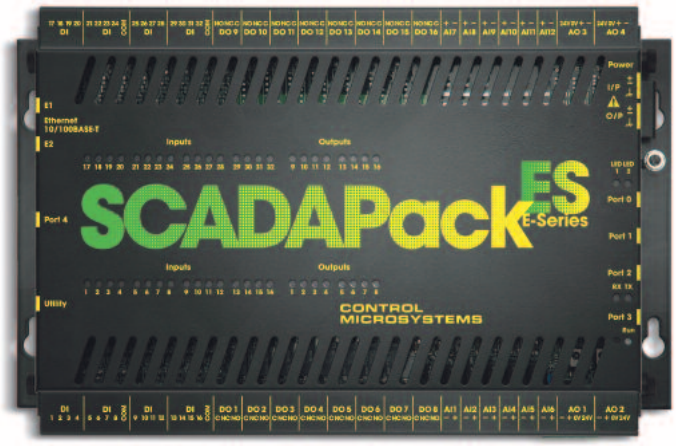
SCADAPackES Programmable Automation Controller

Features:

- Dual 100Mbps Ethernet
- Native DNP3 Architecture
- Embedded Sequence of Events
- Removable CompactFlash Card Support
- Multiple Protocol Support
- Support for select 5000 Series I/O Expansion Modules

The Control Microsystems SCADAPackES Programmable Automation Controller is ready to provide information directly to your local SCADA system.



Meeting the demands for high-speed distributed controller and automation systems, Control Microsystems offers the SCADAPackES as an advanced RTU and process controller. The SCADAPackES is an integral member of the Control Microsystems controller family, which furnishes solutions for applications requiring medium to large I/O counts, high speed time stamping and data capture. The SCADAPackES, with its 10mS sequence of events (SOE) monitoring capability, packaging, functionality, I/O sizing and communications capabilities, is both a suitable and cost effective solution for a variety of industrial applications including electrical substation monitoring and control, oil and gas, mining, and water/wastewater.

The SCADAPackES supports a variety of communication options and protocols including the support of serial, Ethernet, and radio communications links. These capabilities make it ideal for applications requiring communications with numerous third-party devices. The on-board support for Internet communications allows the SCADAPackES to integrate within your corporate information systems.

With a native DNP3 architecture the SCADAPackES provides full DNP Subset Level 2 support, configuration of points, properties and attributes.

The SCADAPackES conforms to open standards for communications, including Modbus, TCP/IP, IEC60807-5-101(Slave), IEC60807-5-103(Master) and DNP3, to ensure that the product can be installed in multi-vendor networks. The use of the IEC 61131-3 programming standard, for the development of control applications, ensures that developers familiar with PLC applications can readily develop software applications for the SCADAPackES. The flexible I/O allocation of the SCADAPackES has been chosen to meet the requirements of small to medium size telemetry and control applications.

Where additional I/O is required, two options are available with the SCADAPackES:

- Support for select 5000 Series I/O modules* expands the I/O count and type selection, bringing increased flexibility to the I/O mix.
- The multi-dropping of additional SCADAPackES devices is supported using Ethernet or serial communications. Recognition of multi-dropped I/O occurs automatically without the need for additional configuration.

* Supported modules: 5304, 5405, 5411, 5505, 5506 and 5606.

Communications:

The Control Microsystems SCADAPackES automation controller has been designed to provide a high level of connectivity.

Multiple ports support concurrent communications with a large range of PLC, Data Radio, Local Area Networks and SCADA systems. The SCADAPackES can be both a node on a high speed LAN (eg. RS485 or Dual Ethernet) and an RTU in a WAN (using a data radio, satellite link, dial-up modem etc).

The SCADAPackES controller can support host-initiated, peer-to-peer and slave communications in a number of industry-standard networks. With source/destination routing capabilities, the SCADAPackES can be a member of a complex network, with area filtering, message forwarding and other techniques to minimize traffic.

The communication capabilities of the SCADAPackES allow third-party devices and other control systems to be integrated into your SCADA network. When a PLC or similar device is connected to a SCADAPackES, the connected device can utilize the features of the RTU network allowing peer-to-peer communications, time tagging and data logging.

Support for DNP3, IEC60870-5-101, IEC60870-5-103 and Modbus protocols and networking through TCP/IP including: NTP, Telnet and FTP.

PLC Functionality:

The SCADAPackES controller provides true PLC functionality. The product is capable of carrying out complex control applications using any of the five IEC 61131-3 programming languages. These include floating point mathematics, PID control, ASCII input and output and many other functions. As an IEC 61131-3 compliant applications system, programs developed on your conventional PLC systems can be readily ported over and executed on a SCADAPackES.

