SPECTRUM CONTROLS

An Allied Motion Company

Product Catalog

Industrial I/O | Protocol Gateways | Industrial Displays

Empowering the Next Generation of Automation

Technology Partner

A ROCKWELL AUTOMATION PARTNER

SPECTRUM CONTROLS
An Allied Motion Company

Innovation Leader Since 1983

For over 40 years, Spectrum Controls has been a leader in cutting edge industrial I/O, and is the first company to build licensed I/O modules for Rockwell Automation® as a proud Technology Partner.

Focused on expanding the capabilities of control systems, we offer various I/O solutions to tackle the unique projects you face including high-density, isolated analog, analog with HART, and universal analog input modules. All of our licensed hardware includes full TechConnect™ Support through Rockwell Automation.

Our Universal Industrial Gateway combines the capabilities of multiple gateways into a single module that supports 12 protocols and enables seamless communication between multiple devices.

For visual communications in critical production environments, InView industrial LED displays offer robust hardware and class-leading ease of use thanks to our EasyTag technology.

Questions? Get in touch with us at the contact info on the next page.

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Multi-Protocol Communication
Made Easy

Universal Industrial Gateway

Cost-competitive, single-box gateway solution

12 protocols | Serial and Ethernet | Dual Network Capable

Easily configured from your web browser

Universal Industrial Gateway

Spectrum Controls
Tech Support +1.425.746.9481

- Enables older automation devices to communicate and function alongside the latest technology
- Provides a cost-effective way to incrementally upgrade control systems with minimal downtime
- Up to four isolated serial ports configurable for RS-232 and RS-485
- Two ethernet ports for multi-protocol communication and dual-subnet applications

Catalog #	Serial Ports	Ethernet Ports	Protocols
WP-G-222-P1	2	2	EtherNet/IP, Ethernet/IP-PCCC, Modbus TCP, Modbus RTU, Modbus ASCII, TI-HostLink, DirectNET, CCM
WP-G-242-P1	4	2	
WP-G-222-P2	2	2	EtherNet/IP, Ethernet/IP-PCCC, Modbus TCP, Modbus RTU, Modbus ASCII, TI-HostLink, DirectNET, CCM, DF1-PCCC, DF1-CIP, PPI, S7comm
WP-G-242-P2	4	2	
WP-G-UPG-P2	-	-	Upgrade -P1 model to -P2

InView™ Industrial LED Displays

4-Inch High Display

2706-P42C2-SC (36" wide)

2706-P44C2-SC (72" wide)

10-Inch High Display

2706-P92C2-SC (40" wide)
2706-P92C2X-SC (40" wide)*
2706-P94C2-SC (69" wide)
2706-P94C2X-SC (69" wide)*

*NEMA 4X Stainless Steel Enclosures Available

- Vastly superior viewing angle than LCD & most LED displays
- Dynamic messaging, with the use of variables, for real-time information
- NEMA-rated enclosures, purpose-built for the industrial environment (Indoor use only)
- Fully licensed Rockwell Automation technology
- Message Visibility From Up To 450 Feet Away

InView™ Communication Modules

Rockwell Automation
TechConnect™ Support Included

- Easy & intuitive browser-based programing
- Context-sensitive Help with step-by-step instructions
- Compatible with legacy Rockwell Automation InView displays
- Supports: EtherNet/IP, Modbus TCP/IP, and EtherNet TCP/IP pass-through

Compatibility

	2706-PENETP2-SC	2706-PENETM2-SC	2706-PENETM2C2-SC	2706-PENETK2-SC
P2 displays	✓	•	•	•
P4 displays	•	✓	•	•
P4xC2 displays	•	•	✓	•
P7 displays	•	•	•	✓
P9 displays	•	•	•	✓
EtherNet/IP	✓	✓	✓	✓
EtherNet TCP/IP	✓	✓	✓	✓
Modbus TCP/IP	✓	✓	✓	✓

8-Ch Universal Analog Input

20-750sc-8U

- Each input channel individually selectable to any range:
  - Voltage: ±50 mV, ±100 mV, 0-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 0-150Ω, 0-500Ω, 0-1000Ω, 0-3000Ω
  - RTD (3- or 4-wire): Pt 385/3916, Ni618/672, NiFe518, Cu427 (RTD uses channel pairs)
- 5 filter frequencies (channel-selectable) for fastest analog update times
- Full auto-calibration; on-board error checking
- Open circuit detection for most input types
- 250 VAC channel-to-chassis ground isolation; 10 VDC channel-to channel isolation
- Conformal coated

4-Ch Analog Input + 4-Ch Analog Output

20-750-IF4XOF4-SC

- Each input or output channel individually selectable to any range:
  - Voltage: 0-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
- High accuracy, 16-bit resolution increases your productivity!
- 6 filter frequencies (channel-selectable) for fastest analog update times
- Full auto-calibration; on-board error checking
- Open circuit detection for most input types
- 250 VAC channel-to-chassis ground isolation; 10 VDC channel-to channel isolation
- Conformal coated

