

# SCADAPack 312E | 313E

Smart RTUs for water





SCADAPack 312E and 313E Smart RTUs feature 32-bit processing, serial and USB communications, integrated 12-30Vdc power supply, advanced power-management and a wide range of digital and analog I/O, in a cost-effective, compact package.

These Smart RTUs communicate with remote SCADA using open protocols: DNP3, IEC60870-5 and Modbus. They may also be used as data-concentrators, for slave devices fitted with DNP3 or Modbus communication.

DNP3 (level 4-compliant) protocol supports optional Secure Authentication and/or AGA-12 Encryption to improve message security.

IEC60870-5 protocol is KEMA-certified for IEC60870-5-101.

These RTUs may be configured and programmed locally or remotely, and are optionally configurable, directly from StruxureWare SCADA Expert ClearSCADA host software.

They may be enhanced with the optional IEC61131 programming language suite.

They offer the same small footprint as the SCADAPack 314E, enabling compact mounting enclosures to be used for applications where space is at a premium.

# Product Data Sheet SCADAPack 312E

## Specifications



### 312E: 5212 controller board and integrated 5609 I/O board

#### Controller

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

#### I/O

Analog Inputs	<ul style="list-style-type: none"> <li>4 software configurable: 0-20/4-20mA / 0-5/0-10V (15-bit)</li> <li>3 internal: measure incoming power supply voltage for solar applications, battery voltage, and controller temperature</li> </ul>
Analog Outputs	None
Digital I/O	<ul style="list-style-type: none"> <li>12 digital inputs: 12/24V</li> <li>6 relay outputs: dry contact, dry contact rating: 3A, 30VDC or 240VAC (resistive)</li> </ul>
Counter Inputs	<ul style="list-style-type: none"> <li>1 dry contact: 0-10Hz or 0-5kHz</li> <li>2 turbine or dry contact: 0-10kHz</li> </ul>

#### Communications

Serial Ports COM1, COM2	<ul style="list-style-type: none"> <li>RS-232 port, 8-pin modular RJ45 jack, full or half-duplex, or</li> <li>RS-485 port, 2-wire, half-duplex</li> </ul>
Baud Rates	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200
Serial Protocols	DNP3 Slave/Master, IEC60870-5-101 Slave, Modbus RTU Slave, optional Modbus Master and DF1 Master
IP Protocols	(over serial port) DNP3 master/slave, IEC60870-5-101/104 slave, Modbus RTU slave, NTP Server, Telnet Server, FTP Server
USB Port	USB 2.0 compliant B-type receptacle, DNP3 protocol
Wireless	External modem (e.g. Schneider Electric GPRS modem ref. SR2MOD3)

#### General

Logic Control	Optional IEC61131-3 SCADAPack Workbench programming suite (LD, ST, FBD & SFC)
I/O Terminations	5, 6, and 9-pole removable terminal blocks, 12 to 22AWG, 15A contacts
Dimensions	5.65 inch (144mm) wide, 6.50 inch (165mm) high, 2.80 inch (72mm) deep
Packaging	Corrosion resistant, zinc-plated steel with black enamel paint
Environment	5% RH to 95%, non-condensing, -25°C (-13°F) to 70°C (158°F)

#### Power

5212 Controller Board	<ul style="list-style-type: none"> <li>11 - 30VDC, 5.8W typical</li> <li>Add 30 to 90mW when enabling the LEDs</li> <li>8.5W at 24V maximum, 5V supply fully-loaded</li> </ul>
5609 I/O Module	<ul style="list-style-type: none"> <li>11 - 30VDC, 10.3mA</li> <li>235mA (max.) at 5V required from 5212 controller board</li> </ul>
Warranty	3 years on parts and labor

#### Certifications

- CE marking
- C-Tick
- UL508 (US/Canada) – cULus
- FCC/ EN61000-6 emissions & immunity

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# Product Data Sheet SCADAPack 313E

## Specifications



### 313E: 5212 controller board and integrated 5611 I/O board

#### Controller

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

#### I/O

Analog Inputs	<ul style="list-style-type: none"> <li>4 software configurable: 0-20/4-20mA / 0-5/0-10V (15-bit)</li> <li>3 internal: measure incoming power supply voltage for solar applications, battery voltage, and controller temperature</li> </ul>
Analog Outputs	<ul style="list-style-type: none"> <li>Standard: None</li> <li>2, 0-20/4-20mA (12-bit) with optional card on 5611 I/O board</li> </ul>
Digital I/O	<ul style="list-style-type: none"> <li>16 digital inputs: 12/24V</li> <li>10 relay outputs: dry contact, dry contact rating: 3A, 30VDC or 240VAC (resistive)</li> </ul>
Counter Inputs	<ul style="list-style-type: none"> <li>1 dry contact: 0-10Hz or 0-5kHz</li> <li>2 turbine or dry contact: 0-10kHz</li> </ul>

#### Communications

Serial Ports COM1, COM2	<ul style="list-style-type: none"> <li>RS-232 port, 8-pin modular RJ45 jack, full or half-duplex, or</li> <li>RS-485 port, 2-wire, half-duplex</li> </ul>
Baud Rates	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200
Serial Protocols	DNP3 Slave/Master, IEC60870-5-101 Slave, Modbus RTU Slave, optional Modbus Master and DF1 Master
IP Protocols	(over serial port) DNP3 master/slave, IEC60870-5-101/104 slave, Modbus RTU slave, NTP Server, Telnet Server, FTP Server
USB Port	USB 2.0 compliant B-type receptacle, DNP3 protocol
Wireless	External modem (e.g. Schneider Electric GPRS modem ref. SR2MOD3)

