



Compact and Versatile Controller for SCADA & Telemetry Solutions

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, 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.

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: ¹ Refer 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).

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Compatibility Chart

I/O Expansion Modules

IO Expansion Modules	32-bit CPU			
	3xx	3xxE	53xE	x70
Analog Inputs				
5502 AI 8-channel differential Discontinued	•			
5505 AI 4-channel RTD	•			•
5506 AI 8-channel	•	•	•	•
Analog Outputs				
5304 AO 4-channel	•	•	•	•
Digital Inputs				
5403 DI 8-point high level Discontinued	•			
5405 DI 32-point high density Discontinued	•	•	•	•
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 Discontinued	•			
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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*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

5304

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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5304

SCADAPack Analog Output Module

Specifications – 5304 Analog output module

General

Output points	4
Output Modes	<ul style="list-style-type: none"> Current mode, jumper link selectable
Output signal ranges	<ul style="list-style-type: none"> 0...20 mA or 4...20 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 0...20 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	<ul style="list-style-type: none"> 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
12...24 Vdc Operating Voltage Limits	<ul style="list-style-type: none"> 9 Vdc or (20 mA x load resistance) +4 Vdc (whichever is greater) in current mode
Power Requirements	<ul style="list-style-type: none"> 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, -40...70 °C or (-40...158 °F)
Safety	<ul style="list-style-type: none"> 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/

5304

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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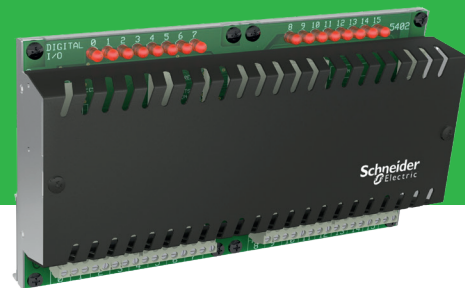
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*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

5402

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, 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.

5402

SCADAPack Configurable Digital Input or Output Module

Specifications – 5402 Configurable digital input or output module

General

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, 12...22 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, –40...60 °C or (–40...140 °F)
Safety	<ul style="list-style-type: none"> • 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

5402

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	90...140 Vac/Vdc input relay
TBUM297132	IACM-5A	180...280 Vac/Vdc input relay
TBUM297133	IACM-5E	10...32 Vdc, 15...32 Vac, no polarity
TBUM297124	IDCM-5	3...32 Vdc input relay
TBUM297123	OACM-5	24...140 Vac output relay, 3 A
TBUM297134	OACM-5H	24...280 Vac output relay, 5 A
TBUM297125	ODCM-5	3...60 Vdc output relay, 3 A
TBUM297135	ODCM-5A	10...200 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.

Note: Accessories sold separately.

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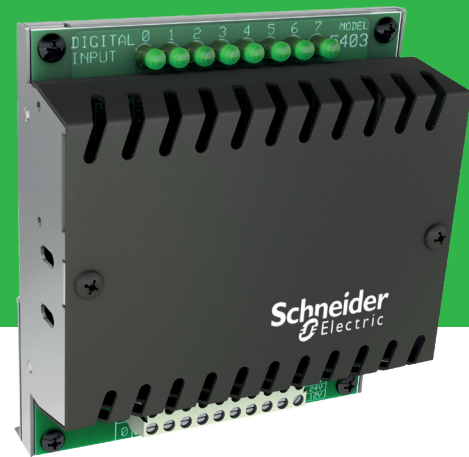
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5403

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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5403

SCADAPack High Level Digital Input Module

Specifications – 5403 High level digital input module

General

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	<ul style="list-style-type: none"> • OFF to ON: 7 ms typical • ON 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	<ul style="list-style-type: none"> • 1: 10-pole, removable terminal block • 12...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; -40...60 °C (-40...140 °F)
Safety	<ul style="list-style-type: none"> • 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/

5403

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

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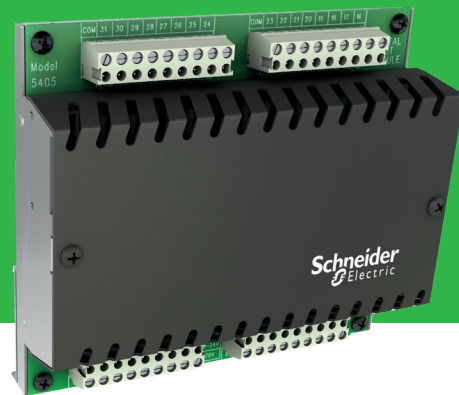
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5405

