

I/O Expansion & Communication Modules for SCADAPack Smart RTUs

Unique Features

Welcome to the SCADAPack[™] family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any SCADAPack smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

Regardless of what communication format is required, there is a communication module to fit the need. From the traditional leased line, phone line and radio-transceiver, to the latest Ethernet and SDI-12 technologies, communication modules make data transfer easy and cost-effective.

Footnote: ¹Refer to the I/O Expansion Modules Compatibility Chart found on the last page of this document (some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs).





Compatibility Chart I/O Expansion Modules

		32-bi	t CPU	
IO Expansion Modules	3xx	3xxE	53xE	x70
Analog Inputs				
5502 Al 8-channel differential	•			
5505 AI 4-channel RTD	•			
5506 Al 8-channel	•	•	•	•
Analog Outputs				
5304 AO 4-channel	•	•	•	•
Digital Inputs				
5403 DI 8-point high level	•			
5405 DI 32-point high density	•	•	•	•
5414 DI 16-point compact	•	•	•	•
Counter Inputs				
5410 CI 4-channel high speed	•			•
Digital Outputs				
5415 DO 12-point compact relay	•	•	•	•
Combination IO				
5402 DIO 16-point configurable	•			
5606 8 AI, 2 AO (option), 32 DI, 16 DO	•	•	•	•
5607 8 AI, 2 AO (option), 16 DI, 10 DO	•	•	•	•
6601 16 DI, 8 DO dry contact, 6 AI			•	•
6607 16 DI, 10 DO dry contact, 8 AI, 2 AO				•

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SCADAPack Analog Output Module



At a glance

- Selectable current mode
- · Low power
- cCSAus and cULus Class I, Division 2 Hazardous Area Rating
- UL508 listed
- ATEX II 3G and IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2)

The SCADAPack™ 5304 Analog output module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

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SCADAPack Analog Output Module

Specifications – 5304 Analog output module

General	
Output points	4
Output Modes	Current mode, jumper link selectable
Output signal ranges	020 mA or 420 mA, switch configurable
Output Type	Single ended regulation on positive side with common negative return
Maximum Load Resistance	1000 Ω with 24 Vdc loop power, 400 Ω with 12 Vdc loop power, 250 Ω with 9 Vdc loop power
Isolation	500 Vac field to logic
D/A Resolution	12-bit over the 020 mA range
Absolute Accuracy	+/- 0.05% of full scale at 25 °C (77 °F), +/- 0.2% of full scale over temperature range
Noise and Ripple	0.04% maximum
Transient Protection	 2.5 kV surge withstand capability as per ANSI/IEEE C37.90.1-1989 Inductive load protection diodes included
Response Time	2 ms typical to 90% signal change
Addressing	DIP switch configurable
1224 Vdc Operating Voltage Limits	9 Vdc or (20 mA x load resistance) +4 Vdc (whichever is greater) in current mode
Power Requirements	 6 mA min., 25 mA maximum 15 mA quiescent plus 80 mA max. in current mode
Terminations	10-pole, removable terminal block, 12 to 22 AWG, 15 A contacts
Dimensions	108 mm wide x 118 mm high x 44 mm deep (4.25 in. x 4.625 in. x 1.75 in.)
Mounting	7.5 x 35 DIN rail
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint
Environment	5% RH to 95% RH, non-condensing, -4070 °C or (-40158 °F)
Safety	 cCSAus and cULus Class I, Division 2 Hazardous Area Rating, UL508 listed For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/

SCADAPack Analog Output Module

Model Code – 5304 Analog output module

Part number	Model	Description
TBUX297248	5304-20	4 channel isolated analog output module, 0.20 mA

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

Note: Accessories sold separately.

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SCADAPack
Configurable Digital Input or Output
Module



At a glance

- 16 configurable digital inputs or outputs
- Most cost-effective for low point counts
- Each point can be AC or DC
- Plug-in relays simplify maintenance
- High current outputs to 3 to 5 A depending on the relay installed

The SCADAPack[™] 5402 Configurable digital input or output module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

SCADAPack Configurable Digital Input or Output Module

Specifications – 5402 Configurable digital input or output module

Number of Inputs or Outputs	16	
Voltage Range	See relay specifications below	
Load Current	See relay specifications below	
Surge Current	See relay specifications below	
Off-State Leakage	See relay specifications below	
Transient Protection	Integral to the solid-state relay	
Response Time	See relay specifications below	
Isolation	1500 Vac	
Addressing	DIP switch configurable	
Input/Output Assignment	DIP switch selectable as all inputs or outputs	
Power Requirements	5 Vdc @ 150 mA	
Visual Indicators	16: red LEDs, permanently enabled	
Field Terminations	4: 8-pole, removable terminal block, 1222 AWG, 15 A contacts	
Dimensions	215 mm wide x 118 mm high x 44 mm deep (8.37 in. x 4.625 in. x 1.75 in.)	
Mounting	7.5 x 35 DIN rail	
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	5% RH to 95% RH, non-condensing, -4060 °C or (-40140 °F)	
Safety	 Class 1, Division 2 for use in hazardous locations For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com 	

SCADAPack Configurable Digital Input or Output Module

Model Code – 5402 Configurable digital input or output module

Part number	Model	Solid-State Relays for use with Model 5402
TBUM297122	IACM-5	90140 Vac/Vdc input relay
TBUM297132	IACM-5A	180280 Vac/Vdc input relay
TBUM297133	IACM-5E	1032 Vdc, 1532 Vac, no polarity
TBUM297124	IDCM-5	332 Vdc input relay
TBUM297123	OACM-5	24140 Vac output relay, 3 A
TBUM297134	OACM-5H	24280 Vac output relay, 5 A
TBUM297125	ODCM-5	360 Vdc output relay, 3 A
TBUM297135	ODCM-5A	10200 Vdc, 1 A

Part number	Model	Description
TBUX297153	5402	16-point input or output module (requires solid-state relays)

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

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SCADAPack High Level Digital Input Module



At a glance

- 8 optically isolated digital inputs
- Isolated in groups of 2 for ease of wiring
- Very low power requirements
- 24 volts
- Universal AC or DC

The SCADAPack[™] 5403 High level digital Input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

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SCADAPack High Level Digital Input Module

