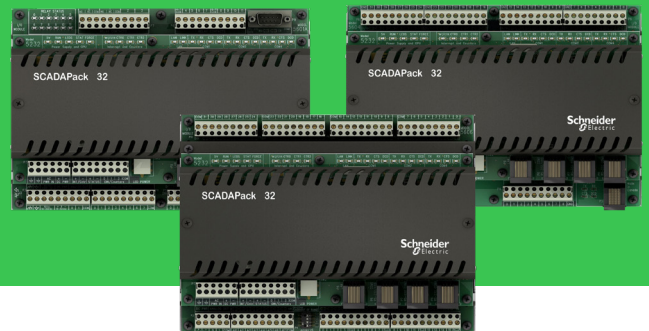


SCADAPack 32

Smart Remote Terminal Units



Product at a glance

Compared to the SCADAPack™ 300 platform, the SCADAPack 32 is a higher performance Smart RTU built to meet the demands of larger applications including support for up to 10 gas flow runs.

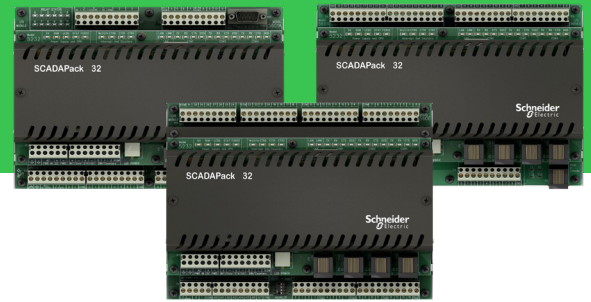
This product offers built-in Ethernet, four serial ports, 8 Mb of SDRAM, an integrated power supply, and a wide range of analog and digital I/O options.

Featuring industry-standard Modbus™ and DNP3 serial protocols, and Modbus TCP and UDP-based Ethernet protocols, the SCADAPack 32 can be programmed locally or remotely through a choice of flexible programming languages.

As with all SCADAPack products the SCADAPack 32 is based on a multiprocessor architecture with a coprocessor used for the handling of on-board input/output channels.

SCADAPack 32

Smart Remote Terminal Units



Specifications

P4A, integrated 5604 I/O board

Controller

Processor	Hitachi™ SH-3 32-bit CMOS microcontroller, 120 MHz clock, integrated watchdog timer
Memory	8 Mb SDRAM, 4 Mb FLASH, 1 Mb CMOS RAM
Non-volatile RAM	CMOS RAM with lithium battery retains contents for 2 years with no power

I/O

Analog Inputs	<ul style="list-style-type: none"> 8, user selectable 0...10 V (15-bit) or 0...20 mA (14-bit) 1, 0 - 32.768 V (10-bit)
Analog Outputs	2 with optional 5305 analog output module, output range 0-20 mA
Digital Inputs	4 on controller board - 3 Digital Input/Counter, 1 Interrupt with optical isolation
Digital Outputs	1, 30 V / 60 mA (used as status output)
Digital I/O 5604 I/O	32 configurable as input or output (1 Amp DC max output / dry contact input)

Communications

Serial Port COM1	Configurable RS-232 or RS-485, 2-wire half duplex or 4-wire full/half duplex
Serial Port COM2, COM4	<ul style="list-style-type: none"> RS-232, DTE, 8 pin modular jack, full or half duplex with RTS/CTS control Implemented Td, Rd, CTS, RTS, DCD, DTR, +5 V
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	RJ45, 10BaseT
Network Protocols	IP: ARP, TCP, TFTP, UDP, ICMP
Ethernet Port Protocols	Modbus TCP, Modbus RTU in UDP, Modbus ASCII in UDP, DNP in TCP, DNP in UDP
Wireless ¹	Spread spectrum radio at 900 MHz ² and 2.4 GHz ²

SCADAPack 32

Smart Remote Terminal Units



Specifications - continued

P4A, integrated 5604 I/O board

General

I/O Terminations	6, 8, 9 and 10-pole, removable terminal blocks, 12 to 22 AWG, 15 A contacts
Dimensions	8.40 inch wide x 6.13 inch high x 2.80 inch deep (213 mm x 155 mm x 72 mm)
Packaging	Corrosion resistant zinc plated steel with black enamel paint
Environment	5% RH to 95% RH, non-condensing, -40...70 °C (-40...158 °F)
Power Input	11...30 Vdc, 4.3 W typical (10.8 W full I/O capacity in use)
Warranty	3 years parts and labor

