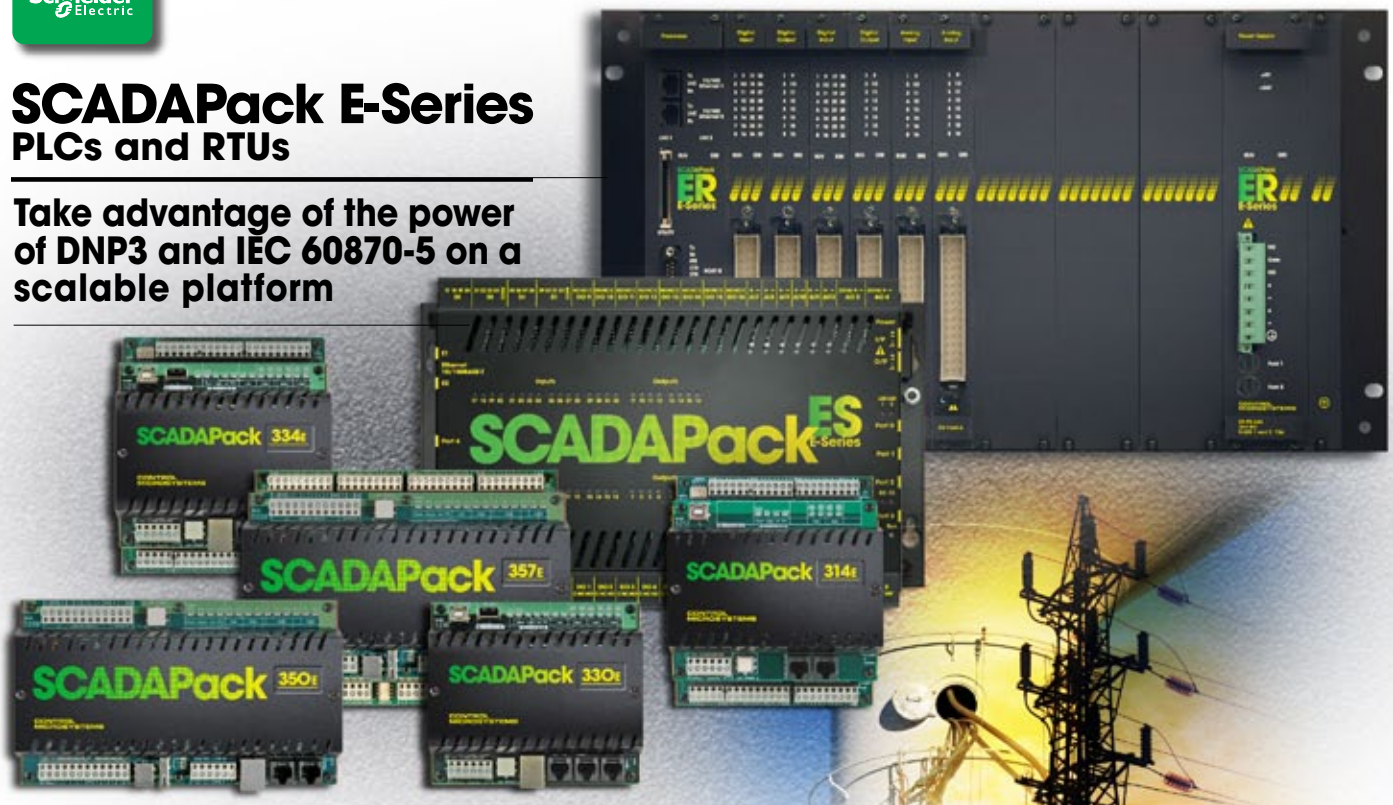
Control Microsystems is becoming Schneider Electric