Specifications – 5403 High level digital input module

Number of Digital Inputs	8
Input Logic-HI Level	OFF to ON transition threshold is typically 50% of full scale signal range
Over-Voltage Tolerance	150% sustained over-voltage without damage
Input Current	5 mA typical
Response time	OFF to ON: 7 ms typicalON to OFF: 24 ms typical
Isolation	1500 Vac in groups of 4 inputs
Addressing	DIP switch configurable
Power Requirements	5 Vdc @ 45 mA all LEDs ON, 5 Vdc @ 25 mA with LEDs disabled
Visual Indicators	8: LEDs controlled for power reduction
Field Terminations	 1: 10-pole, removable terminal block 1222 AWG 15 A contacts
Dimensions	108 mm wide x 118 mm high x 44 mm deep (4.25 in. x 4.625 in. x 1.75 in.)
Mounting	7.5 x 35 DIN rail
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint
Environment	5% RH to 95% RH, non-condensing; -4060 °C (-40140 °F)
Safety	 cCSAus and cULus Class I, Division 2 Hazardous Area Rating, UL508 listed For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/

SCADAPack High Level Digital Input Module

Model Code – 5403 High level digital input module

Part number	Model	Signal range
TBUX297109	5403-24	24 Vac, Vdc

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

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SCADAPack Digital Input Module



At a glance

- High density, 32 digital inputs
- Sinking input design
- Low Power
- cCSAus and cULus Class I, Division 2 Hazardous Area Rating
- UL508 listed
- ATEX II 3G and IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2)

The SCADAPack[™] 5405 Digital input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

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5405 SCADAPack Digital Input Module

Specifications – 5405 Digital input module

30110141	
Input Points	32
Ranges	1224 Vdc, 1624 Vac
Over-Voltage Tolerance	150% sustained over-voltage without damage
Input Current	6.0 mA typical @ 24 Vdc on the 24 Vdc range3.5 mA typical @ 24 Vac on the 24 Vac range
DC Input Logic Levels	OFF to ON transition threshold is typically 7.5 Vdc on the 24 Vdc range
AC Input Levels	OFF to ON transition threshold is typically 6 Vac on the 24 Vac range
Transient Protection	2.5 kV surge withstand capability as per ANSI/IEEE C37.90.1-1989
Isolation	Isolated in 4 groups of 8. Inputs 015 are on the bottom edge Inputs 1631 are on the top edge. Isolation 500 Vac/Vdc from chassis and logic ground
Power Requirements	5 Vdc @ 10 mA with all inputs ON
Terminations	4: 9-pole, removable terminal blocks, 12 to 22 AWG, 15 A contacts
Dimensions	144 mm wide x 127 mm high x 45 mm deep (5.65 in. x 5.00 in. x 1.88 in.)
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint
Environment	5% RH to 95% RH, non-condensing; -4060 °C (-40140 °F)
Addressing	Configurable with 4 DIP switches
AC/DC Operation	2: DIP switches determine AC/DC and 50/60 Hz operation
Visual Indicators	32: Red LED's, field powered. Cannot be disabled to conserve power
Safety	 cCSAus and cULus Class I, Division 2 Hazardous Area Rating, UL508 listed For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/

SCADAPack Digital Input Module

Model Code – 5405 Digital input module

Part number	Model	Description
TBUX297247	5405-24	32 point, 1224 Vdc discrete input module

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

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SCADAPack High Speed Counter/Accumulator



At a glance

- · Optically isolated
- 32-bit count range
- Wide input range 3...28 Vdc
- · Guaranteed no missed counts to 10 KHz
- Counts retained during power outage
- Self clearing or accumulating
- Accepts quadrature phase inputs

The 5410 High Speed Counter/Accumulator is part of the SCADAPack[™] family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

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SCADAPack High Speed Counter/Accumulator

Specifications – 5410 High speed counter/accumulator

Counter Input Points	4
Count Length	32-bit, range is 04,294,967,295
Over-Voltage Protection	Transient suppressor on each input
Input Voltage Range	Typical operating inputs 5 to 24 Vdc, 3 Vdc minimum, 28 Vdc maximum
Input Current	8 mA typical, 13 mA maximum
Input Logic Level	OFF to ON threshold is typically 2 Vdc
Maximum Input Frequency	10 kHz with filters off, 5 kHz with quadrature counters, 60 Hz with de-bounce filters on
Maximum Pulse High Width	 50 microseconds (µs), 100µs with quadrature counters 8.3 milliseconds with de-bounce filters
Maximum Pulse Low Width	 50 microseconds (µs), 100µs with quadrature counters 8.3 milliseconds with de-bounce filters
Isolation	500 Vac input to input, 500 Vac input to logic circuit
Addressing	DIP switch configurable
Terminations	8-pole, removable terminal block, 1222 AWG, 15 A contacts
Visual Indicators	 4: red LEDs LED on time stretched for easy viewing controlled for power reduction
Power Requirements	5 Vdc @ 35 mA with all LEDs on, 5 Vdc @ 15 mA with LEDs disabled
Dimensions	108 mm wide x 118 mm high x 44 mm deep (4.25 in. x 4.625 in. x 1.75 in.)
Mounting	7.5 x 35 DIN rail
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint
Environment	5% RH to 95% RH, non-condensing, -4060 °C (-40140 °F)
Certification	 Certified for use in hazardous locations, Class I, Div 2, Groups A, B, C and D, Temperature Code T4 For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com

SCADAPack High Speed Counter/Accumulator

Model Code – 5410 High Speed Counter/Accumulator

Part number	Model	Description
TBUX297149	5410	High speed counter/accumulator

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SCADAPack Compact Digital Input Module



At a glance

- 16 optically isolated digital inputs
- 12...24 volts
- Very low power requirements
- Universal AC or DC
- Compact module

The SCADAPack™ 5414 Compact digital input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

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SCADAPack Compact Digital Input Module

Specifications – 5414 Compact digital input module

Ceneral		
Number of Digital Inputs	16	
Ranges	Factory-configurable as 12/24 Vdc	
Input Current	 0.6 – 0.9 mA at 24 Vdc on the 12/24 Vdc range 0.3 – 0.4 mA at 48 Vdc on the 48 Vdc range 0.3 – 0.4 mA at 120 Vac on the 115/125 Vac range 0.3 – 0.4 mA at 240 Vac on the 240 Vac range 	
Over-voltage Tolerance	150% sustained over-voltage without damage	
Power Requirements	 5 Vdc @ 6 mA with LEDs off 5 Vdc @ 40 mA with LEDs on 	
Visual Indicators	Logic powered LEDs. Can be disabled to conserve power.	
Field Terminations	1222 AWG, 15 A contacts	
Dimensions	74 mm wide x 124 mm high x 45 mm deep (2.90 in. x 4.90 in. x 1.80 in.)	
Mounting	7.5 x 35 DIN rail	
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	 5% RH to 95% RH, non-condensing -4070 °C (-40158 °F) operation -4085 °C (-40185 °F) storage 	
Safety	 Class I, Division 2, Groups A, B, C and D and CSA certified to UL508 standards ATEX II 3G and IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) (5414-24 only) Maximum permitted voltage in Canada or North America is 240 Vac Maximum permitted voltage outside of Canada or North America is 30 Vac/42.4PK/60 Vdc For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/ 	