Certifications

Hazardous Locations	Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations
North America	Temperature Code T4 per CSA Std C22.2 No. 213-M1987 / UL1604 UL listed and CSA certified to the following standards: <ul style="list-style-type: none"> • CSA Std. C22.2 No. 213-M1987 - Hazardous Locations • UL Std. No. 1604 - Hazardous (Classified) Locations U
Safety	CSA (cCSA _{US}) certified to the requirements of: CSA C22.2 No. 142-M1987 and UL508. (Process Control Equipment, Industrial Control Equipment) UL (cUL _{US}) listed: UL508 (Industrial Control Equipment)

SCADAPack 32

Smart Remote Terminal Units



Specifications

P4, integrated 5601A I/O board

Controller

Processor	Hitachi SH-3 32-bit CMOS microcontroller, 120 MHz clock, integrated watchdog timer
Memory	8 Mb SDRAM, 4 Mb FLASH, 1 Mb CMOS RAM
Non-volatile RAM	CMOS RAM with lithium battery retains contents for 2 years with no power

I/O

Analog Inputs	8, user selectable 0 - 5 V (15-bit) or 0 - 20 mA (14-bit)
Analog Outputs	2 with optional 5303 analog output module, output range 0-20 mA
Digital Inputs	<ul style="list-style-type: none"> 4 on controller board - 3 Digital Input/Counter, 1 Interrupt with optical isolation 16 on 5601A I/O module - 6.5 mA typical at 24 V and 3.5 mA typical at 115 V
Digital Outputs	<ul style="list-style-type: none"> 1 on controller board, 30 V, 60 mA (used as status output) 12 on 5601A I/O module - Sealed mechanical relay: <ul style="list-style-type: none"> 0.4 A at 125 Vrms, 2 A at 30 V resistive loads 1.0 A at 30 V, 0.2 A at 125 Vrms inductive load with pf=0.4, L/R=7 ms 250 Vrms, 220 V maximum operating voltage

Communications

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. Implemented Td, Rd, CTS, RTS, DCD, DTR, +5 V
Serial Port COM3	Located on 5601A 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	10BaseT, RJ45
Network Protocols	IP: ARP, TCP, TFTP, UDP, ICMP
Ethernet Port Protocols	Modbus TCP, Modbus RTU in UDP, Modbus ASCII in UDP, DNP in TCP, DNP in UDP
Wireless ¹	Spread spectrum radio at 900 MHz ² and 2.4 GHz ²

SCADAPack 32

Smart Remote Terminal Units



Specifications - continued

P4, integrated 5601A I/O board

General

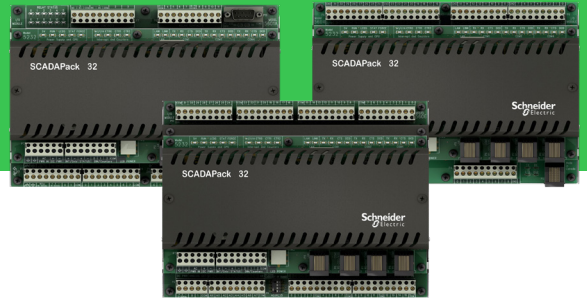
I/O Terminations	6, 8, 9 and 10-pole, removable terminal blocks, 12 to 22 AWG, 15 A contacts
Dimensions	8.40 inch wide x 6.13 inch high x 2.80 inch deep (213 mm x 155 mm x 72 mm)
Packaging	Corrosion resistant zinc plated steel with black enamel paint
Environment	5% RH to 95% RH, non-condensing, -40...70 °C (-40...158 °F)
Power Input	11 - 30 Vdc, 3.5 W typical all relays off, 6.5 W typical all relays on
Warranty	3 years parts and labor

Certifications

Hazardous Locations	Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations
North America	Temperature Code T4 per CSA Std C22.2 No. 213-M1987 / UL1604 UL listed and CSA certified to the following standards: <ul style="list-style-type: none"> • CSA Std. C22.2 No. 213-M1987 - Hazardous Locations • UL Std. No. 1604 - Hazardous (Classified) Locations
Safety	CSA (cCSAus) certified to the requirements of: CSA C22.2 No. 142-M1987 and UL508. (Process Control Equipment, Industrial Control Equipment) UL (cULus) listed: UL508 (Industrial Control Equipment)