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

General

Input Points	32
Ranges	12...24 Vdc, 16...24 Vac
Over-Voltage Tolerance	150% sustained over-voltage without damage
Input Current	<ul style="list-style-type: none"> 6.0 mA typical @ 24 Vdc on the 24 Vdc range 3.5 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 0...15 are on the bottom edge Inputs 16...31 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; -40...60 °C (-40...140 °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	<ul style="list-style-type: none"> 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/

5405

SCADAPack Digital Input Module

Model Code – 5405 Digital input module

Part number	Model	Description
TBUX297247	5405-24	32 point, 12...24 Vdc discrete input module

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5410

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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5410

SCADAPack High Speed Counter/Accumulator

Specifications – 5410 High speed counter/accumulator

General

Counter Input Points	4
Count Length	32-bit, range is 0...4,294,967,295
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	<ul style="list-style-type: none"> 50 microseconds (μs), 100μs with quadrature counters 8.3 milliseconds with de-bounce filters
Maximum Pulse Low Width	<ul style="list-style-type: none"> 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, 12...22 AWG, 15 A contacts
Visual Indicators	<ul style="list-style-type: none"> 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, -40...60 °C (-40...140 °F)
Certification	<ul style="list-style-type: none"> 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

5410

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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5414

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.

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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5414

SCADAPack Compact Digital Input Module

Specifications – 5414 Compact digital input module

General

Number of Digital Inputs	16
Ranges	Factory-configurable as 12/24 Vdc
Input Current	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	12...22 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	<ul style="list-style-type: none"> • 5% RH to 95% RH, non-condensing • –40...70 °C (–40...158 °F) operation • –40...85 °C (–40...185 °F) storage
Safety	<ul style="list-style-type: none"> • 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/

5414

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

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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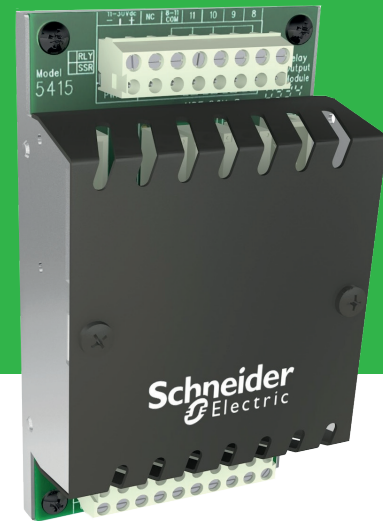
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*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

5415

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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5415

SCADAPack Compact Relay Digital Output Module

Specifications – 5415 Compact relay digital output module

General

Number of Digital Outputs	12	
Type	<ul style="list-style-type: none"> Form A Contacts (Normally open), Dry Contact or Solid State Relay variants 4 contacts per common 	
Contact Rating	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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	12...22 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	<ul style="list-style-type: none"> 5% RH to 95% RH, non-condensing -40...70 °C (-40...158 °F) operation -40...85 °C (-40...185 °F) storage 	
Safety	<ul style="list-style-type: none"> 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/ 	

5415

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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5502

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.

5502

SCADAPack Differential Analog Input Module

Specifications – 5502 Differential analog input module

General

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 μ A
Input Resistance	Voltage > 10 M Ω , Current 250 Ω
Converter Type	13-bit plus sign successive approximation
Accuracy	<ul style="list-style-type: none"> +/- 0.1% of full scale at 25 °C (77 °F) +/- 0.2% of full scale over temperature range
Isolation	<ul style="list-style-type: none"> 550 Vac from any input to the chassis or the system power supplies. 140 Vac/200 Vdc between inputs
Common Mode Rejection	<ul style="list-style-type: none"> >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	<ul style="list-style-type: none"> 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, 12...22 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, -40...60 °C (-40...140 °F)
Safety	<ul style="list-style-type: none"> 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/

5502

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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5505

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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5505