SCADAPack Compact Digital Input Module

Model Code – 5414 Compact digital input module

Part number	Model	Signal Range
TBUX297378	5414-24	12/24 Vac/Vdc, ATEX and IECEx

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- REACH substance information
- · Industry leading # of PEP's*
- · Circularity instructions

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SCADAPack Compact Relay Digital Output Module



At a glance

- 12 digital outputs
- Dry Contact or Solid State Relay variants
- Isolated in 3 groups of 4
- · LEDs can be disabled to conserve power
- Very low power requirements

The SCADAPack[™] 5415 Compact relay digital output module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

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SCADAPack Compact Relay Digital Output Module

Specifications – 5415 Compact relay digital output module

Number of Digital Outputs	12	
Туре	 Form A Contacts (Normally open), Dry Contact or Solid State Relay variants 4 contacts per common 	
Contact Rating	 12 A maximum per common Dry Contact Version: 3 A, 30 Vdc or 250 Vac (Resistive) Solid State Relay Version: 60 Vdc max., 3 A max. at 50 °C (122 °F), 2 A max. at 70 °C (158 °F) 	
Switching Capacity (Dry Contact Version)	 5 A, 30 Vdc (150 W Resistive) 5 A X 250 Vac (1250 VA Resistive) 	
5 V Power Requirements	5 mA Quiescent Dry Contact version: 280 mA relays on, LEDs on 260 mA relays on, LEDs off Solid State Relay version: Relays on, LEDs on - 144 mA Relays on, LEDs off - 120 mA	
10-30 Vdc Power Requirements	Dry Contact version: 1.0 W maximum with 1.65 W peak for 15 ms durations Solid State Relay version: 1.0 W maximum	
Visual Indicators	Logic powered LEDs. Can be disabled to conserve power.	
Field Terminations	1222 AWG, 15 A contacts	
Dimensions	74 mm wide x 124 mm high x 45 mm deep (2.90 in. x 4.90 in. x 1.80 in.)	
Mounting	7.5 x 35 DIN rail	
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	 5% RH to 95% RH, non-condensing -4070 °C (-40158 °F) operation -4085 °C (-40185 °F) storage 	
Safety	 Class I, Division 2, Groups A, B, C and D and CSA certified to UL508 standards ATEX II 3G and IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) (5415-A only) Maximum permitted voltage in Canada or North America is 240 Vac Maximum permitted voltage outside of Canada or North America is 30 Vac/42.4 PK/60 Vdc For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/ 	

SCADAPack Compact Relay Digital Output Module

Model Code – 5415 Compact relay digital output module

Part number	Model	Signal Range
TBUX297382	5415	12-Point Compact Mechanical Relay Output Module

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

Note: Accessories sold separately.

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SCADAPack Differential Analog Input Module



At a glance

- Differential Isolated Inputs for high versatility
- Integrated transient protection with fusing
- Bipolar 13-bit resolution
- High common-mode voltage rejection and tolerance

The SCADAPack[™] 5502 Differential analog input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

SCADAPack Differential Analog Input Module

Specifications – 5502 Differential analog input module

Input Points	8: voltage or current inputs, each input is switch selectable as voltage or current	
Ranges	Voltage -10 Vdc+10 Vdc, Current -20 mA+20 mA	
Resolution	Voltage 1.22 mVdc, Current 4.88 μA	
Input Resistance	Voltage > 10 MΩ, Current 250 Ω	
Converter Type	13-bit plus sign successive approximation	
Accuracy	 +/- 0.1% of full scale at 25 °C (77 °F) +/- 0.2% of full scale over temperature range 	
Isolation	 550 Vac from any input to the chassis or the system power supplies. 140 Vac/200 Vdc between inputs 	
Common Mode Rejection	 >96 dB at 50/60 Hz, >50 dB at 10 KHz. with 1 KΩ imbalance >50 dB at 1 KHz. with 10 KΩ imbalance 	
Normal Mode Rejection	>45 dB at 50/60 Hz	
Transient Protection	 Transient suppressors and fuses on each input 2.5 kV surge withstand capability as per ANSI/IEEE, C37.90.1-1989 	
Over-Scale Input Capacity	12 Vdc maximum. Exceeding 12 Vdc will cause the fuse to blow	
Input Fuses	1/8 A	
Reading Update Time	170 ms with 60 Hz. rejection selected. 185 mS with 50 Hz rejection selected	
Power Requirements	5 Vdc @ 100 mA	
Terminations	2: 8-pole, removable terminal blocks, 1222 AWG, 15 A contacts	
Dimensions	144 mm wide x 118 mm high x 44 mm deep (5.65 in. x 4.625 in. x 1.75 in.)	
Mounting	7.5 x 35 DIN rail	
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	5% RH to 95% RH, non-condensing, -4060 °C (-40140 °F)	
Safety	 Class 1, Division 2 for use in hazardous locations For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/ 	

SCADAPack Differential Analog Input Module

Model Code – 5502 Differential analog input module

Part number	Model	Description
TBUX297211	5502	Differential analog input module

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

Note: Accessories sold separately.

