SCADAPack 570 | 575

Automates de télégestion (rPACs)

La gamme SCADAPack

Les automates de télégestion SCADAPack 570/575 rPACs (Remote Program Automation Controler) sont les premiers modèles capables de partager les programmes des autres plateformes Schneider Electric Modicon™ M340 et M580.

Les SCADAPack 570/575 rPACs sont configurés avec le logiciel RemoteConnect™, un nouvel outil profitant des nouvelles technologies Schneider Electric (le standard industriel FDT2/DTM, l'atelier de programmation Unity Pro™).

L'automate de télégestion utilise des objets définis par utilisateurs facilitant ainsi l'exploitation et la configuration des applications.

Le logiciel RemoteConnect permet aux opérateurs de manager à distance l'ensemble de leurs équipements et ainsi réduire les déplacements sur site. (modification de configuration et programme, mise à jour firmware, diagnostics).

Les SCADAPack 570/575 sont compacts, disposent de composants électroniques tropicalisés, et fonctionnent de –40°C à +70°C pour résister aux environnements sévères.

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Automates de télégestion (rPACs)

Points phares :

- Atelier de programmation standard IEC 61131-3 capable de partager les programmes avec les plateformes Modicon M340 and M580

- Base de données objets définis par utilisateurs

- Protocoles standards de télémétrie DNP3 niveau 4 avec authentification sécurisée et IEC 60870-5-101/-104

- Protocoles industriels standards Modbus RTU et MODBUS TCP

- Support et passerelle HART™ pour capteurs et actionneurs intelligents

- Concentrateur de données DNP3 et Modbus

- Support de plusieurs superviseurs actifs, jusqu'à 200 équipements esclaves et 90 communications inter-site

- Maintenance à distance (modification de configuration et programme, mise à jour firmware, diagnostics)

- Horodatage 1ms entrées TOR, 30ms entrées analogiques

- 3 ports Ethernet et 4 ports série, 1 port USB de configuration et 1 port USB pour le stockage externe

- Montage sur rail DIN (sans outil)

- Résiste à une accélération de 15G

- Borniers IP2X débrochables

- Fonctionne de –40 à +70°C (–40 to +158°F)

- Encombrement compact

- Cartes électroniques vernies

Application types pour les SCADAPack 570/575 rPACs

Comme les gammes SCADAPack précédentes, les nouveaux SCADAPack 570/575 rPAC sont dédiés au contrôle/commande de sites distants dans les domaines du pétrole/gaz, dans la distribution d'eau (eau potable/usée, irrigation…) et toutes autres applications distantes.

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Configurer et programmer
SCADAPack 570/575 rPAC

Le logiciel RemoteConnect est un nouveau logiciel tout en un pour la configuration et la programmation de la gamme SCADAPack x70 :

- Localement à l'aide des ports de communication (par défaut : port USB),

- A distance au travers de différents supports de communication: modems (GPRS/3G/LTE, RTC, etc.), routers Ethernet (GPRS/3G/LTE, fibre optique, etc.) ou modems radios Série/Ethernet comme la gamme Schneider Electric Trio™ Data Radios

RemoteConnect a été conçu à l'aide des dernières technologies de Schneider Electric comme le standard industriel FDT2/DTM et l'atelier de programmation UnityPro™ (IEC 61131-3).

RemoteConnect permet aux exploitants de manager leurs équipements à distance:

- créer des configurations et programmes offline

- Ecrire les applications localement ou à distance

- Lire à distance la configuration des équipements

- Modifier les applications courantes

- Diagnostiquer les produits à distance

- Mise à jour firmware à distance en conservant l'application courante

- Import / Export de la configuration via Microsoft Excel ou autres applications

- Manager des équipements externes via le standard DTM comme l'instrumentation ou les variateurs de vitesse directement dans l'environnement RemoteConnect

RemoteConnect dispose également d'une fonction d'import/export du programme pour homogénéiser les développements avec les plateformes Schneider Electric Modicon™ M340 et M580.

