

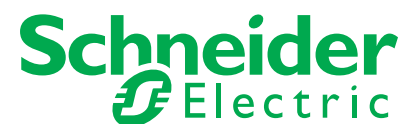
SCADAPack 350 | 357

Smart RTU



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sales@aquatechnologygroup.com





Built on the proven SCADAPack 300 platform, the SCADAPack 350 and 357 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. Featuring industry-standard Modbus and DNP3 serial protocols, and Modbus TCP and UDP-based Ethernet protocols, the SCADAPack 350 / 357 can be programmed locally or remotely through a choice of flexible programming languages.

Additionally, this product features a USB host port for data logging to USB mass storage devices, and an integrated 12 to 24VDC converter. Choose from the flexible I/O format of the SCADAPack 350 or our largest I/O offering with the SCADAPack 357. All SCADAPacks may be further expanded with I/O Expansion modules.



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Product Data Sheet SCADAPack 350 | 357 Specifications



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> P350: 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
Datalog Capacity	465k words

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	Modbus RTU, Modbus ASCII, DNP3, DF1
Serial Protocol Modes	Slave, Master, Master/Slave, Store and Forward
Ethernet Port	RJ45, 10/100BaseT
Ethernet Protocols	Modbus TCP, Modbus RTU in UDP, Modbus ASCII in UDP, DNP in TCP, DNP in UDP
Network Protocols	IP, ARP, TCP, TFTP, UDP and ICMP
USB Host Port	USB 2.0 compliant "A"-type receptacle, provides up to 100mA at 5V
USB Peripheral Port	USB 2.0 compliant "B"-type receptacle
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, 12mW at 12V during Sleep 510mW at 12V during normal operation. 32MHz., LEDs off, no expansion, LAN and USB disabled. 320mW at 12V during reduced power mode operation. 12MHz., LEDs off, no expansion, LAN and USB disabled 1.2W at 12V during normal operation. 32MHz., LEDs off, no expansion, LAN enabled and USB disabled 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.

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Product Data Sheet SCADAPack 350 | 357 Specifications



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P357: 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
Datalog Capacity	465k words

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	Modbus RTU, Modbus ASCII, DNP3, DF1
Serial Protocol Modes	Slave, Master, Master/Slave, Store and Forward
Ethernet Port	RJ45, 10/100BaseT
Ethernet Protocols	Modbus TCP, Modbus RTU in UDP, Modbus ASCII in UDP, DNP in TCP, DNP in UDP
Network Protocols	IP, ARP, TCP, TFTP, UDP and ICMP
USB Host Port	USB 2.0 compliant "A"-type receptacle, provides up to 100mA at 5V
USB Peripheral Port	USB 2.0 compliant "B"-type receptacle
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, 12mW at 12V during Sleep 510mW at 12V during normal operation. 32MHz., LEDs off, no expansion, LAN and USB disabled 320mW at 12V during normal operation. 12MHz., LEDs off, no expansion, LAN and USB disabled 1.2W at 12V during normal operation. 32MHz., LEDs off, no expansion, LAN enabled and USB disabled 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.

2 Not applicable in all countries.

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Product Data Sheet SCADAPack 350 | 357

Model Code

	TBUP357-1A20-AB00 represents a sample code for a SCADAPack 357, 5606 I/O board and Modbus protocol emulation
Model	Select: Controller
TBUP350	SCADAPack 350 , 32 Bit controller, 5 Analog Inputs, 8 configurable Digital I/O, 3 Accumulators
TBUP357	SCADAPack 357, with Model 5606 I/O board, comes with above I/O plus 8 Analog I/P, 32 Digital I/P and 16 Digital O/P
Code	Select: Future Option
1	None
Code	Select: Gas Flow Run-Time Option
A	None
Flow Computer Runs	
G	2 Run Gas Flow
F	4 Run Gas Flow
V	2 Run Gas Flow - Gas Transmission Version (Requires Realflo 6.72+)
W	4 Run Gas Flow - Gas Transmission Version (Requires Realflo 6.72+)
Code	Select: Protocol Option
2	Modbus and DNP 3.0 (Level 2) protocol emulation
Code	Select: Programming Environment
0	Telepace Ladder Logic and C Language firmware loaded - IEC enabled (Programming Tools sold separately)
1	IEC 61131-3 and C Language firmware loaded - Telepace enabled (Programming Tools sold separately)
Code	Select: Analog Inputs
A	P350: 5 selectable as 0-10V or 0-20mA inputs. P357: adds another 8 selectable as 0-20, 4-20mA, 0-5V or 0-10V
Code	Select: Digital Inputs/Outputs
A	P350 - 8 configurable Digital I/O, individually selectable as DI (Dry Contact) or DO (Open Drain)
B	P357 - Includes P350 I/O plus 32 DI (12/24V) and 16 Dry Contact Relay Outputs on 5606 I/O board
D	P357 - Includes P350 I/O plus 32 DI (120V) and 16 Dry Contact Relay Outputs on 5606 I/O board
F	P357 - Includes P350 I/O plus 32 DI (12/24V) and 16 Solid State Relay Outputs on 5606 I/O board, ATEX and IECEx certification
H	P357 - Includes P350 I/O plus 32 DI (120V) and 16 Solid State Relay Outputs on 5606 I/O board
Code	Select: Analog Outputs
0	None
1	P350 or P357 - 2 channel analog output option, 0 - 20mA (P357 - 2 channel A/O option on the 5606)
2	P357 only - 4 channel analog output option, 0 - 20mA (consists of the 2 channel A/O option board on both modules)

Model codes continue on next page



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Product Data Sheet SCADAPack 350 | 357

Model Code

	TBUP357-1A20-AB00 represents a sample code for a SCADAPack 357, 5606 I/O board and Modbus protocol emulation
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 SCADAWave Spread Spectrum Radio with encryption, 902-928MHz (FCC / IC)
C	900MHz SCADAWave Spread Spectrum Radio with encryption, 915-928MHz (AUS)
D	900MHz SCADAWave Spread Spectrum Radio, 915-928MHz (BRAZIL)
E	900MHz SCADAWave 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)



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