3, DF1, Modbus/TCP, TCP/IP, IEC 60870-5-101/104 Slave
6	Adds IEC 60870-5-103 Master, Protection Relay Protocol (for data transmission with IEDs)
Code	Select: License Option
5	DNP3 Data Concentrator License (limit of 500 points from 10 IEDs), supports multiple DNP3 Masters (up to 3 Masters)
Code	Select: Analog Inputs
A	P350 : 5 selectable as 0-10V or 0-20mA P357 : adds 8 selectable as 0-20mA, 4-20mA, 0-5V or 0-10V
Code	Select: Digital Inputs/Outputs
A	P350 : 8 configurable Digital I/O, Individually selectable as D/I (Dry Contact) or Digital Output (Open Drain)
B	P357 : Includes P350 I/O plus 32 Digital Inputs (12/24V), 16 Dry Contact Relay Outputs
D	P357 : Includes P350 I/O plus 32 Digital Inputs (120V), 16 Dry Contact Relay Outputs
F	P357 : Includes P350 I/O plus 32 Digital Inputs (12/24V), 16 Solid State Relay Outputs, ATEX Certified (with no radio)
H	P357 : Includes P350 I/O plus 32 Digital Inputs (120V), 16 Solid State Relay Outputs
Code	Select: Analog Outputs
0	None
1	P350 or P357 : 2 channel Analog Output option, 0-20 mA (P357 - 2 channel A/O option on the 5606 module)
2	P357 only : 4 channel Analog Output option, 0-20 mA (includes 2 channel A/O option on both modules)
Code	Select: Integrated Communication Interfaces
0	None
	FreeWave & MDS Radios (requires one RS232 port)
1	900Mhz FreeWave Spread Spectrum Radio
A	900MHz MDS Spread Spectrum Radio
	Trio Radios - 900MHz (requires one RS232 port)
B	900MHz Trio Spread Spectrum Radio with encryption, 902-928MHz (FCC / IC)
C	900MHz Trio Spread Spectrum Radio with encryption, 915-928MHz (AUS)
D	900MHz Trio Spread Spectrum Radio, 915-928MHz (BRAZIL)
E	900MHz Trio Spread Spectrum Radio, 921-928MHz (NZ)
	Trio Radios - 2.4GHz (requires one RS232 port)
J	2.4GHz Trio Spread Spectrum Radio, ETSI/100mW, ATEX (EUROPE)
K	2.4GHz Trio Spread Spectrum Radio with Encryption, 500mW (CANADA, USA & AUSTRALIA)
L	2.4GHz Trio Spread Spectrum Radio, 500mW (OUTSIDE OF EUROPE, CANADA, USA & AUSTRALIA)