- Un programme écrit avec le logiciel Unity Pro de Schneider Electric pour les gammes M340 ou M580 peut être réutilisé sur un SCADAPack 570/575 rPAC à l'aide de RemoteConnect et inversement, un programme écrit avec RemoteConnect peut être exporté vers UnityPro

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Automates de télégestion (rPACs)

Spécifications

Architecture

Processor	SPEAr 1380 32-bit dual-core Cortex A9 microcontroller, 500MHz
Memory	• 128MB NAND FLASH, 128MB DDR3 RAM • Non-Volatile RAM CMOS SRAM with lithium battery retains contents for 2 years with no power
Event logging capacity(1)	Up to 40,000 time-stamped events depending on the protocol
Database capacity(1)	Up to 20,000 objects (this number decreases if the event pool is above 7,000 events)
Database concentrator(1)	Up to 15,000 objects depending on the type used (analog or digital) Up to 100 devices in DNP3 and up to 100 devices in Modbus
File system storage	Internal: 10 MB; External: 32 GB (on optional memory stick)

Communications

Serial Ports: Serial1, Serial2	• RS-232 port, 8-pin modular RJ45 jack, full or half duplex with RTS/8-8 pin modular RJ45 jack, full or half duplex with RTS/CTS control and operator interface power control, supports baud rates up to 115,200 bps • Rated to ±15kV (IEC 61000-4-2, Air Discharge) static protection
Serial Ports: Serial3, Serial4	Configurable as: • either RS-232 port, 8-pin modular RJ45 jack, full or half duplex, rated to ±15kV (IEC 61000-4-2, Air Discharge) static protection • or RS-485 port, 2-wire, half-duplex, supports baud rates up to 115,200 bps
Embedded Wireless	Socket Modem support, for future use
Serial Protocols	DNP3 level 4 slave/master and peer-to-peer, IEC 60870-5-101 slave, Modbus slave/master
Ethernet Ports: Eth1, Eth2, Eth3	8-pin modular RJ45 jack, 10/100 Mbps UTP (10/100Base-T), transformer isolated
IP Protocols	• DNP3 level 4 in TCP Master/Slave, UDP Master/Slave and peer-to-peer, IEC 60870-5-104 Slave, Modbus/TCP Server, Modbus/TCP Client, Modbus RTU in TCP Client • NTP Client/Server, Telnet Server, FTP Server, BOOTP Server, Master - Slave capability • As data concentrator it can manage up to 100 local or remote DNP3 slaves, and up to 100 local slaves communicating with Modbus RTU/TCP • In peer-to-peer it can connect to up to 90 remote sites • when connected to SCADAPack 6602 modules, provides HART 5/6/7 (pass-thru and FB's)
USB Device Port	USB 2.0 compliant "B"-type receptacle, for local configuration.
USB Host Port	USB 2.0 compliant "A"-type receptacle, supports USB devices up to 32GB (specific memory sticks supported)

(1) For more information, check the SCADAPack x70 DNP3 reference manual and the SCADAPack x70 IEC 60870-5-101/-104 reference manual

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Spécifications

General

Logic Control	RemoteConnect software (5 IEC 61131-3 languages)
I/O Terminations	SCADAPack 570: 11-pole connector, 0.0810...3.31mm2 (28...12 AWG), solid or stranded SCADAPack 575: 5, 6, 7, 9, 11-pole connectors, 0.0810...3.31mm2 (28...12 AWG), solid or stranded
Dimensions	SCADAPack 570: 150.5mm (5.93") wide, 134.8mm (5.31") high, 74.9mm (2.95") deep SCADAPack 575: 150.5mm (5.93") wide, 182.3mm (7.18") high, 86.5mm (3.41") deep
Packaging	Corrosion resistant zinc-plated steel with black enamel paint Conformally coated
Environment	• -40°C (-40°F) to 70°C (158°F) operating, -40°C (-40°F) to 85°C (185°F) storage • 5% RH to 95% RH, non-condensing
Shock & Vibration	IEC 60068-2-27 (tested up to 15g), IEC 60068-2-6
Warranty	3 years on parts and labor

Power Supply

Related Voltage	12...30 Vdc, 5W typical. Limit voltage: 11.5...32 Vdc; turn on voltage: 10...11.5 Vdc; turn off voltage: 9...10 Vdc
Maximum Power	8.7 W: SP570 + 4 x 6601 expansion IO modules + USB memory stick
Power Requirements	SP570 (Controller) — 3.7 W SP575 (Controller with integrated IO) — 4.8 W 6601 (Expansion IO) — 1.1W USB (5V at 100mA) — 0.6 W Serial port (5V at 250mA) — 1.5 W Analog output power requirements — see the Analog Output specifications.

