Life Is On | Schneider Electric

Remote measurement and control

Foxboro SCD2200 RTU

Product at a glance

The Foxboro® SCD2200 RTU provides advanced capabilities, IP connectivity, and open programming to a broad range of remote measurement and control applications.

The modular construction of the SCD2200 can be matched perfectly to the requirement of most applications. Multiple backplanes can be chained together to provide communications and I/O expansion. SCD2200 configurations range from 1 to 16 communication ports and 4 to 1024 I/O points.

Advanced I/O

The SCD2200 advanced RTU is an enabling technology for today's measurement and control systems. Schneider Electric has focused on removing technical constraints that traditionally limit RTU applications.

A broad offering of proven hardware modules substantially improves integration with third-party hardware and minimizes system design time and project risks. Modular construction efficiently adapts to the needs of individual sites.

SCD2200 is cost-effective and brings advanced I/O capabilities to the RTU environment. Intelligent I/O modules provide functionality such as high-speed scanning, sequence-of-events (SOE) monitoring and fail-safe output configuration, which is found normally in more expensive controller models.

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Open software tools are extremely important as they streamline application software design, programming, testing and start-up. The new FoxRTU Station utilizes Microsoft Windows® and Outlook®-style interaction that users will find intuitive. FoxRTU Station fully embeds ISaGRAF 5, making the SCD2200 the industry's first RTU that supports IEC 61499 for distributed processing, as well as IEC 61131-3.

Processor modules

SCD2200 processor modules are available in two levels of processing capability and memory capacity that allow users to match applications requirements and budget constraints.

	CP-3	MC-3
Descriptions	FoxRTU Station IEC 61131-3 programming	3 port communications module

Redundancy

For users who demand a reduced risk of systems failures, the SCD2200 can be ordered with redundant power supply and processor modules. The CP-3 processor module supports hot standby redundancy. Switchover from the primary to the backup processor will occur upon failure or disruption of backplane scanning.

High-performance I/O modules

Intelligent I/O modules are designed for applications that require high accuracy and performance. Advanced capabilities include high-speed scanning; input counting up to 10 kHz; quadrature counting; sequence-of-events (SOE) monitoring on a 1 ms interval; and configurable, fail-safe output settings.

	AI-10	DI-5	DI-10	AO-2	DO-1	DO-2	DO-6	IO-3
DI digital inputs		16	16					4
DO digital outputs					8	16	16	4
AI analog inputs	8							4
AO analog outputs				4				1
Descriptions	High performance	Dry contact inputs	Sequence of events (SOE)	Analog outputs	Relay outputs N.O./N.C.	Replay output N.O.	Open collector outputs	Multi 10

Communication option cards

Offering broad communication options provides connectivity with the intelligent devices and networks used throughout today's measurement and control systems. Communication option cards are compatible with SCD2200 processor modules and the MC-3 communications module.

	OPT-D	OPT-F	OPT-H	OPT-I	OPT-L	OPT-R	OPT-X
Name	Dial-up modem	Fiber serial	HART	Isolated	Line & radio FSK	Spread spectrum	Ethernet
Descriptions	PSTN modem for worldwide phone system V.34	Optically isolated serial communications	Communicate using HART protocol	Isolated serial communications RS-232/485/422	Leased line & pocket radio interface	WIreless license free communications	Communicate over copper Ethernet

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Communication protocols

The FoxRTU Station integrated operating environment combines configuration, program development and maintenance in one simple-to-use package. Systems integrators and end users alike can view, edit, and diagnose an SCD2200 solution with a highly intuitive, Microsoft Outlook-style user interface.

FoxRTU Station eliminates the need to open — and switch between — multiple software packages, or engage in complicated programming. The software embeds the ISaGRAF IEC-61131-compliant environment, supports all five offered languages and is the first IEC 61499-compliant configuration environment intended for RTU products. Furthermore, the FoxRTU Station offers a library of preprogrammed function blocks that include operations such as AGA flow calculations, simplifies applications development, and easily allows users to add new capabilities to a SCD2200 RTU solution.

FoxRTU Station is used in conjunction with the CP-3 processor module.

Users can quickly become familiar with the Outlook-style displays FoxRTU Station provides for advanced configuration and diagnostics.

Applications

The SCD2200 RTU brings IP connectivity, powerful processing, advanced I/O capabilities and open programming to applications. Customers in the broadcast/telecom, oil and gas, power, transportation, and water/wastewater industries will find a SCD2200 configuration cost-effective over a broad range of installations.

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SCD2200 specifications

Designation	Industrial-grade remote terminal unit (RTU)
Dimensions	Height: 174 mm (6.9 in) Width: 35 mm (1.4 in) Depth: 156 mm (6.1 in)

Inputs and outputs

Maximum I/O points	1024
Backplanes	Up to 4 x 12 slot backplanes and 4 x 4 slot backplanes per RTU
I/O configuration	Automatic/manual
Backplane sizes	4/6/12 slots
Removable I/O connectors	Yes
Digital modules	Maximum 16 inputs or 16 outputs/module
Analog modules	Maximum 8 inputs or 4 outputs/module

Processor unit

Type: CP-3	Cirrus ARM9 166 MHz
Flash RAM: CP-3	16 MB
RAM: CP-3	32 MB
Real-time clock	Yes
Battery backup	RAM/RTC — lithium > 10 years
RTU address	1 to 255 or 1-65535 (protocol dependent)

Communications supported

Total ports/RTU	16
Master/slave	Yes
Peer-to-peer	Yes
Fall back levels	Yes
PC link	Yes
Protocol	MODBUS, DNP3, SNMP, Allen Bradley FoxRTU

Option cards

CP-3	1 x standard Ethernet port, 2 x option ports
Available options	D (dialup modem) F (fiber serial) H (HART) I (isolated serial) L (line and radio FSK) R (spread spectrum) X (Ethernet)

Configuration

Local (portable PC)	Yes
Remote via network	Yes
IEC 61131-3 (5 language)	Yes
ISaGRAF flowchart (6th language)	Yes
IEC 61499 distributed processing	Yes

Diagnostics

Pre-programmed	Yes
I/O modules	LEDs
CPU modules	LEDs
Power supply modules	LEDs
Report via network	Yes
Software	Yes
Wireshark comms analyzer	Yes

Debug

Local watch dog tImer	Yes
Communication status	Yes
Configuration display	Yes
I/O status	Yes
Debug	Yes

Power

AC supply	90 to 260 V
DC supply	20 to 60 V or 96 to 340 V
Solar supply	12 V DC
Battery backup	Yes
Battery size	Various
Battery charging option	Yes

Environmental

Ambient temperature	-20° C to 70° C
Storage temperature	-40° C to 85° C
Humidity	5% to 98% RH non-condensing

Redundancy levels

CPUs/RTU	2

Compliance Standards

Generic emission standards	EN61000-6-4
Generic immunity standard	EN61000-6-2
Environmental standards	IEC 60068-2-3/IEC 60068-2-1

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