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 / $^{\circ}\text{C}$ standard based on ASTM E 1137/E 1137M-04, ITS-90
Ranges	<p>5505: Can be configured to return data in Ω, $^{\circ}\text{C}$, $^{\circ}\text{F}$ or $^{\circ}\text{K}$</p> <ul style="list-style-type: none"> -200...800 $^{\circ}\text{C}$ (-328...1472 $^{\circ}\text{F}$) 0 to 500 Ω <p>5503 Emulation: Dipswitch selectable</p> <ul style="list-style-type: none"> 0...200 $^{\circ}\text{C}$ (32...392 $^{\circ}\text{F}$) -100...100 $^{\circ}\text{C}$ (-148...212 $^{\circ}\text{F}$) -200...0 $^{\circ}\text{C}$ (-328...32 $^{\circ}\text{F}$) 0...800 $^{\circ}\text{C}$ (32...1472 $^{\circ}\text{F}$) 0...400 $^{\circ}\text{C}$ (32...752 $^{\circ}\text{F}$) 0 to 400 Ω
Data Format	<ul style="list-style-type: none"> 5505: 32-bit floating point and 12 status bits 5503 Emulation: 16-bit signed integer
Resolution	<ul style="list-style-type: none"> 5505: > 17-bit effective 5505 Emulation: 15-bit
RTD Status	<ul style="list-style-type: none"> 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 0...500 Ω	Percent of full scale over operational temperature range: \pm 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	<p>12 Vdc operation: 4 mA</p> <ul style="list-style-type: none"> plus 0.6 mA per 4-wire RTD plus 1.2 mA per 3-wire RTD <p>24 Vdc operation: 2.2 mA</p> <ul style="list-style-type: none"> plus 0.3 mA per 4-wire RTD plus 0.6 mA per 3-wire RTD

5505

SCADAPack RTD Input Module

Specifications – 5505 RTD input module cont'd

General

11...30 Vdc - Connector	Removable. Shared with RTD inputs 0-1
11...30 Vdc - Isolation	Isolation from logic supply and chassis
Terminations	8 and 10-pole, removable terminal block, 12...22 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, -40...70 °C (-40...158 °F) operation, -40...85 °C (-40...185 °F) storage
Safety	<ul style="list-style-type: none"> • Non-Incendive Electrical Equipment for Use in Class I, Division 2 • 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.

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*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

5506

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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5506

SCADAPack Analog Input Module

Specifications – 5506 Analog input module

General

Input Points	8
Ranges	<ul style="list-style-type: none"> • 0...20 mA • 4...20 mA • 0...5 Vdc • 1...5 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 0...5 V and 0...20 mA measurement range
Type	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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 22 mA, LEDs off • 45 mA, LEDs on
11-30 Vdc Power Requirements	11 mA

5506

SCADAPack Analog Input Module

Specifications – 5506 Analog input module continued

General

11...30 Vdc - Connector	Removable, 4 positions
11...30 Vdc - Isolation	Isolation from logic supply and chassis
Terminations	10-pole, removable terminal block, 12...22 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, -40...70 °C (-40...158 °F) operation, -40...85 °C (-40...185 °F) storage
Safety	<ul style="list-style-type: none"> • Non-Incendive Electrical Equipment for Use in Class I, Division 2 • 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

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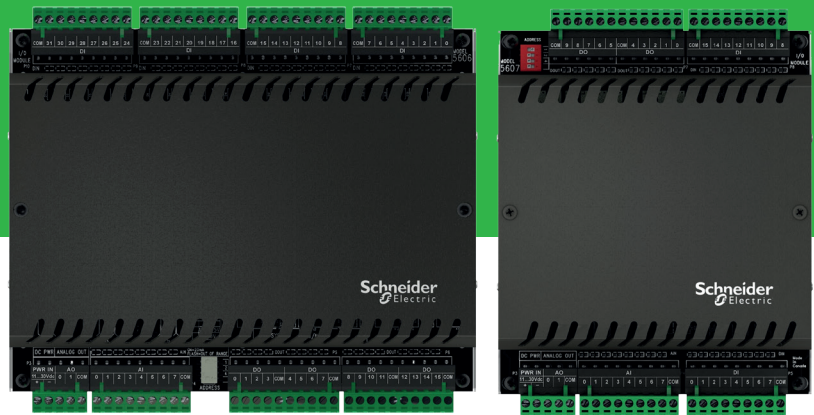
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5606-5607

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 AIs and 2 optional AOs per module
- Up to 8 modules supported
- Conformal-coated