SCADAPack E-Series
PLCs and RTUs

Take advantage of the power of DNP3 and IEC 60870-5 on a scalable platform



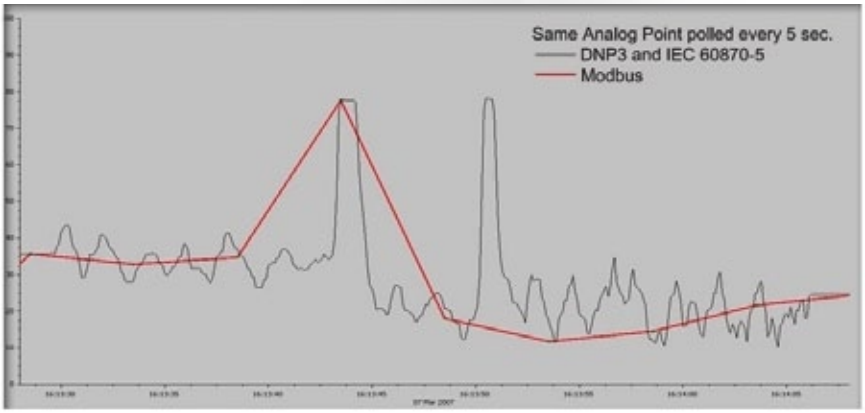
Whether your application requires an RTU with PLC programmability or the added power and performance of a PLC, there is an E-Series controller to meet your requirements:

- Native DNP3 and IEC 60870-5
- Scalable hardware
- AGA12-2 Message encryption
- Multi-vendor connectivity: Modbus, DF1
- Dual IEC 61131-3 Applications

Applications that demand "No Holes in Data"

DNP3 and IEC 60870-5 at their core are all about tracking changes in data. Whenever data points change, the slave controller stores a time-stamped event. Unlike a Modbus Host which can only poll continuously and frequently for current values, the DNP3 and IEC 60870-5 SCADA Host may lapse in polling and still obtain a continuous record of data history. Because events are stored in the slave controller until polled or reported, there are never holes in that data even when communication links go down.

Data Resolution – "Event-driven" vs Modbus – see the difference yourself



Communication Options that give you Flexibility

- USB – Can't remember your port settings? With USB, just plug-in & play!
- Data concentrator mode – no database re-mapping ensures data quality information and time stamped events are preserved end to end.
- IEC 60870-5 and DNP3 protocols – over serial and Ethernet links
- DNP3 Routing options – mix interfaces any way you want: Serial, Ethernet, USB.
- Up to 3 independent masters – Select any DNP3 point and decide whether you want to share it or hide it from any of 3 independent masters.
- Sequence of events (SOE) – optional SOE to 1ms or 10ms
- Ethernet – 1 or 2 ports, 10/100BaseT*
- Serial communications – 2 to 5 ports offering RS232, RS485, and RS422

Installable in Multi-Vendor Networks

- Flexible protocol options: Modbus RTU, Modbus/TCP, and DF1
- Protocols supported over RS232/RS485, TCP, GPRS, and 1xRTT
- DNP3 additionally supported over UDP, PSTN, GSM, and CDMA

Secure & Authenticated Data

To the inherit reliability of DNP's time-stamped data storage, enable additional security with AGA12-2 message authentication and encryption, and rest assured in your data's integrity for billable applications or critical operations.

Two Simultaneous Programmable Applications – An Integrator's dream

The IEC 61131-3 programming environment provides support for two logic applications running simultaneously on the same E-Series controller. For integrators, load your own password-protected application offering "core" functionality for the market industry, while leaving the second application for the end-user to add custom control if needed.

All configuration is saved to file and may be loaded directly to the controller's file system over a DNP3 or IEC 60870-5 link. Saved in simple text format, these files can be configured using the E-Series Configurator or an editor of your choice.

Remote Management including Diagnostics

E-Series controllers support a full-featured FAT32 (PC compatible) file system and command line. The command line provides direct access to the file system and configuration commands that would otherwise be sent via the E-Series Configurator software, and it is accessible over FTP, Telnet, DNP3 or local serial port.