SCADAPack 32

Smart Remote Terminal Units



Specifications

P4B, integrated 5606 I/O board

Controller

Processor	Hitachi SH-3 32-bit CMOS microcontroller, 120 MHz clock, integrated watchdog timer
Memory	8 Mb SDRAM, 4 Mb FLASH, 1 Mb CMOS RAM
Non-volatile RAM	CMOS RAM with lithium battery retains contents for 2 years with no power

I/O

Analog Inputs	8, single-ended, software selectable 0-5 V / 0-10 V or 0-20 mA / 4-20 mA (15-bit resolution)
Analog Outputs	2 with optional 5305 analog output module, output range 0-20 mA
Digital Inputs	4 on controller board - 3 Digital Input/Counter, 1 Interrupt with optical isolation 32 on 5606 I/O module <ul style="list-style-type: none"> • 0.67 mA typical at 24 V on the 12/24 V range • 0.37 mA typical at 48 V on the 48 V range • 0.35 mA typical at 120 V on the 115/125 V range • 0.35 mA typical at 240 V on the 240 V range
Digital Outputs	1 on controller board , 30 V, 60 mA (used as status output) 16 relay outputs on 5606 I/O module - dry contact or DC solid state: <ul style="list-style-type: none"> • Dry contact rating: 3A, 30 Vdc or 240 Vac (Resistive) • DC solid state rating: 3 A, 60 Vdc

Communications

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. Implemented Td, Rd, CTS, RTS, DCD, DTR, +5 V
Baud Rates COM1, COM2 & COM4	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200
Serial Protocols	Modbus RTU, Modbus ASCII, DNP3, DF1, PPP
Ethernet Port	10BaseT, RJ45
Network Protocols	IP: ARP, TCP, TFTP, UDP, ICMP
Ethernet Port Protocols	Modbus TCP, Modbus RTU in UDP, Modbus ASCII in UDP, DNP in TCP, DNP in UDP
Wireless ¹	Spread spectrum radio at 900 MHz ² and 2.4 GHz ²

SCADAPack 32

Smart Remote Terminal Units



Specifications - continued

P4B, integrated 5606 I/O board

General

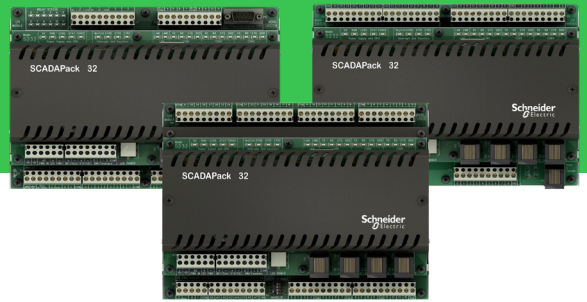
I/O Terminations	5, 6, 8, 9 and 10-pole, removable terminal blocks, 12 to 22 AWG, 15 A contacts
Dimensions	8.40 inch wide x 6.48 inch high x 2.80 inch deep (213 mm x 164 mm x 72 mm)
Packaging	Corrosion resistant zinc plated steel with black enamel paint
Environment	5% RH to 95% RH, non-condensing, -40...70 °C (-40...158 °F)
Power Input	11...30 Vdc, 4.3 W typical (10.8 W full I/O capacity in use)
Warranty	3 years parts and labor

Certifications

Hazardous Locations	Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations
North America	Temperature Code T4 per CSA Std C22.2 No. 213-M1987 / UL1604 UL listed and CSA certified to the following standards: <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	Model "5606 SSR, 24DI version only" ATEX II 3G, Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) Does not include Wireless versions
Hazardous Locations	Model "5606 SSR version only" IECEx, Ex nA IIC T4 per IEC 60079-15, protection type n (Zone 2) Does not include Wireless versions
Safety	CSA (cCSA _{US}) certified to the requirements of: CSA C22.2 No. 142-M1987 and UL508. (Process Control Equipment, Industrial Control Equipment) UL (cUL _{US}) listed: UL508 (Industrial Control Equipment)