Green Premium™ ecolabel
product – Sustainable
performance, by design

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	<p>Software-configurable to 0...20 mA, 4...20 mA, 0...5 Vdc or 0...10 Vdc</p> <ul style="list-style-type: none"> 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 Ω or 20 kΩ in 20 mA or 10 Vdc configurations Isolation: 500 Vac from logic and chassis Normal rejection mode: 27 dB at 60 Hz
Analog Outputs	<p>0...20 mA, 4...20 mA, voltage output may be accomplished with external precision resistor</p> <ul style="list-style-type: none"> Resolution: 12-bit over 0...20 mA range Accuracy: $\pm 0.15\%$ at 25 °C (77 °F), $\pm 0.35\%$ of full scale over temperature range Response Time: less than 10 μs for 10% to 90% signal change Power Supply: 12...30 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: 0...375 Ω, 24 Vdc: 0...925 Ω, Logic End-Of- Scan to Signal Update Latency: typically 18... 27 ms
Digital Inputs	<p>12...24 Vdc</p> <ul style="list-style-type: none"> 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	<p>Relays (Form A)</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Analog Inputs & Outputs: 12 mA at 12...30 Vdc, plus analog output requirements Digital Inputs & Outputs: 650 mA at 5 Vdc, fully loaded
I/O Terminations	<p>5606: 5, 9, 10-pole connectors, 0.0810...3.31mm² (28...12 AWG), solid or stranded. 5607: 5, 9, 12-pole connectors, 0.0810...3.31mm² (28...12 AWG), solid or stranded</p>
Dimensions	<p>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</p>
Enclosure	Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint
Environment	<ul style="list-style-type: none"> Conformal-coated -40...70 °C (-40...158 °F) operating, -40...85 °C (-40...185 °F) storage 5% RH to 95% RH, non-condensing
Certifications	<ul style="list-style-type: none"> 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 IECEX/ATEX Class I, Zone 2 (optional) CSAus Non incandive Electrical Equipment for use in Class I, Division 2, Groups A, B, C and D (optional) For the latest information regarding product environmental compliance visit the Schneider Electric Check a Product portal at https://checkaproduct.se.com/

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.

Note: Accessories sold separately.

Disclaimer:

The information provided in this document contains general descriptions and/or technical characteristics of the performance of the described products or services. For detailed specification, performance and instruction of use, refer to corresponding Catalogs and user guides if available.

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Part Number TBULM08030-02 v20

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More than 75% of our product sales offer superior transparency on the material content, regulatory information and environmental impact of our products:

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



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Peace of mind through... Well-being Performance

Green Premium products are RoHS and REACH-compliant. We're going beyond regulatory compliance with step-by-step substitution of certain materials and substances from our products.

Improved sales through... Differentiation

Green Premium delivers strong value propositions through third-party labels and services. By collaborating with third-party organizations we can support our customers in meeting their sustainability goals such as green building certifications.

*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

6601

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

6601

Input / Output Expansion Module

Specifications

General

Environment	<ul style="list-style-type: none"> -40...70 °C (-40...158 °F) operating temperature when the unit is mounted horizontally on a vertical surface -40...65 °C (-40...149 °F) operating temperature when the unit is mounted in any other position -40...85 °C (-40...185 °F) storage temperature 5...95% relative humidity, non-condensing Pollution Degree 2, Installation Category I, Indoor use
Elevation	3,000 m (9,842 ft.)
Terminations	3.3...0.08 mm ² (12...28 AWG), solid or stranded
Packaging	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> IEC 61131-2 ½ sine, 15 ms, 15 g
Vibration	<ul style="list-style-type: none"> IEC 61131-2 5...8.4 Hz: Amplitude controlled, 7.0 mm (0.28 in.) peak-to-peak 8.4...150 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

Power requirements at 30 Vdc (from SCADAPack RTU)	1.1 W
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Certifications

	Requirements specific to the RTU functional characteristics, immunity, robustness, and safety:
Industrial Standards	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Australia and New Zealand: ACMA requirements for RCM marking United States: FCC Part 15 Subpart B Class A

6601

Input / Output Expansion Module

Specifications – cont'd

Counter Inputs

Quantity	8
Electrical Characteristics	Shared with digital input channels
Reporting	<ul style="list-style-type: none"> • 16-bit and 32-bit counters • Deviation • Timestamped events • Polled, unsolicited reporting
Frequency	Up to 8 channels: <ul style="list-style-type: none"> • DI 1 to 4: 0...1.5 kHz • DI 5 to 8: 0...150 Hz