Diagnostics are available for all protocols and operating system statistics and are output via Telnet, local serial port or saved to file for remote upload.

As a SCADA systems integrator or an end-user, the abundant features offered by E-Series controllers will keep you in touch with your SCADA system like never before. Tap into the true power of DNP3 or IEC 60870-5 with the reliability ensured by remotely accessible diagnostics, file system and a full-featured command line.

For complete specifications on E-Series products please consult our website: www.controlmicrosystems.com.

* Not available with SCADAPack 314E

	SCADAPack314E P314E	SCADAPack330E P330E	SCADAPack334E P334E
			
Analog Inputs			
On-board	8, (0-20mA, 4-20mA, 0-5V, 0-10V, software configurable)	None	8, (0-20/4-20mA / 0-5/0-10V, software configurable)
Expansion[1]	128 channels	128 channels	128 channels
Analog Outputs			
On-board	Standard: None 2, 0-20mA/4-20mA with optional 5305 module	None	Standard: None 2, 0-20mA/4-20mA with optional 5305 module
Expansion[1]	64 channels	64 channels	64 channels
Digital Inputs			
On-board	16, 12/24V, 48V, 115/125V, 240V	None	16, 12/24V, 48V, 115/125V, 240V
Expansion[1]	512 inputs	512 inputs	512 inputs
Digital Outputs			
On-board	10, dry contact relays or 10, solid-state relays paired with 12/24V DIs only (ATEX)	None	10, dry contact relays or 10, solid-state relays paired with 12/24V DIs only (ATEX)
Expansion[1]	512 outputs	512 outputs	512 outputs
Frequency Inputs			
On-board	1, 0-10Hz or 0-5kHz (dry contact)	1, 0-10Hz or 0-5kHz (dry contact)	1, 0-10Hz or 0-5kHz (dry contact)
Expansion	64 inputs	64 inputs	64 inputs
Turbine Inputs	2, 0-10kHz (turbine or dry contact)	2, 0-10kHz (turbine or dry contact)	2, 0-10kHz (turbine or dry contact)
Communication Ports	2, RS232/RS485 (Ethernet port not available)	2, RS232/RS485 1, RS232 1, Ethernet 10/100BaseT	2, RS232/RS485 1, RS232 1, Ethernet 10/100BaseT
USB Ports	1, Peripheral Port: USB 2.0-compliant, "B" - type receptacle	← 1, Host Port: USB 2.0 Compliant "A" - type receptacle 1, Peripheral Port: USB 2.0 Compliant "B" - type receptacle →	
Compact Flash Socket	None	None	None
Serial Protocols	← DNP3, Modbus RTU, DF1 IEC60870-5-103 Master (optional), IEC60870-5-101 Slave →		
Ethernet Protocols	N/A	DNP3/IP, Modbus/TCP, TCP/IP IEC60870-5-104 Slave	DNP3/IP, Modbus/TCP, TCP/IP IEC60870-5-104 Slave
Network Protocols	N/A	IP, ARP, TCP, UDP, PPP, ICMP (Ping), Telnet, BOOTP, FTP, NTP	IP, ARP, TCP, UDP, PPP, ICMP (Ping), Telnet, BOOTP, FTP, NTP
Optional Wireless	← Integrated or stand-alone module available with Trio (900MHz and 2.4GHz), Freewave (900 MHz and 2.4 GHz) or MDS TransNET (900 MHz). Frequencies not available in all areas. →		
12 / 24 VDC Converter	None	None	None
Sequence of events (SOE)	None	None	None
Event Logging Capacity (events)	20,000	20,000	20,000
Maximum Database Points (typical)	1,000	1,000	1,000
Processor	ARM7 32-bit microcontroller, 32 MHz	ARM7 32-bit microcontroller, 32 MHz	ARM7 32-bit microcontroller, 32 MHz
Hazardous Area Rating[2]	← $_{C}CSA_{US}$ Class 1, Div 2 and ATEX II 3G, CSA certified to UL508 standards, IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) →		

1 Using maximum of sixteen Series 5000 expansion modules. Supported modules: 5304, 5405, 5411, 5414, 5415, 5505, 5506, 5606 and 5607.
2 ATEX and IECEx: 24V DI/Solid State Relay version only, Wireless versions pending approvals.