SCADAPack 32

Smart Remote Terminal Units



Model Code

SCADAPack 32: P4A, P4 and P4B

Model Code	Select: Controller
TBUP4	SCADAPack 32, 32-Bit controller with Integrated Ethernet Port
Code	Select: Lower I/O Module
	5601A lower I/O module, includes 16 Digital Inputs, 12 Digital Outputs and 8 Analog Inputs (see options below)
A	5604 lower I/O module, includes 32 configurable Digital I/O and 8 selectable Analog Inputs (0-10 V or 0...20 mA)
B	5606 lower I/O module, includes 32 D/I, 16 Dry Contact D/O and 8 software configurable A/I
C	5606-A lower I/O module, includes 32 D/I, 16 Solid State Relay D/O and 8 software configurable A/I
N	No lower I/O module (provides controller module only)
Code	Select: Communication Serial Ports
1	TBUP4/P4A/P4N: 3 RS232, 1 RS232/485, 1 Ethernet TBUP4B/P4C: 2 RS232, 1 RS232/485, 1 Ethernet
Integrated FreeWave™ & MDS™ Radios (requires one RS232 port)	
A	900 Mhz FreeWave Spread Spectrum Radio. Consult factory for availability in your market area (not RoHS compliant)
3	900 MHz MDS Spread Spectrum Radio. Consult factory for availability in your market area (not RoHS compliant)
Trio™ Data Radios - 900 MHz (requires one RS232 port)	
B	900 MHz Trio Spread Spectrum Radio with encryption, 902-928 MHz (FCC / IC)
C	900 MHz Trio Spread Spectrum Radio with encryption, 915-928 MHz (AUS)
D	900 MHz Trio Spread Spectrum Radio, 915-928 MHz (BRAZIL)
E	900 MHz Trio Spread Spectrum Radio, 921-928 MHz (NZ)
Trio Data Radios - 2.4 GHz (requires one RS232 port)	
J	2.4 GHz Trio Spread Spectrum Radio, ETSI/100 mW, ATEX (EUROPE)
K	2.4 GHz Trio Spread Spectrum Radio with Encryption, 500 mW (CANADA, USA & AUSTRALIA)
L	2.4 GHz Trio Spread Spectrum Radio, 500 mW (OUTSIDE OF EUROPE, CANADA, USA & AUSTRALIA)

SCADAPack 32

Smart Remote Terminal Units



Model Code - continued

SCADAPack 32: P4A, P4 and P4B

Code	Select: Gas Flow Run-time Option
0	None
Flow Computer Runs	
G	2 Run Gas Flow
F	4 Run Gas Flow
T	10 Run Gas Flow
Flow Computer Runs - Gas Transmission Version (Requires Realflo™ 6.72+)	
V	2 Run Gas Flow
W	4 Run Gas Flow

Code	Select: Protocol Option/Programming Environment
2	Modbus and DNP 3.0 (Level 2) protocol with Telepace™ Ladder Logic and C Language firmware loaded - IEC enabled
5	Modbus and DNP 3.0 (Level 2) protocol with IEC 61131-3 and C Language firmware loaded - Telepace enabled

Code	Select: Analog Inputs
01	0-20 mA, single ended (On TBUP4 & TBUP4A, Default on TBUP4B which is software configurable to 0-5 v or 0-10 v)
02	0-5 volt, single ended (TBUP4 Only)
03	0-10 volt, single ended (TBUP4A Only)

SCADAPack 32

Smart Remote Terminal Units



Model Code - continued

SCADAPack 32: P4A, P4 and P4B

Code	Select: Digital Inputs/Outputs
0	Dry Contact Digital Inputs, Open Drain Digital Outputs, Individually configurable (TBUP4A Only)
0	24 volt D/I TBUP4 & TBUP4B: Dry Contact D/O TBUP4C: Solid State Relay D/O (Not for TBUP4A or TBUP4N)
1	120 volt D/I TBUP4 & TBUP4B: Dry Contact D/O TBUP4C: Solid State Relay D/O (Not for TBUP4A or TBUP4N)

Code	Select: Analog Outputs
0	None (required for TBUP4N)
1	2 channel Analog Output option, 0-20 mA

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

Disclaimer: FreeWave & MDS radios are not RoHS compliant. Schneider Electric reserves the right to change product specifications. For more information visit www.schneider-electric.com.

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Document Number TBULM08002-85 v09

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