Digital Inputs

Quantity	16
Typical Operating Voltage	12...24 Vdc
Turn-on Voltage	Minimum: 9 Vdc
Turn-off Voltage	Maximum: 4 Vdc
Over-voltage Tolerance	36 Vdc sustained over-voltage without foreseeable damage
Input Current	<ul style="list-style-type: none"> • 0.9...1.2 mA at 12 Vdc • 2.1...2.4 mA at 24 Vdc
Timestamping	1 ms Sequence of Event (SOE)
Isolation	<ul style="list-style-type: none"> • Isolation is in 2 groups of 8 • Isolation from device logic and chassis • 1000 Vac or 1500 Vdc

Digital Outputs

Quantity	8
Type	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Direct Operate • Select Before Operate • Trip/Close • Latch • Pulse

6601

Input / Output Expansion Module

Specifications – cont'd

Analog Inputs

Quantity	6
Type	Uni-polar, differential, voltage or current
Resolution (filtered)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • \pm0.1% of full scale at 25 °C (77 °F) • \pm0.2% over-temperature range
Isolation	250 Vac isolation between channels and from device logic and chassis
Input resistance	<ul style="list-style-type: none"> • 250 Ω in current configurations • 800 kΩ in voltage configurations
Ranges	<ul style="list-style-type: none"> • Input Type: 4...20 mA, 0...20 mA, 1...5 Vdc, or 0...5 Vdc • Under-range: 4...20 mA measures to 0 mA • Individual inputs can be configured for current or voltage operation using DIP switches. • Calibration in voltage mode 1...5 Vdc is available as an option.
Sampling Rate	<ul style="list-style-type: none"> • Filtered: 500 ms per 6 channels • Fast: 30 ms per 6 channels
Common Mode Rejection	80 dB
Normal Mode Rejection	<ul style="list-style-type: none"> • Filtered: 86 dB (50/60 Hz) • Fast: Not applicable
Reporting	<ul style="list-style-type: none"> • 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)

6601

Input / Output Expansion Module

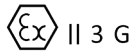
Specifications – cont'd

Analog Outputs

Quantity	2 with optional analog outputs
Type	Uni-polar
Resolution	12-bit over 0...20 mA range
Accuracy	<ul style="list-style-type: none"> ±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)	12...30 Vdc
Power Supply Cable Length	Maximum: 30 m (98.4 ft)
Power (Current) Requirements	10 mA plus up to 20 mA per output
Isolation	<ul style="list-style-type: none"> Transformer 500 Vdc maximum to device logic and chassis
Range	<ul style="list-style-type: none"> 0...20 mA 4...20 mA Voltage output may be accomplished with external precision resistor
Status and Reporting	<ul style="list-style-type: none"> Power missing Open loop detected Values out of range ADC reference check
Controls	<ul style="list-style-type: none"> Direct Operate Select Before Operate
Load range	<ul style="list-style-type: none"> 12 Vdc: 0...475 Ω 24 Vdc: 0...1075 Ω 30 Vdc: 250...1375 Ω

Model Code

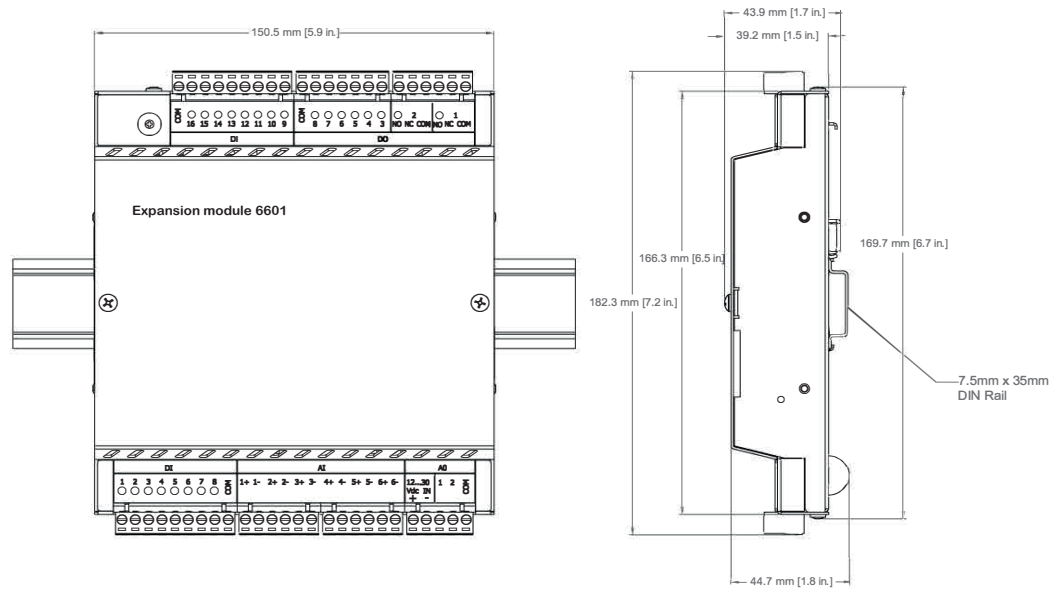
6601 (For use with SCADAPack 470 | 474 | 530E | 535E | 570 | 575 Smart RTUs only)