Power Consumption

Voltage Input	570	575	"575 + 1 x 6601"	"575 + 2 x 6601"	"575 + 3 x 6601"
	(3 I/O)	(35 I/O)	(67 I/O)	(99 I/O)	(131 I/O)
12 Vdc	3.0 W	4.1 W	5.2 W	6.3 W	7.4 W
24 Vdc	3.4 W	4.5 W	5.6 W	6.7 W	7.8 W
30 Vdc	3.7 W	4.8 W	5.9 W	7.0 W	8.1 W

Certifications

EMC & Radio Frequency	FCC 47 CFR Part 15, Subpart B ICES-003 Issue 5 August 2012 CE and RCM markings
General Safety	UL 508
Hazardous locations	cCSAus Non incendive Electrical Equipment for use in Class I, Division 2, Groups A, B, C and D IECEx/ATEX Class1, Class 2

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Automates de télégestion (rPACs)

Spécifications

Digital and Analog Inputs/Outputs

	Digital inputs		Digital outputs		Counter inputs		Analog inputs	Analog outputs (option)
	10 ms SOE	1ms SOE	MOSFET output	2A output	150 Hz (shared)	1.5 kHz (shared)		
SCADAPack 570	2	-	1	-	-	-	-	-
SCADAPack 575	2	16	1	8	4	4	6	2

Digital Inputs

10 ms SOE:
. 12…24 Vdc
. Turn on voltage: 8 Vdc (minimum), Turn off voltage: 3 Vdc (maximum)
• Over-voltage tolerance: 150% sustained over-voltage without foreseeable damage
• DC input current: 0.4 mA at 12 Vdc, 0.8 mA at 24 Vdc
• Time stamping: 10 ms
• Ground return connected to Chassis Ground

1 ms SOE:
. 12…24 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: 1.2 mA at 12 Vdc, 2.4 mA at 24 Vdc, 3.0 mA at 30 Vdc
. Time stamping: 1 ms Sequence of Event
. Isolation: in 2 groups of 8. Isolation from RTU logic and chassis: 1000 Vac/ 1500 Vdc

Digital Outputs

MOSFET output:
• Sinking MOSFET output, rated 30V, 0.5A, ground return connected to Chassis Ground

2A output:
• Relays (2 Form C, 6 Form A)
• Form C: SPDT, separate Normally Open/Normally Closed/Common
• Form A: Normally Open, one common
• Isolation: 500 Vac minimum to RTU logic
• Maximum Switching Voltage: 30 Vdc or 25 Vac
• Maximum Switching Load: 60 W or 50 VA (2A)
• Status & Reporting: Individual relay pole feedback to software, output state poll
• Controls: Direct Operate, Select Before Operate, Trip/Close, Latch, Pulse

Counter Inputs

. Shared with digital input channels 1 to 4: 0…1.5kHz, 5 to 8: 0…150Hz

Analog Inputs

6, dipswitch-configurable to 4... 20 mA, 0 20 mA or 1...... 5 V, 0 5 V...
• Uni-polar, differential, voltage or current
• Resolution: 24-bit ADC (16-bit over the measurement range)
. Accuracy: ±0.1% of full scale at 25°C (77°F), ±0.2% over temperature range
. Isolation: 250 Vac isolation from channel to channel and from rPAC logic and chassis
• Input Resistance: 250 Ω or 800 kΩ in current/voltage configurations
• Under range: 4...20 mA measures to 0 mA
• Common Mode Rejection : -80dB (50/60Hz)
• Sampling rate: software selectable to 30 ms (unfiltered) or 500ms (filtered)