Advanced RTU Functionality:

State of the art RTU functions are provided by the SCADAPackES, including:

- DNP3 over TCP/IP networks with Ethernet, PPP, GPRS
- Message routing for DNP3 and TCP/IP communications
- DNP Virtual terminal support for third party protocol transport
- Remote configuration building and download capability when used with ClearSCADA SCADA Management Software.
- On-board data processing including multiple alarm levels per point, rate of change and no change detection
- Time-of-day profiling for control and dynamic alarming
- Statistical historic sampling

Data Concentrator and Multi-Master

Configured as a Data Concentrator, the SCADAPackES acts as a master to collect data from multiple slaves. Concurrently the product can respond to multiple masters as a slave.

Remote Diagnostics, Configuration, Programming and Debugging

All operations such as configuration, programming, debugging and diagnostics can be carried out through any of the available communication paths and is thus available locally, or across the network.

Specifications

Processor	AMD Elan™ SC520 32-bit embedded processor, 100MHz
Memory	128MB SDRAM, 32MB Flash, 2048KB SRAM, 512KB Boot Flash
Temperature	-40°F (-40°C) to 150°F (65°C) operating, -40°F (-40°C) to 158°F (70°C) storage
Humidity	10 to 95% RH (non-condensing)
Input Voltage Range	10 to 30VDC
Power Requirements	6.3W minimum 8.3W with all relays energized Add 7.5W for fully loaded auxiliary power supply Add .72W per analog output (at 24V input)
Auxiliary Output Supply	Isolated 24VDC 200mA max. (optional) Isolated 10VDC 500mA max. (optional) Isolated 5VDC 1.0A max. (optional, required for Vision Operator Interface Terminal)
Isolation	Power input and Auxiliary Output are functionally isolated from each other and all IO points.
Communication Ports	Port 0, Port 1 and Port 4: RS-232; Port 2 and Port 3: RS-232/RS-422/RS-485 (software selectable) Ethernet: Dual 10/100Base-T UTP ports (transformer isolated) Note: All RS-232 ports are static protected to ±15kV (IEC 801-2, Air-gap discharge)
Protocols	Modbus, DNP3, Modbus/TCP, TCP/IP (standard) IEC60870-3(Master), IEC60870-1(Slave)(optional)
Removable Memory Socket	Compact Flash Type 1: buffered, hot-swap capable. Supports up to 512MB card (compact flash card not included)
Dimensions	11.81 inch (300mm) wide, 6.89 inch (175mm) high, 1.57 inch (40mm) deep
Digital Inputs:	
Configuration	8, 16 or 32 inputs
Normal Operation Range	10 - 30VDC
Sequence of Event Detection	10mS
Channels Per Common	8
Inversion	State inversion per channel
Debounce	Adjustable per channel
Counters	High speed and low speed counter channels (shared with digital inputs)
Digital Outputs:	
Configuration	2, 8 or 16 outputs
Type	Form C spot Relay, 3-terminal connection (NO/Common/NC), Non-latching, available to the application
Isolation	500VAC minimum to RTU logic
Max switching voltage	30 VDC, 25VAC
Max switching load	60W / 50VA (2A)

Specifications

Analog Inputs:	
Configuration	4, 6 or 12 inputs
Type	Unipolar
Resolution	12-bit, 0.1% of full scale at 77°F (25°C), ±0.3% over temperature range
Isolation	Isolated from channel to channel and from RTU logic. Analog inputs must be within 50 Vac or 7 VDC of chassis or earth.
Range	0-5V, 1-5V, 0-20mA and 4-20mA (4-20mA default calibration)
Analog Outputs:	
Configuration	2 or 4 outputs
Type	Unipolar
Resolution	12 bit ±0.1% at 77°F (25°C) with 250ohm load, ±0.5% over temperature range
Isolation	Optical. 500Vac minimum to RTU logic
Range	0-20mA, 4-20mA (voltage output available with external precision resistor)
Load Range	0Ω min., 100Ω max., with 9V supply. 150Ω min., 1150Ω max. with 30V supply
Additional I/O	
5000 Series I/O Expansion:	Supported modules: 5304, 5405, 5411, 5505, 5506 and 5606
SCADAPackES:	Support for additional multi-dropped ES controllers, via serial or Ethernet links

Printed in Canada ■ V021 ■ M01011-34