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
X	Adds: IECEx/ATEX: Ex nA nC IIC T4 Gc -40 °C ≤ Ta ≤ +70 °C 
U	Adds: cCSAus Non-Incendive Electrical Equipment for use in Class I, Division 2, Groups A, B, C and D, T4, -40 °C ≤ Ta ≤ +70 °C, Class I Zone 2, T4
TBUX297583	Model 6601-20mA, 16 D/I 12...24 Vdc, 8 Dry Contact Relay O/P, 6 config. A/I (0/4...20 mA)
TBUX297585	Model 6601-20mA, 16 D/I 12...24 Vdc, 8 Dry Contact Relay O/P, 6 config. A/I (0/4...20 mA), 2 A/O (external DC supply)

6601

Input / Output Expansion Module

Dimensions



Note: Accessories sold separately.

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Peace of mind through... Well-being Performance

Green Premium products are RoHS and REACH-compliant. We're going beyond regulatory compliance with step-by-step substitution of certain materials and substances from our products.

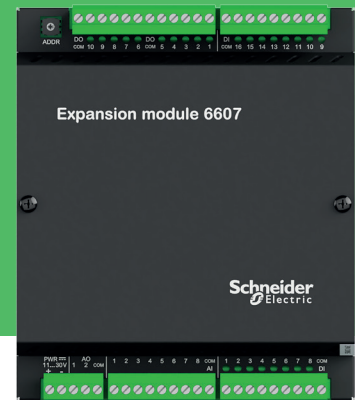
Improved sales through... Differentiation

Green Premium delivers strong value propositions through third-party labels and services. By collaborating with third-party organizations we can support our customers in meeting their sustainability goals such as green building certifications.

*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

6607

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

6607

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications – cont'd

General

Environment	<ul style="list-style-type: none"> -40...70 °C (-40...158 °F) operating temperature when the unit is mounted horizontally on a vertical surface -40...65 °C (-40...149 °F) operating temperature when the unit is mounted in any other position -40...85 °C (-40...185 °F) storage temperature 5...95% relative humidity, non-condensing Pollution Degree 2, Installation Category I, Indoor use
Elevation	3,000 m (9,842 ft)
Terminations	3.3...0.05 mm ² (12...30 AWG), solid or stranded
Dimensions	<ul style="list-style-type: none"> 142 mm (5.6 in) wide 166 mm (6.5 in) high 46 mm (1.8 in) deep
Packaging	<ul style="list-style-type: none"> Corrosion-resistant; zinc-plated steel base and stainless steel cover with black enamel paint G3 conformal-coated circuit boards
Mechanical shock	<ul style="list-style-type: none"> IEC 61131-2 ½ sine, 15 ms, 15 g
Vibration	<ul style="list-style-type: none"> IEC 61131-2 5...8.4 Hz: Amplitude-controlled, 7.0 mm (0.28 in) peak-to-peak 8.4...150 Hz: Acceleration controlled, 1.0 g peak

Power Supply

Input Voltage	<ul style="list-style-type: none"> Rated Voltage 14...29 Vdc Turn-on 10...11,5 Vdc Turn-off 9...10 Vdc
Power requirements from the SCADAPack	1.2 W

Certifications

Industrial standards	<p>Requirements specific to the SCADAPack functional characteristics, immunity, robustness, and safety:</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> For Australia and New Zealand: ACMA requirements for RCM marking For United States: FCC Part 15 Subpart B Class A