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SCADAPack RTD Input Module



At a glance

- · Input values scaled and linearized
- Data returned as 32-bit floating point number
- Low power consumption
- Automatic 3-wire RTD compensation
- 5503 emulation mode for legacy systems

The SCADAPack™ 5505 RTD input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

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SCADAPack RTD Input Module

Specifications – 5505 RTD input module

General		
Input Points	4, RTD	
RTD Type	100 Ω platinum, 3 and 4-wire, auto-detection and compensation	
Calibration	0.00385 Ω / °C standard based on ASTM E 1137/E 1137M-04, ITS-90	
Ranges	5505: Can be configured to return data in Ω, °C, °F or °K -200800 °C (-3281472 °F) 0 to 500 Ω 5503 Emulation: Dipswitch selectable 0200 °C (32392 °F) -100100 °C (-148212 °F) -2000 °C (-32832 °F) 0800 °C (321472 °F) 0400 °C (32752 °F) 0 to 400 Ω	
Data Format	5505: 32-bit floating point and 12 status bits5503 Emulation: 16-bit signed integer	
Resolution	 5505: > 17-bit effective 5505 Emulation: 15-bit 	
RTD Status	 RTD is good (not open) RTD in range RTD 3 or 4-wire RTD status not available in 5503 Emulation 	
Accuracy on RTD Ranges	Percent of full scale over operational temperature range including linearization errors: +0.10%/-0.05%	
Accuracy on 0500 Ω	Percent of full scale over operational temperature range: ±0.03%	
Excitation Current	4 mA, 7.2% duty cycle in 4-wire mode, 14.4% in 3-wire mode, 250 ms scan interval	
Line Resistance	100 Ω max., in each line	
Converter Type	24-bit delta-sigma	
Response Time	380 ms typical for 10% to 90% signal change at minimum filter setting	
Transient Protection	2.5 kV surge-withstand capability as per ANSI/IEEE C37.90.1-1989	
Isolation	Isolation from logic supply and chassis, voltage 500 Vrms	
5 Vdc Power Requirements	6 mA	
11 - 30 Vdc Power Requirements	12 Vdc operation: 4 mA • plus 0.6 mA per 4-wire RTD • plus 1.2 mA per 3-wire RTD 24 Vdc operation: 2.2 mA • plus 0.3 mA per 4-wire RTD • plus 0.6 mA per 3-wire RTD	

SCADAPack RTD Input Module

Specifications – 5505 RTD input module continued

General

1130 Vdc - Connector	Removable. Shared with RTD inputs 0-1	
1130 Vdc - Isolation	Isolation from logic supply and chassis	
Terminations	8 and 10-pole, removable terminal block,1222 AWG, 15 A contacts	
Dimensions	74 mm wide x 124 mm high x 45 mm deep (2.90 in. x 4.90 in. x 1.80 in.)	
Mounting	7.5 x 35 DIN rail	
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	5% RH to 95% RH, non-condensing, -4070 °C (-40158 °F) operation, -4085 °C (-40185 °F) storage	
Safety	 Non-Incendive Electrical Equipment for Use in Class I, Division2 Groups A, B C and D Hazardous Locations ATEX II 3G and IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/ 	

Model Code - 5505 RTD input module

Part number	Model	Description
TBUX297318	5505	RTD input module

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

Note: Accessories sold separately.

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SCADAPack Analog Input Module



At a glance

- 0...20 mA / 4...20 mA inputs
- 0...5 V / 1...5 V inputs
- Individual input configuration
- 5501 emulation mode for legacy systems

The SCADAPack™ 5506 Analog input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.

With the addition of I/O Expansion modules, any¹ SCADAPack Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Available for a wide range of process I/O requirements, from digital and analog I/O to I/O simulators and a UPS module, a maximum of twenty I/O modules may be connected for an expansion of up to 512 digital outputs, 512 digital inputs, 128 analog inputs, 64 counters and 64 analog outputs, on some models.

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SCADAPack Analog Input Module

Specifications – 5506 Analog input module

General

Input Points	8	
Ranges	 020 mA 420 mA 05 Vdc 15 Vdc 	
LED Indicators	8 red LEDs, indicating current input, voltage input and under or over-range signal applied	
Input Configuration	Individual inputs configurable with 4 mA/1 Vdc (20%) offset and for voltage/current operation when configured as a 5506. All inputs dipswitch-selectable with 4 mA/1 Vdc (20%) offset and for voltage/current operation when configured to emulate a 5501 module.	
Input Resistance	250 Ω - Current configuration ; 66 k Ω - Voltage configuration	
Resolution	16-bits over the 05 V and 020 mA measurement range	
Туре	Single-ended	
Accuracy	$\pm 0.1\%$ of full scale at 25 °C (77 °F) ; $\pm 0.2\%$ over temperature range	
Transient Protection	2.5 kV surge-withstand capability as per ANSI/IEEE C37.90.1-1989	
Normal Mode Rejection At 60 Hz with 60 Hz Scanning	 53 dB with 3 Hz filter 50 dB with 6 Hz filter 49 dB with 11 Hz filter 45 dB with 30 Hz filter 	
Normal Mode Rejection At 50 Hz with 50 Hz Scanning	 73 dB with 3 Hz filter 56 dB with 6 Hz filter 52 dB with 11 Hz filter 49 dB with 30 Hz filter 	
Response Time for 10% to 90% Signal Change (60 Hz Scanning)	 250 ms with 3 Hz filter 130 ms with 6 Hz filter 60 ms with 11 Hz filter 30 ms with 30 Hz filter 	
Response Time for 10% to 90% Signal Change (50Hz Scanning)	 300 ms with 3 Hz filter 140 ms with 6 Hz filter 80 ms with 11 Hz filter 40 ms with 30 Hz filter 	
Over-Scale Input Capacity (without damage)	Continuous: 0.10 A/14 Vdc on the 20 mA inputs; 0.05 A/14 Vdc on the 5 Vdc inputs	
Isolation	500 Vac isolation from logic supply and chassis	
5 Vdc Power Requirements	 22 mA, LEDs off 45 mA, LEDs on 	
1130 Vdc Power Requirements	11 mA	

SCADAPack Analog Input Module

Specifications – 5506 Analog input module continued

General

1130 Vdc - Connector	Removable, 4 positions	
1130 Vdc - Isolation	Isolation from logic supply and chassis	
Terminations	10-pole, removable terminal block,1222 AWG, 15 A contacts	
Dimensions	74 mm wide x 124 mm high x 45 mm deep (2.90 in. x 4.90 in. x 1.80 in.)	
Mounting	7.5 x 35 DIN rail	
Packaging	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	5% RH to 95% RH, non-condensing, -4070 °C (-40158 °F) operation, -4085 °C (-40185 °F) storage	
Safety	 Non-Incendive Electrical Equipment for Use in Class I, Division2 Groups A, B C and D Hazardous Locations ATEX II 3G and IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/ 	

Model Code - 5506 Analog input module

Part number	Model	Description
TBUX297319	5506	Analog input module

Footnote: 1. Some I/O Expansion modules are specific to SCADAPack 300 RTUs, others are specific to SCADAPack E RTUs.

Note: Accessories sold separately.