Analog Outputs

2 (optional), 0 20 mA, 4... ...20 mA, voltage output may be accomplished with external precision resistor
. Uni-polar
• Resolution: 12-bit over 0...20 mA range
. Accuracy: ±0.15% at 25°C, ±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: transformer, 500 Vdc maximum to RTU logic and chassis
• Load Range: 12 Vdc: 0…475Ω, 24 Vdc: 0…1075Ω, 30 Vdc: 250…1375Ω
• Logic End)-Of- Scan to Signal Update Latency: less than 10 ms (typically 5...8 ms)
• Status & Reporting: Open Loop status, output value poll
• Controls: Direct Operate, Select Before Operate

Internal Power Monitor

Power input - analog input and low indication, onboard lithium battery - low indication

Internal Temperature Monitor

Controller temperature range -40°C…+75°C (-40°F...+167°F)

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Remote Programmable Automation Controllers (rPACs)

Spécifications

Additional I/O

Supported Modules	Supported I/O expansion modules: • 6601, 6602 (HART) • 5304, 5405, 5414, 5415, 5304, 5506, 5606, 5607 (for each SCADAPack 570 or 575 configuration, order one adaptation cable ref. TBUM2972138 whatever the number of modules connected)
I/O Expansion	Maximum number of modules per unit: • SCADAPack 570: 16 (*) • SCADAPack 575: 15 (*) (*): to reach this limit, additional power supply modules are required. Consult SCADAPack 570 or 575 hardware manuals.

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Remote Programmable Automation Controllers (rPACs)

Modèle Code

	SCADAPack 570|575
Code	**Select: Hardware platform**
TBUP570	SCADAPack 570, 32-bit controller, Dual Core
TBUP575	SCADAPack 575, 32-bit controller, Dual Core comes with additional I/O

Code	**Select: Firmware platform**
U	SCADAPack x70 Firmware (RemoteConnect Configuration & IEC 61131-3 programming software, included)

Code	**Select: SCADA Security**
A	None
C	DNP3 Secure Authentication SAv2 (Security Administrator application required)

Code	**Select: License Option**
6	DNP3 multiple masters and data concentrator (>500 objects)
7	Adds WITS[1] protocol (available with SCADA Security Code C and Certification Code S only)

Code	**Select: Analog Inputs**
A	P570: None P575: adds 6, shipped selectable as 0…20 mA or 4…20 mA
B	P575 only: adds 6, shipped selectable as 0…5 Vdc or 1…5 Vdc

Code	**Select: Digital Inputs/Outputs**
A	P570: 2 Digital Inputs (12/24V), 1 Digital Output (open collector)
B	P575 only: adds 16 Digital Inputs (12/24V) and 8 Dry Contact Relay outputs (6 Form A, 2 Form C)

Code	**Select: Analog Outputs**
0	None
1	P575 only: 2 channel Analog Output option, shipped selectable as 0…20 mA or 4…20mA, external DC supply

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Automates de télégestion (rPACs)

Modèle Code

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Code	Select: Integrated Communication Interfaces
0	None

Code	Select: Certifications
S	EMC and radio frequency; FCC 47 CFR Part 15, Subpart B; ICES-003; CE and RCM markings
X	Adds IECEx/ATEX Class I, Zone 2
U	Adds cCSAus Nonincendive Electrical Equipment for use in Class I, Division 2, Groups A, B, C and D