6607

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	<ul style="list-style-type: none"> • 36 Vdc • 150% sustained over-voltage without foreseeable damage
Input current	<ul style="list-style-type: none"> • 1.2 mA typical at 12 Vdc • 2.4 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 32-bit counters • Deviation • Timestamped events • Unsolicited reporting
DI1, DI2, DI3, and DI4-supported counting	<ul style="list-style-type: none"> • Range: 0 to 1.5 kHz • Rising edge counting • Falling edge counting (using digital input state inversion)
DI5, DI6, DI7, and DI8-supported counting	<ul style="list-style-type: none"> • Range: 0 to 500 Hz • Rising edge counting • Falling edge counting (using digital input state inversion)

6607

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications – cont'd

Digital Outputs

Quantity	10
Connector	Removable, 12-pin
Type	<ul style="list-style-type: none"> Form A Contacts (normally open) 5 contacts share one common
Indicators	Logic-powered LEDs
Inductive loads	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Isolation is in 2 groups of 5 250 VAC / 350 VDC maximum to SCADAPack logic and chassis

Dry Contact Relay Version

Contact rating	<ul style="list-style-type: none"> 2 A, 30 VDC 10 A maximum per common
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Analog Inputs

Quantity	8
Connector	Removable, 9-pin
Ranges	Software-configurable <ul style="list-style-type: none"> 0...20 mA 4...20 mA 0...5 Vdc 1...5 Vdc
Resolution (100 ms sampling)	<ul style="list-style-type: none"> 24-bit conversion 0.25 mV resolution on 5 Vdc range 1 μA resolution on 20 mA range
Accuracy	<ul style="list-style-type: none"> $\pm 0.1\%$ of full scale at 25 °C (77 °F) $\pm 0.2\%$ over temperature range
Input resistance	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 0...20 mA sourcing 4...20 mA sourcing
Reporting	Open Loop Detection (for 0...20 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	<ul style="list-style-type: none"> 12 Vdc: 0...400 ohms 24 Vdc: 0...1000 ohms 30 Vdc: 250...1300 ohms

6607

I/O expansion module for SCADAPack x70 Smart RTUs

Specifications – cont'd

Analog Outputs (cont'd)

Accuracy	<ul style="list-style-type: none"> • $\pm 0.15\%$ of full scale at 25 °C (77 °F) • $\pm 0.35\%$ 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: 18...27 ms
Response time (DAC to signal)	Less than 100 μ s 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	<ul style="list-style-type: none"> • 12 Vdc: 0...400 ohms • 24 Vdc: 0...1000 ohms • 30 Vdc: 250...1300 ohms

Model Code

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

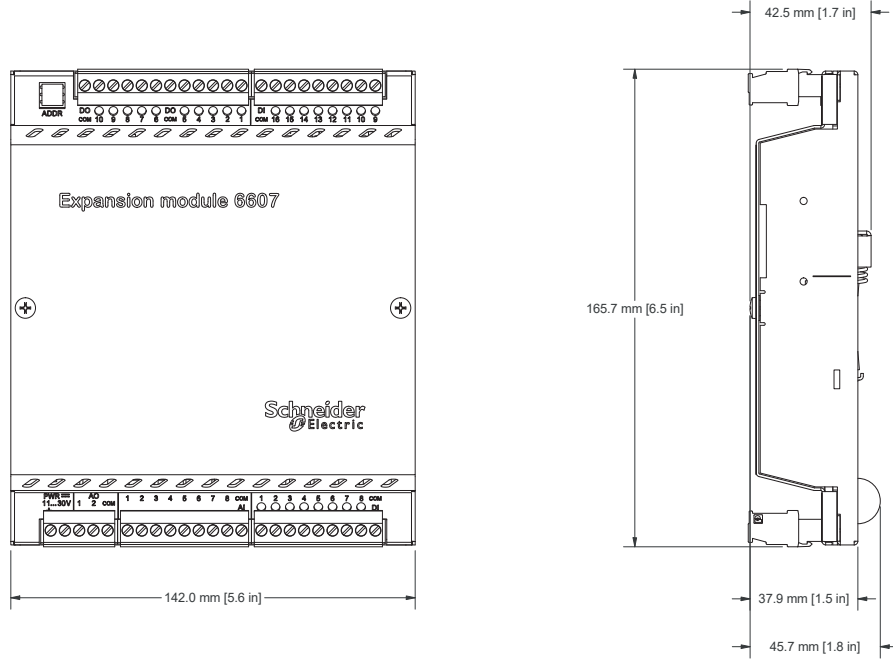
Accessories

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

6607

I/O expansion module for SCADAPack x70 Smart RTUs

Dimensions - 6607



Note: Accessories sold separately.