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5606-5607

SCADAPack analog/digital I/O modules





Product at a glance

- I/O expansion modules for SCADAPack™ 300/300E and SCADAPack 32 Smart RTUs¹
- Up to 32 DIs, 16 Relay DOs, 8 configurable Als and 2 optional AOs per module
- Up to 8 modules supported
- Conformal-coated

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5606-5607

SCADAPack analog/digital I/O modules

Specifications – Digital and Analog Inputs/Outputs

I/O module	5606	5607
Analog inputs	8	8
Analog outputs	2 (option)	2 (option)
Digital inputs	32	16
Digital outputs	16	10

I/O

Analog Inputs	Software-configurable to 020 mA, 420 mA, 05 Vdc or 010 Vdc • Resolution: 15-bit ADC (15-bit over the measurement range in 10 Vdc, 14-bit in 20 mA) • Accuracy: $\pm 0.1\%$ of full scale at 25 °C (77 °F), $\pm 0.2\%$ over temperature range • Input Resistance: $250~\Omega$ or $20~\kappa\Omega$ in 20 mA or 10 Vdc configurations • Isolation: $500~V$ ac from logic and chassis • Normal rejection mode: $27~d$ B at $60~H$ Z
Analog Outputs	 020 mA, 420 mA, voltage output may be accomplished with external precision resistor Resolution: 12-bit over 020 mA range Accuracy: ±0.15% at 25 °C (77 °F), ±0.35% of full scale over temperature range Response Time: less than 10 µs for 10% to 90% signal change Power Supply: 1230 Vdc, external Power (Current) Requirements: 10 mA plus up to 20 mA per output Isolation: isolated from RTU logic and chassis Load Range: 12 Vdc: 0375 Ω, 24 Vdc: 0925 Ω, Logic End-Of- Scan to Signal Update Latency: typically 18 27 ms
Digital Inputs	 1224 Vdc Turn on voltage: 9 Vdc (minimum), Turn off voltage: 4 Vdc (maximum) Over-voltage tolerance: 150% sustained over-voltage without foreseeable damage DC input current: 0.67 mA at 24 Vdc Isolation: in group of 8, 1500 Vac from logic supply and chassis
Digital Outputs	Relays (Form A) • 4 contacts share one common • Isolation : isolated in groups of 4. Isolated from RTU logic, RTU chassis and other groups to 1500 Vac • Maximum Switching Voltage: 30 Vdc • Maximum Switching Load: 150 W or 1250 VA (5 A)

General

Power Supply	 Analog Inputs & Outputs: 12 mA at 1230 Vdc, plus analog output requirements Digital Inputs & Outputs: 650 mA at 5 Vdc, fully loaded 	
I/O Terminations	5606: 5, 9, 10-pole connectors, 0.08103.31mm² (2812 AWG), solid or stranded. 5607: 5, 9, 12-pole connectors, 0.08103.31mm² (2812 AWG), solid or stranded	
Dimensions	5606: 211.8 mm (8.34 in.) wide, 181.0 mm (7.13 in.) high, 46.5 mm (1.83 in.) deep 5607: 144.0 mm (5.65 in.) wide, 181.0 mm (7.13 in.) high, 46.5 mm (1.83 in.) deep	
Enclosure	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint	
Environment	 Conformal-coated -4070 °C (-40158 °F) operating, -4085 °C (-40185 °F) storage 5% RH to 95% RH, non-condensing 	
Certifications	EMC and radio frequency: FCC 47 CFR Part 15, Subpart B	

5606-5607

SCADAPack analog/digital I/O modules

Specifications - Digital and Analog Inputs/Outputs

Certifications (three versions available: S for standard, X for ATEX/IECEx and U for Class I Div 2)

S version	EMC and radio frequency	FCC 47 CFR Part 15, Subpart B ICES-003 Issue 5 August 2012 CE and RCM markings
	General Safety	UL 508
X version	Adds: IECEx/ATEX Class I, Zone 2	
U version	Adds: cCSAus Non incendive Electrical Equipment for use in Class I, Division 2, Groups A, B, C and D	

Part numbers

5606 model	no AO: TBUX297328S, TBUX297328X, TBUX297328U with 2AO: TBUX297334S, TBUX297334X, TBUX297334U
5607 model	no AO: TBUX297478S, TBUX297478X, TBUX297478U with 2AO: TBUX297482S, TBUX297482X, TBUX297482U

Footnote: 1. Restrictions apply.

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Input / Output Expansion Module For SCADAPack 470 | 474 | 530E | 535E | 570 | 574 | 575 Smart RTUs

Product at a glance

Designed to supplement the onboard I/O count of select SCADAPack™ Smart RTUs, the 6601 I/O Expansion Module provides a combination of I/O, including digital and analog inputs and outputs, and counter inputs.

The maximum number of external expansion modules is dependent on the SCADAPack Smart RTU type.

Green Premium™ ecolabel product – Sustainable performance, by design

Input / Output Expansion Module

Specifications

Gen	era
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Environment	 -4070 °C (-40158 °F) operating temperature when the unit is mounted horizontally on a vertical surface -4065 °C (-40149 °F) operating temperature when the unit is mounted in any other position -4085 °C (-40185 °F) storage temperature 595% relative humidity, non-condensing Pollution Degree 2, Installation Category I, Indoor use 	
Elevation	3,000 m (9,842 ft.)	
Terminations	3.30.08 mm² (1228 AWG), solid or stranded	
Packaging	 Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint G3 conformal-coated circuit boards 	
Dimensions	150.5 mm wide X 182.3 mm high X 44.7 mm deep (5.9 in. wide X 7.2 in. X 1.8 in. deep)	
Mechanical Shock	 IEC 61131-2 ½ sine, 15 ms, 15 g 	
Vibration	 IEC 61131-2 58.4 Hz: Amplitude controlled, 7.0 mm (0.28 in.) peak-to-peak 8.4150 Hz: Acceleration controlled, 1.0 g peak 	
I/O Expansion Limits	Typically 4. Refer to the appropriate SCADAPack Hardware Manual for further details.	