	SCADAPack350E P350E	SCADAPack357E P357E
		
Analog Inputs		
On-board	5, User-selectable, 0-10V or 0-20mA 1, 0-32.7VDC	5, User-selectable, 0-10V or 0-20mA 1, 0-32.7VDC 8, (0-20/4-20mA / 0-5/0-10V, software configurable)
Expansion[1]	128 channels	128 channels
Analog Outputs		
On-board	Standard: None 2, 0-20mA/4-20mA with optional 5305	Standard: None 2 or 4, 0-20mA/4-20mA with two optional 5305 modules
Expansion[1]	64 channels	64 channels
Digital Inputs		
On-board	8, User-selectable as dry contact inputs. Shared with outputs	8, User-selectable as dry contact inputs. Shared with outputs 32, (12/24V, 48V, 115/125V, 240V)
Expansion[1]	512 inputs	512 inputs
Digital Outputs		
On-board	8, User-selectable as open drain outputs. Shared with inputs	8, User-selectable as open drain outputs. Shared with inputs 16 (dry contact)
Expansion[1]	512 outputs	512 outputs
Frequency Inputs		
On-board	1, 0-10Hz (dry contact)	1, 0-10Hz (dry contact)
Expansion	64 inputs	64 inputs
Turbine Inputs	2, 0-10kHz (turbine or dry contact)	2, 0-10kHz (turbine or dry contact)
Communication Ports	1, RS485 1, RS232/RS485 1, RS232 1, Ethernet 10/100BaseT	1, RS485 1, RS232/RS485 1, RS232 1, Ethernet 10/100BaseT
USB Ports	1, Host Port: USB 2.0 Compliant "A" - type receptacle 1, Peripheral Port: USB 2.0 Compliant "B" - type receptacle	1, Host Port: USB 2.0 Compliant "A" - type receptacle 1, Peripheral Port: USB 2.0 Compliant "B" - type receptacle
Compact Flash Socket	None	None
Serial Protocols	DNP3, Modbus RTU, DF1 IEC60870-5-103 Master (optional), IEC60870-5-101 Slave	DNP3, Modbus RTU, DF1 IEC60870-5-103 Master (optional), IEC60870-5-101 Slave
Ethernet Protocols	DNP3/IP, Modbus/TCP, TCP/IP IEC60870-5-104 Slave	DNP3/IP, Modbus/TCP, TCP/IP IEC60870-5-104 Slave
Network Protocols	IP, ARP, TCP, UDP, PPP, ICMP (Ping), Telnet, BOOTP, FTP, NTP	IP, ARP, TCP, UDP, PPP, ICMP (Ping), Telnet, BOOTP, FTP, NTP
Optional Wireless	← Integrated or stand-alone module available with Trio (900MHz and 2.4GHz), Freewave (900 MHz and 2.4 GHz) or MDS TransNET (900 MHz). Frequencies not available in all areas. →	
12 / 24 VDC Converter	Yes	Yes
Sequence of events (SOE)	None	None
Event Logging Capacity (events)	20,000	20,000
Maximum Database Points (typical)	1,000	1,000
Processor	ARM7 32-bit microcontroller, 32 MHz	ARM7 32-bit microcontroller, 32 MHz
Hazardous Area Rating[2]	$_{C}$CSA$_{US}$ Class 1, Div 2 and ATEX II 3G, CSA certified to UL508 standards, IECEx: Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2)	

1 Using maximum of sixteen Series 5000 expansion modules. Supported modules: 5304, 5405, 5411, 5414, 5415, 5505, 5506, 5606 and 5607.