Disclaimer:

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Life Is On





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*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

6103

Power Supply for SCADAPack Smart RTUs



Product at a glance

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 $-40...70\text{ }^{\circ}\text{C}$ ($-40...158\text{ }^{\circ}\text{F}$). Class I, Div. 2 and Zone 2 hazardous area certifications included.

Green Premium™ ecolabel
product – Sustainable
performance, by design

6103

Power Supply Module

Specifications


General

Environment	<ul style="list-style-type: none"> -40...70 °C (-40...158 °F) operating temperature -40...85 °C (-40...185 °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	2.5...0.2 mm ² (12...28 AWG), solid or stranded copper wires
Packaging	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> IEC 61131-2 ½ sine, 15 ms, 15 g
Vibration	<ul style="list-style-type: none"> IEC 61131-2 5...8.4 Hz: amplitude-controlled, 7.0 mm (0.28 in.) peak-to-peak 8.4...150 Hz: acceleration-controlled, 1.0 g peak

Power Supply

Input Voltage	11...30 Vdc
Input Power	13 W (Vin = 24 V, 2 A output)
Input Isolation	250 Vac / 350 Vdc
Input Protection	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Power Fault LED Over-Current LED
Connector	Removeable, 4 pin

Certifications

Industrial Standards	<p>Requirements specific to the SCADAPack functional characteristics, immunity, robustness, and safety:</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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:  II 3 G Ex ec IIC T4 Gc
Specific Countries	<ul style="list-style-type: none"> 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

6103

Power Supply Module

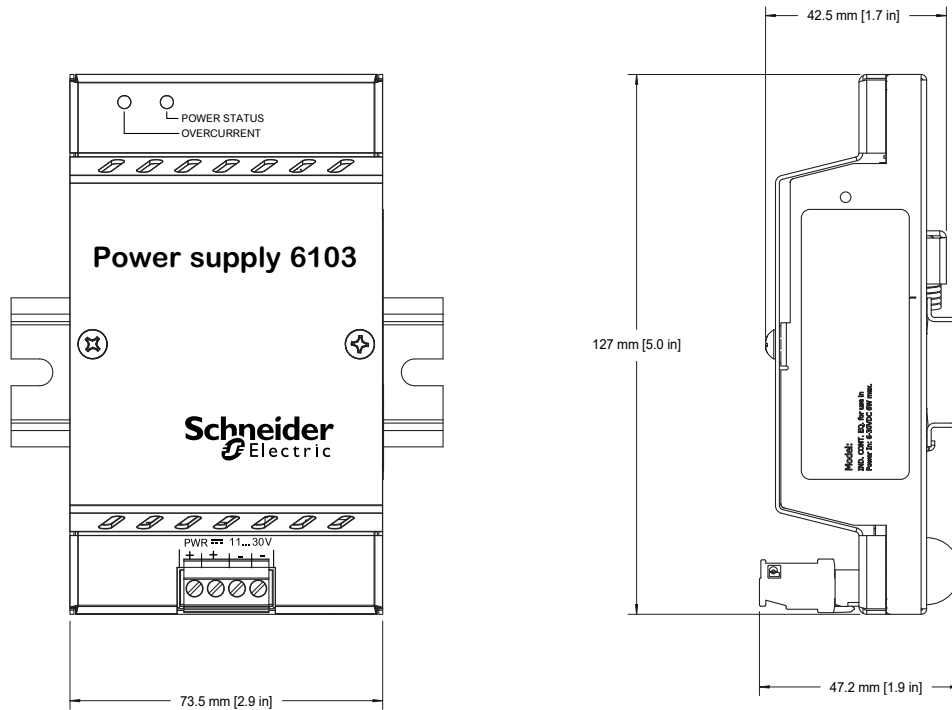
Model Code

Part No.

TBUX297595

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

Dimensions



Note: Accessories sold separately.

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