Power Supply

ower requirements at 30 Vdc om SCADAPack RTU)
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Certifications

	Requirements specific to the RTU functional characteristics, immunity, robustness, and safety:
Industrial Standards	 IEC/EN 61131-2 CSA 22.2 No. 61010-1-12 and CSA 22.2 No. 61010-2-201 UL 61010-1 and UL 61010-2-201
CE Marking Compliance	 For the latest information regarding product compliance with European Directives for CE marking, refer to the EU Declaration of Conformity issued for your product at www.se.com For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/
Installation in Classified Ex Area	 Hazardous locations Class I, Division 2, groups A, B, C, and D and Class I, Zone 2 according to CSA C22.2 No. 213, CSA C22.2 60079-0, CSA C22.2 60079-15, ANSI/ISA 60079-0, ANSI/ISA 60079-15, ANSI/ISA 12.12.01 ATEX (European directive 2014/34/EU) in defined atmosphere Zone 2 according to EN 60079-0 and EN 60079-15 IECEx in defined atmosphere Zone 2 according to IEC 60079-0 and IEC 60079-15
Specific Countries	 Australia and New Zealand: ACMA requirements for RCM marking United States: FCC Part 15 Subpart B Class A

Input / Output Expansion Module

Specifications – cont'd

\sim	 Innuts

Counter Inputs	
Quantity	8
Electrical Characteristics	Shared with digital input channels
Reporting	 16-bit and 32-bit counters Deviation Timestamped events Polled, unsolicited reporting
Frequency	Up to 8 channels: • DI 1 to 4: 01.5 kHz • DI 5 to 8: 0150 Hz
Digital Inputs	
Quantity	16
Typical Operating Voltage	• 12 Vdc • 24 Vdc
Turn-on Voltage	Minimum: 9 Vdc
Turn-off Voltage	Maximum: 4 Vdc
Over-voltage Toler- ance	36 Vdc sustained over-voltage without foreseeable damage
Input Current	 0.91.2 mA at 12 Vdc 2.12.4 mA at 24 Vdc
Timestamping	1 ms Sequence of Event (SOE)
Isolation	 Isolation is in 2 groups of 8 Isolation from device logic and chassis 1000 Vac or 1500 Vdc
Digital Outputs	
Quantity	8
Туре	 2 Form C single-pole double-throw (SPDT) relays available to the application Separate Normally Open/Normally Closed/Common 6 Form A relays available to the application Normally Open, one Common
Isolation	500 Vac minimum to device logic
Maximum Switching Voltage	30 Vdc or 25 Vac
Maximum Switching Load	 60 W or 50 VA per relay 2 A per relay 2 A per common on digital outputs 1-2 12 A per common on digital outputs 3-8
Status and reporting	Individual relay pole feedback to software Output state poll
Temperature de-rating	 Mounted horizontally on a vertical surface: 2 A maximum per relay at 60 °C (140 °F), de-rate by 0.1 A per 1 °C to 1 A maximum per relay at a maximum ambient temperature of 70 °C (158 °F) Mounted in any other position: 2 A maximum per relay at 60 °C (140 °F), de-rate by 0.1 A per 1 °C to 1.5 A maximum per relay at a maximum ambient temperature of 65 °C (149 °F)
Controls	 Direct Operate Select Before Operate Trip/Close Latch Pulse

Input / Output Expansion Module

Specifications - cont'd

Analog Inputs

Analog inputs	
Quantity	6
Туре	Uni-polar, differential, voltage or current
Resolution (filtered)	 24-bit conversion yields an effective 19 bits of resolution during filtered conversions 10 µV on the 5 Vdc range 40 nA resolution on the 20 mA range
Resolution (fast)	 24-bit conversion yields an effective 13 bits of resolution during unfiltered conversions. 0.6 mV resolution on the 5 Vdc range 2.4 µA resolution on the 20 mA range
Accuracy	 ±0.1% of full scale at 25 °C (77 °F) ±0.2% over-temperature range
Isolation	250 Vac isolation between channels and from device logic and chassis
Input resistance	 250 Ω in current configurations 800 kΩ in voltage configurations
Ranges	 Input Type: 420 mA, 020 mA, 15 Vdc, or 05 Vdc Under-range: 420 mA measures to 0 mA Individual inputs can be configured for current or voltage operation using DIP switches. Calibration in voltage mode 15 Vdc is available as an option.
Sampling Rate	 Filtered: 500 ms per 6 channels Fast: 30 ms per 6 channels
Common Mode Rejection	80 dB
Normal Mode Rejection	 Filtered: 86 dB (50/60 Hz) Fast: Not applicable
Reporting	 Deviation 8 alert limits Under- and over-range events Quality flags Integer/floating point Timestamped events Polled, unsolicited reporting on deviation and per alert limit
Timestamping	30 ms Sequence of Event (SOE)
I/O Cable Length	Maximum: 30 m (98.4 ft)

Input / Output Expansion Module

Specifications - cont'd

Analog Outputs

Quantity	2 with optional analog outputs
Туре	Uni-polar
Resolution	12-bit over 020 mA range
Accuracy	 ±0.15% at 25 °C (77 °F) ±0.35% of full scale over-temperature range
Response Time	Less than 10 μs for 10% to 90% signal change
Power Supply (External)	1230 Vdc
Power Supply Cable Length	Maximum: 30 m (98.4 ft)
Power (Current) Requirements	10 mA plus up to 20 mA per output
Isolation	 Transformer 500 Vdc maximum to device logic and chassis
Range	 020 mA 420 mA Voltage output may be accomplished with external precision resistor
Status and Reporting	 Power missing Open loop detected Values out of range ADC reference check
Controls	Direct OperateSelect Before Operate
Load range	 12 Vdc: 0475 Ω 24 Vdc: 01075 Ω 30 Vdc: 2501375 Ω

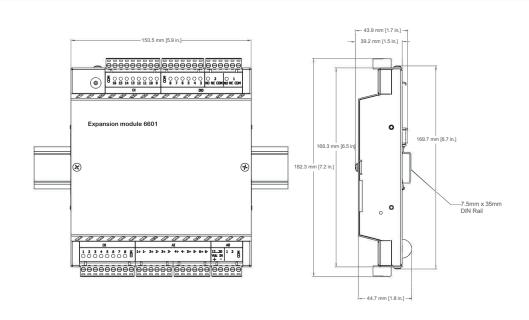
Model Code

6601 (For use with SCADAPack 470 | 474 | 530E | 535E | 570 | 575 Smart RTUs only)

Part No.	Complete the desired part number with an S, X, or U suffix depending on certification required.
S	EMC and radio frequency FCC 47 CFR Part 15, Subpart B ICES-003 CE and RCM markings General safety UL/CSA 61010-2-201
×	Adds: IECEx/ATEX: Ex nA nC IIC T4 Gc -40 °C \leq Ta \leq +70 °C $\langle \xi \chi \rangle$ 3 G
U	Adds: cCSAus Non-Incendive Electrical Equipment for use in Class I, Division 2, Groups A, B, C and D, T4, -40 °C \leq Ta \leq +70 °C , Class I Zone 2, T4
TBUX297583	Model 6601-20mA, 16 D/I 1224 Vdc, 8 Dry Contact Relay O/P, 6 config. A/I (0/420 mA)
TBUX297585	Model 6601-20mA, 16 D/I 1224 Vdc, 8 Dry Contact Relay O/P, 6 config. A/I (0/420 mA), 2 A/O (external DC supply)

Input / Output Expansion Module

Dimensions



Note: Accessories sold separately.