I/O Expansion Modules

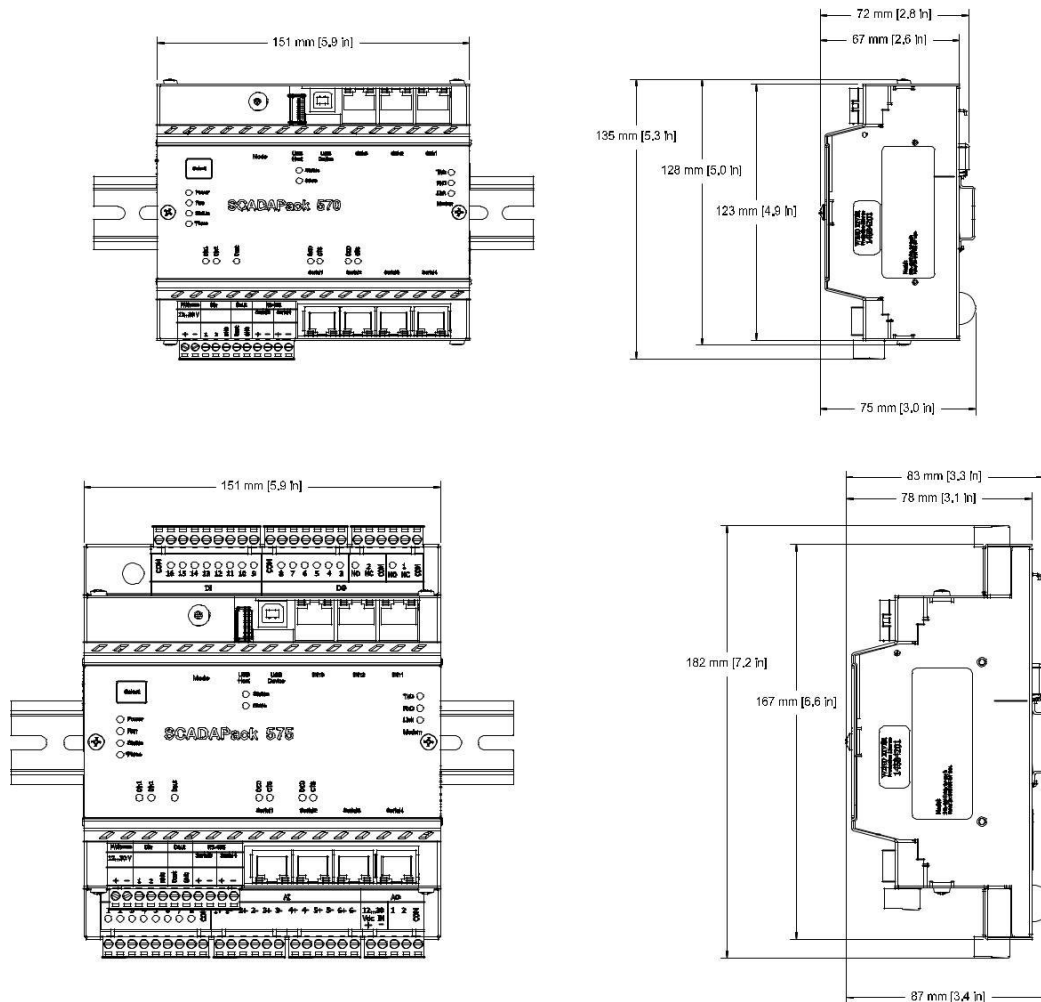| Part No.	Expansion Modules (complete the following part numbers with S, X or U depending on certification required)
Models supported by SCADAPack 530E/535E/570/575 models only	
TBUX297583	Model 6601-20mA, 16 D/I 12-24 volts, 10 Dry Contact Relay O/P, 6 config. A/I (0/4…20mA)
TBUX297584	Model 6601-5V, 16 D/I 12-24 volts, 10 Dry Contact Relay O/P, 6 config. A/I (0/1…5V)
TBUX297585	Model 6601-20mA, 16 D/I 12-24 volts, 10 Dry Contact Relay O/P, 6 config. A/I (0/4…20mA), 2 A/O (external DC supply)
TBUX297586	Model 6601-5V, 16 D/I 12-24 volts, 10 Dry Contact Relay O/P, 6 config. A/I (0/1…5V), 2 A/O (external DC supply)
TBUX297590	Model 6602-1, 8 A/I HART (0…20mA), 4 A/O HART (external DC supply)
TBUX297591	Model 6602-2, 8 A/I HART (0…20mA)

1. WITS stands for Water Industry Telemetry Standards
2. SCADAPack 570/575 rPAC embedded DC supply can power up to 4 additional I/O expansion modules, after which additional DC power supply may be needed. For more information, check the SCADAPack 570/575 hardware reference manual.

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Dimensions

Disclaimer: Not all product features are available in every mode of operation.
Schneider Electric reserves the right to change product specifications. For more information visit www.schneider-electric.com.

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