#### General

Logic Control	Optional IEC61131-3 SCADAPack Workbench programming suite (LD, ST, FBD & SFC)
I/O Terminations	5, 6, and 9-pole removable terminal blocks, 12 to 22AWG, 15A contacts
Dimensions	5.65 inch (144mm) wide, 6.50 inch (165mm) high, 2.80 inch (72mm) deep
Packaging	Corrosion resistant, zinc-plated steel with black enamel paint
Environment	5% RH to 95%, non-condensing, -25°C (-13°F) to 70°C (158°F)

#### Power

5212 Controller Board	<ul style="list-style-type: none"> <li>11 - 30VDC, 5.8W typical</li> <li>Add 30 to 90mW when enabling the LEDs</li> <li>8.5W at 24V maximum, 5V supply fully-loaded</li> </ul>
5611 I/O Module	<ul style="list-style-type: none"> <li>11 - 30VDC, 10.3mA plus analog outputs</li> <li>235mA (max.) at 5V required from 5212 controller board</li> </ul>
Warranty	3 years on parts and labor

#### Certifications

- CE marking
- C-Tick
- UL508 (US/Canada) – cULus
- FCC/ EN61000-6 emissions & immunity

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## Product Data Sheet SCADAPack 312E

### Model Code

	TBUP312-EA54-AB00 represents a sample code for a SCADAPack 312E with 12V dry-contact relay outputs and no IEC61131 programming option.
<b>Model</b>	<b>Select: Controller</b>
TBUP312	SCADAPack 312E, 32-Bit controller, 4 Analog Inputs, 12 Digital Inputs, 6 Digital Outputs, 3 Counter Inputs
<b>Code</b>	<b>Select: Platform</b>
E	E Firmware platform (SCADAPack E Configurator software included), executes two IEC61131-3 kernels (optional), Workbench required
<b>Code</b>	<b>Select: SCADA Security</b>
A	None
B	AGA-12 Encryption for DNP3
C	DNP3 Secure Authentication SAV2
D	DNP3 Secure Authentication with AGA-12 Encryption
	Notes: <ul style="list-style-type: none"> <li>The Security Administrator Application has to be purchased to generate and manage security keys.</li> <li>AGA-12 Encryption is subject to export restrictions. Please consult with your TRSS business unit contact.</li> </ul>
<b>Code</b>	<b>Select: Protocol Option</b>
5	DNP3 Slave/Master, IEC60870-5-101 Slave, Modbus RTU Slave
<b>Code</b>	<b>Select: License Option</b>
4	Option 1: without IEC61131, Modbus Master and DF1 Master
5	Option 2: with IEC61131-3 (executes two kernels, SCADAPack Workbench required), Modbus Master and DF1 Master
	Notes: <ul style="list-style-type: none"> <li>Both options include DNP3 Data Concentrator license (limit of 500 points from 10 IEDs), Multiple DNP3 Master License (up to 3 Masters)</li> <li>If you order a product with option 1 which you later want to upgrade to option 2, you have to order a RTU licence update (ref. TBUM297889)</li> </ul>
<b>Code</b>	<b>Select: Analog Inputs</b>
A	4
<b>Code</b>	<b>Select: Digital Inputs/Outputs</b>
B	12 inputs and 6 outputs
<b>Code</b>	<b>Select: Analog Outputs</b>
0	None
<b>Code</b>	<b>Select: Future Option</b>
0	None

## Product Data Sheet SCADAPack 313E

### Model Code

	TBUP313-EA54-AB00 represents a sample code for a SCADAPack 313E with 12V dry-contact relay outputs and no IEC61131 programming option.
<b>Model</b>	<b>Select: Controller</b>
TBUP313E	SCADAPack 313E, 32-Bit controller, 4 Analog Inputs, 2 optional Analog Outputs, 16 Digital Inputs, 10 Digital Outputs, 3 Counter Inputs
<b>Code</b>	<b>Select: Platform</b>
E	E Firmware platform (SCADAPack E Configurator software included), executes two IEC61131-3 kernels (optional), Workbench required
<b>Code</b>	<b>Select: SCADA Security</b>
A	None
B	AGA-12 Encryption for DNP3
C	DNP3 Secure Authentication SAv2
D	DNP3 Secure Authentication with AGA-12 Encryption
	Notes: <ul style="list-style-type: none"> <li>The Security Administrator Application has to be purchased to generate and manage security keys.</li> <li>AGA-12 Encryption is subject to export restrictions. Please consult with your TRSS business unit contact.</li> </ul>
<b>Code</b>	<b>Select: Protocol Option</b>
5	DNP3 Slave/Master, IEC60870-5-101 Slave, Modbus RTU Slave
<b>Code</b>	<b>Select: License Option</b>
4	Option 1: without IEC61131, Modbus Master and DF1 Master
5	Option 2: with IEC61131-3 (executes two kernels, SCADAPack Workbench required), Modbus Master and DF1 Master
	Notes: <ul style="list-style-type: none"> <li>Both options include DNP3 Data Concentrator license (limit of 500 points from 10 IEDs), Multiple DNP3 Master License (up to 3 Masters)</li> <li>If you order a product with option 1 and that you later want to upgrade to option 2, you have to order a RTU licence update (ref. TBUM297889)</li> </ul>
<b>Code</b>	<b>Select: Analog Inputs</b>
A	4
<b>Code</b>	<b>Select: Digital Inputs/Outputs</b>
B	16 inputs and 10 outputs
<b>Code</b>	<b>Select: Analog Outputs</b>
0	None
1	2
<b>Code</b>	<b>Select: Future Option</b>
0	None