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- RoHS compliance
- REACH substance information
- · Industry leading # of PEP's*
- · Circularity instructions

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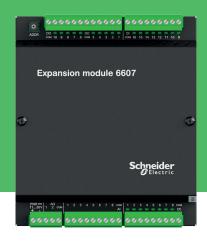


Learn more about Green





I/O expansion module for SCADAPack x70 Smart RTUs



Product at a glance

The 6607 I/O Expansion module increases the I/O capacity for SCADAPack™ x70 Smart RTUs (Remote Terminal Units) by providing additional digital, analog and counter points in a compact form-factor.

Expandable: Up to four 6607 modules may be connected to a SCADAPack x70 Smart RTU for enhanced I/O flexibility.

Configurable:

- Locally or remotely using the SCADAPack RemoteConnect configuration software on a desktop or laptop computer connected to the SCADAPack through the USB Device port or through any of the available serial or Ethernet ports.
- Remotely as part of an end-to-end SCADA system using EcoStruxure[™] Geo SCADA Expert software.

Available I/O:

- 16 digital inputs
- 8 counter inputs (shared with DIs)
- 10 digital outputs
- · 8 analog inputs
- 2 analog outputs

Conformal-coated circuit boards for enhanced reliability in adverse environments.

Wide operating temperature range: -40...70 °C (-40...158 °F).

Class I, Div. 2 hazardous area certifications included.

Green Premium™ ecolabel product – Sustainable performance, by design

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications - cont'd

General

 -4070 °C (-40158 °F) operating temperature when the unit is mounted horizontally on a vertical surface -4065 °C (-40149 °F) operating temperature when the unit is mounted in any other position -4085 °C (-40185 °F) storage temperature 595% relative humidity, non-condensing Pollution Degree 2, Installation Category I, Indoor use
3,000 m (9,842 ft)
3.30.05 mm ² (1230 AWG), solid or stranded
 142 mm (5.6 in) wide 166 mm (6.5 in) high 46 mm (1.8 in) deep
 Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint G3 conformal-coated circuit boards
• IEC 61131-2 • ½ sine, 15 ms, 15 g
 IEC 61131-2 58.4 Hz: Amplitude-controlled, 7.0 mm (0.28 in) peak-to-peak 8.4150 Hz: Acceleration controlled, 1.0 g peak

Power Supply

Input Voltage	 Rated Voltage 1429 Vdc Turn-on 1011.5 Vdc Turn-off 910 Vdc
Power requirements from the SCADAPack	1.2 W

Certifications

Industrial standards	Requirements specific to the SCADAPack functional characteristics, immunity, robustness, and safety: • IEC/EN 61131-2 • CSA 22.2 No. 61010-1-12 and CSA 22.2 No. 61010-2-201 • UL 61010-1 and UL 61010-2-201
CE marking compliance	 For the latest information regarding product compliance with European Directives for CE marking, refer to the EU Declaration of Conformity issued for your product at see.com For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/
Installation in classified Ex area	 North America: Hazardous locations Class I, Division 2, groups A, B, C, and D, T4 and Class I, Zone 2, T4, -40 °C ≤ Tamb ≤ 70 °C (-40 °F ≤ Tamb ≤ 158 °F) and Class I, Zone 2, IIC T4 according to CSA C22.2 No. 213-17, UL 12.12.01 ATEX, UKEX: Zone 2, II 3G, Ex ec nC IIC T4 Gc according to EN IEC 60079-0, EN IEC 60079-7 and EN IEC 60079-15 IECEx: Zone 2, Ex ec nC IIC T4 Gc according to IEC 60079-0, IEC 60079-7 and IEC 60079-15 For Eurasian Economic Union: EAC
Specific countries	 For Australia and New Zealand: ACMA requirements for RCM marking For United States: FCC Part 15 Subpart B Class A

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications - cont'd

Communications

I/O bus	SCADAPack 470, 570, 574 and 575 Maximum number of 6607 input output modules in the system is 4
	SCADAPack 474 Maximum number of 6607 input output modules in the system is 3

Digital Inputs

Quantity	16
Connectors	2 removable, 9-pin
Indicators	16 LEDs
Voltage	12 Vdc or 24 Vdc (Typical)
Over-voltage tolerance	 36 Vdc 150% sustained over-voltage without foreseeable damage
Input current	1.2 mA typical at 12 Vdc2.4 mA typical at 24 Vdc
Input logic-HI level	OFF to ON transition threshold is typically 6.5 Vdc
Timestamping	10 ms Sequence of Event (SOE)
Status	Chatter filter detection when digital state changes faster than 5 Hz
Isolation	 Isolation is in 2 groups of 8 Isolation from logic supply and chassis: 250 Vac/350 Vdc

Counter Inputs

Quantity	8
Electrical characteristics	Shared with digital input channels
Reporting	 32-bit counters Deviation Timestamped events Unsolicited reporting
DI1, DI2, DI3, and DI4-supported counting	 Range: 0 to 1.5 kHz Rising edge counting Falling edge counting (using digital input state inversion)
DI5, DI6, DI7, and DI8-supported counting	 Range: 0 to 500 Hz Rising edge counting Falling edge counting (using digital input state inversion)

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications - cont'd

Digital Outputs

Quantity	10	
Connector	Removable, 12-pin	
Туре	Form A Contacts (normally open) 5 contacts share one common	
Indicators	Logic-powered LEDs	
Inductive loads	 To suppress the noise in AC and DC circuits and help extend the life of the relay contacts, place a metal oxide varistor (for AC circuits) or a diode (for DC circuits) across the coil. See Digital Output Wiring Example for further information 	
Isolation	 Isolation is in 2 groups of 5 250 VAC / 350 VDC maximum to SCADAPack logic and chassis 	
Dry Contact Rela	Dry Contact Relay Version	
Contact rating	2 A, 30 VDC10 A maximum per common	