2 SCADAPack 357-based 24V DI/Solid State Relay versions only, Wireless versions pending approval.

	SCADAPackES P500	SCADAPackER P600
		
Analog Inputs		
On-board	4, 6, or 12 inputs, 0-5V, 1-5V, 0-20mA and 4-20mA	16 inputs per module, 0-20mA, 4-20mA, +/-10mA; 0-5V, 1-5V, 0-10V, +/-10V
Expansion [1,2]	128 channels	Up to 12 I/O modules of all types supported in rack
Analog Outputs		
On-board	2 or 4 outputs, 0-20mA, 4-20mA	4 outputs per module, 4-20mA, 1-5V
Expansion [1,2]	64 channels	Up to 12 I/O modules of all types supported in rack
Digital Inputs		
On-board	8, 16, or 32 inputs, 10-30 VDC, shared with Counter Inputs	32 inputs per module, current sink, 3mA per channel
Expansion [1,2]	512 inputs	Up to 12 I/O modules of all types supported in rack
Digital Outputs		
On-board	2, 8 or 16 outputs, DPDT Relay, (NO/Common/NC)	16 outputs per module, mechanical relay, (NO/Common/NC)
Expansion [1,2]	512 outputs	Up to 12 I/O modules of all types supported in rack
Frequency Inputs		
On-board	8, 16, or 32 inputs, 10-30 VDC, shared with Digital Inputs	32 inputs per module, 0-5kHz, shared with Digital Inputs
Expansion [1,2]		Up to 12 I/O modules of all types supported in rack
Turbine Inputs	None	None
Communication Ports	3, RS232 2, RS232/RS422/RS485 2, Ethernet 10/100BaseT	1, RS232 (full hardware flow control) 2, RS232 2, RS232/RS422/RS485 2, Ethernet 10/100BaseT
USB Ports	None	None
Compact Flash Socket	1, Compact Flash Type 1, supports up to 2GB card	1, Compact Flash Type 1, supports up to 2GB card
Serial Protocols	DNP3, Modbus RTU, DF1 IEC60870-5-103 Master, IEC60870-5-101 Slave (optional)	DNP3, Modbus RTU, DF1 IEC60870-5-103 Master, IEC60870-5-101 Slave (optional)
Ethernet Protocols	DNP3/IP, Modbus/TCP, TCP/IP IEC60870-5-104 Slave (optional)	DNP3/IP, Modbus/TCP, TCP/IP IEC60870-5-104 Slave (optional)
Network Protocols	IP, ARP, TCP, UDP, PPP, ICMP (Ping), Telnet, BOOTP, FTP, NTP	IP, ARP, TCP, UDP, PPP, ICMP (Ping), Telnet, BOOTP, FTP, NTP
Optional Wireless	← Stand-alone module available with Trio (900MHz and 2.4GHz), Freewave (900 MHz and 2.4 GHz) or MDS TransNET (900 MHz). Frequencies not available in all areas. →	
12 / 24 VDC Converter	optional	n/a
Sequence of events (SOE)	10 ms	1 ms
Event Logging Capacity (events)	40,000	40,000
Maximum Database Points (typical)	20,000	20,000
Processor	AMD Elan™ SC520 32-bit embedded processor, 100MHz	AMD Elan™ SC520 32-bit embedded processor, 100MHz
Hazardous Area Rating	$_{C}$CSA$_{US}$ Class 1, Division 2	None

1 Using maximum of sixteen 5000 Series expansion modules. Supported modules: 5304, 5405, 5411, 5414, 5415, 5505, 5506, 5606 and 5607.
2 Up to 15 SCADAPackES controllers may be configured as remote I/O. Only the main SCADAPack ES supports 5000 Series expansion modules.

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