Analog Inputs

Quantity	8
Connector	Removable, 9-pin
Ranges	Software-configurable • 020 mA • 420 mA • 05 Vdc • 15 Vdc
Resolution (100 ms sampling)	 24-bit conversion 0.25 mV resolution on 5 Vdc range 1 µA resolution on 20 mA range
Accuracy	 ±0.1% of full scale at 25 °C (77 °F) ±0.2% over temperature range
Input resistance	 250 ohms in current configurations 1 Mohms in voltage configurations
Isolation	250 Vac / 350 Vdc maximum to SCADAPack logic and chassis
Cable length	Maximum: 30 m (98.4 ft)

Analog Outputs

Quantity	2
Connector	Removable, 5-pin
Range	020 mA sourcing420 mA sourcing
Reporting	Open Loop Detection (for 020 mA configuration, open loop detection operates above 0.1% of full span. i.e. above 0.02 mA)
Resolution	12-bit (5.9 uA)
Load range	12 Vdc: 0400 ohms24 Vdc: 01000 ohms30 Vdc: 2501300 ohms

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications - cont'd

Analog Outputs (cont'd)

Accuracy	 ±0.15% of full scale at 25 °C (77 °F) ±0.35% of full scale over temperature range
Noise and ripple	0.04% maximum
Logic end-of-scan to signal update latency	With up to 10, 5000 series I/O modules Typical: 1827 ms
Response time (DAC to signal)	Less than 100 µs for 10% to 90% signal change
Isolation	Optional isolation from logic supply by using external power supply
Cable Length	Maximum: 30 m (98.4 ft)
Load range	 12 Vdc: 0400 ohms 24 Vdc: 01000 ohms 30 Vdc: 2501300 ohms

Model Code

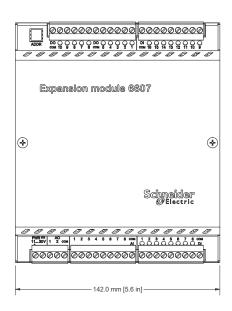
Code	Select: Model
TBUX297592S	Combination I/O module, 16, DI, 8 CI, 10 DO, 8 AI, 2 AO

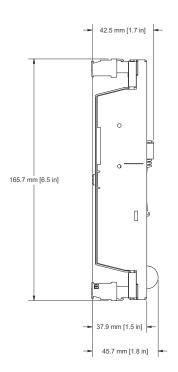
Accessories

Part Number	Description
TBUM297310	SCADAPack 47x Connector Kit - five complete sets of spare connectors for SCADAPack 470 and 474 RTUs, and 6607 I/O expansion module

I/O expansion module for SCADAPack x70 Smart RTUs

Dimensions - 6607





Note: Accessories sold separately.

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Part Number: TBULM08019-01 v19



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- REACH substance information
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- · Circularity instructions

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Power Supply for SCADAPack Smart RTUs



With the addition of I/O Expansion modules, a SCADAPack™ Smart RTU can easily be expanded from its base I/O configuration to more than 700 process I/O points. The 6103 power supply is used wherever the power requirement for I/O expansion modules exceeds the on-board power supply limit of the RTU.

The 6103 Power Supply is DIN-rail mounted, has bus connections for both the latest 6000-series and legacy 5000-series expansion modules, and provides power to any expansion module that is situated downstream from its location on the I/O bus chain.

Like the SCADAPack Smart RTU and I/O expansion modules, the 6103 Power Supply features conformal-coated boards and wide operating temperatures of -40...70 °C (-40...158 °F). Class I, Div. 2 and Zone 2 hazardous area certifications included.



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Power Supply Module

Specifications

_	_	-	_	

Environment	 -4070 °C (-40158 °F) operating temperature -4085 °C (-40185 °F) storage 5% to 95% relative humidity, non-condensing Pollution Degree 2, Installation Category I, Indoor use
Elevation	3,000 m (9,842 ft.)
Terminations	2.50.2 mm ² (1228 AWG), solid or stranded copper wires
Packaging	 Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint G3 conformal-coated circuit boards
Dimensions	73.5 mm wide X 127.0 mm high X 47.2 mm deep (2.9 in. X 5.0 in. X 1.9 in.)
Mechanical Shock	• IEC 61131-2 • ½ sine, 15 ms, 15 g
Vibration	 IEC 61131-2 58.4 Hz: amplitude-controlled, 7.0 mm (0.28 in.) peak-to-peak 8.4150 Hz: acceleration-controlled, 1.0 g peak

Power Supply

Input Voltage	1130 Vdc
Input Power	13 W (Vin = 24 V, 2 A output)
Input Isolation	250 Vac / 350 Vdc
Input Protection	 Protected against voltages up to 36V and reverse polarities Max cable length <30m.
Output Voltage	5.1 V +/- 0.05 V
Output Current	2 A max.
Visual Indicators	Power Fault LED Over-Current LED
Connector	Removeable, 4 pin

Certifications	
Industrial Standards	Requirements specific to the SCADAPack functional characteristics, immunity, robustness, and safety: • IEC/EN 61131-2 • CSA 22.2 No. 61010-1-12 and CSA 22.2 No. 61010-2-201 • UL 61010-1 and UL 61010-2-201
CE Marking Compliance	 For the latest information regarding product compliance with European Directives for CE marking, refer to the EU Declaration of Conformity issued for your product at se.com For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/
Installation in Classified Ex Area	 Hazardous locations Class I, Division 2, Groups A, B, C, and D, T4 and Class I, Zone 2, IIC T4 according to CSA C22.2 No. 213-17 and UL 121201 IECEX: Ex ec IIC T4 Gc ATEX:
Specific Countries	 For Australia and New Zealand: ACMA requirements for RCM marking For United States: FCC Part 15 Subpart B Class A For UK: UKCA marking For Eurasian Economic Union: EAC marking

Power Supply Module

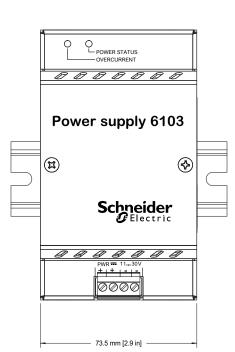
Model Code

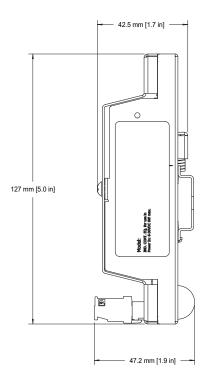
Part No.

TBUX297595

Model 6103 Power supply with I/O bus connections for all SCADAPack Smart RTUs, 2 A @ 5 Vdc

Dimensions





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Part Number TBULM08040-12 v04

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