1734 Point I/O™

Studio 5000

Rockwell Automation
TechConnect™ Support Included

4-Ch Universal Analog Input

1734sc-IF4U
1734sc-IF4UK*

- 4 Analog, 3 thermocouples, or 2 RTDs; individually selectable:
  - Voltage: ±50 mV, ±100 mV, 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 0-3000Ω
  - Thermocouple: J, K, T, E
  - RTD: 0-1000Ω Pt 385/3916
- High accuracy, 18-bit resolution
- Channel-selectable filtering

2-Ch Isolated Analog Output + HART

1734sc-OE2CIH
1734sc-OE2CIHK*

- 2 isolated 4-20 mA with HART or…
- 2 isolated 0-20 mA without HART
- 16-bit resolution, 2-/4-wire support
- Auto-scanning of HART variables (PV, SV, TV, FV)
- HART modem per-channel for maximum speed
- HART pass-through messaging
- Open circuit detect, fault reporting, 24 V fault protection & 50 VDC ch.-ch. Isolation
- DTM (Device Type Manager) enables your asset management software

2-Ch Analog Input + HART

1734sc-IE2CH
1734sc-IE2CHK*

4-Ch Analog Input + HART

1734sc-IE4CH
1734sc-IE4CHK*

- 2 or 4 channels of 4-20 mA analog + HART
- High accuracy, 16-bit resolution
- Acts as a HART master, allowing communication with HART field devices
- HART pass-through messaging
- Channel-selectable filtering for fastest analog update time and noise rejection
- User calibration and scaling if desired
- Fault reporting capability
- DTMs (Device Type Manager) enables your asset management software

*Conformal coated

Studio 5000

8-Ch Universal Analog Input

1756sc-IF8U
*1756sc-IF8UK**

8 Universal Analog Inputs On a Single Card Saves Rack Space & Cost

- Each input channel individually selectable to:
  - Voltage: ±50 mV, ±150 mV, 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 250, 500, 1000, 2000, 3000, 4000Ω
  - RTD: Pt 385/3916, Ni618/672, NiFe518, Cu426
  - Thermocouple: J, K, T, B, E, R, S, N, C
- High accuracy: 16 to 21 bits (filter-dependent)
- User-scaling, time-stamping, and alarms
- *Conformal coated

8-Ch AC Power Monitoring Input

1756-RMS-SC

Monitor Power Usage to Reduce Energy Costs and Waste

- 8 High accuracy, (16-bit) power inputs:
  - 1 current (CT), 1 voltage (PT)
- Provides: real power, apparent power, reactive power, power factor, RMS voltage and RMS current
- 250 VAC: channel-pair-to-channel-pair isolation, channel-to-chassis ground
- Non-typical AC waveforms supported
- Monitor motor performance

8-Ch Counter/Flowmeter Input

1756sc-CTR8
*1756sc-CTR8K**

High Density Counting = Lower Cost

- 8 incremental, 24-bit, single-ended counters, or 4 pairs of up/down or quadrature counters
- Configure each input group as: 5, 12, or 24 VDC, or 50, 200 mVpp counters, or as turbine flow
- K factor scaling for turbine flowmeters
- Use for flowmeter proving requirements
- Count direction flags; start, stop, reset, & preset control
- 4 external counter enable lines for faster counter control
- *Conformal coated

32-Ch 48VDC Discrete Input

1756sc-IC32

The Only High Density 48 VDC Solution

- 32 channels of 48 VDC input
- 8 input channels per group
- Off/On selectable filtering for 0, 1, & 2 ms
- On/Off selectable filtering for 0, 1, 2, 9, & 18 ms
- Off/On Change-of-State Enable option per input point
- 250 Volts AC RMS continuous isolation from any channel to the backplane & channel to frame ground

Studio 5000

8-Ch Universal Isolated Analog Input

1794sc-IF8IU

8 Universal Analog Inputs Lowers Your System Cost

- Each isolated input channel individually selectable to:
  - Voltage: ±50 mV, ±100 mV, 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 0-150Ω, 0-1000Ω, 0-3000Ω
  - Thermocouple: J, K, T, B, E, R, S, N, C (Cold-junction compensation included)
  - RTD (2-, 3-, or 4-wire): Pt 385/3916, Ni618/672, NiFe518, Cu426 (2 channels for 3- & 4-wire)
- 120 VAC channel-to-channel isolation
- High accuracy, 16-bit resolution
- Each channel provides open circuit detection, and high-range and low-range alarms
- 6 channel-selectable filtering for fastest analog update time and noise rejection
- Easy to configure using ladder register settings or Studio 5000® programming software

8-Ch Isolated Thermocouple/RTD Input

1794sc-IRT8I

8 Temperature Sensing Inputs for High Accuracy Applications

- Each isolated input channel individually selectable to:
  - Resistance: 0-150Ω, 0-1000Ω, 0-3000Ω
  - Thermocouple: J, K, T, B, E, R, S, N, C (Cold-junction compensation included)
  - RTD (2-, 3-, or 4-wire): Pt 385/3916, Ni618/672, NiFe518, Cu426 (2 channels for 3- & 4-wire)
- 120 VAC channel-to-channel isolation
- High accuracy, 16-bit resolution
- Each channel provides open circuit detection, and high and low range alarms
- 6 channel-selectable filtering for fastest analog update time and noise rejection
- Easy to configure using ladder register settings or Studio 5000® programming software

RSLogix 500

4-Ch Analog Input + 4-Ch Analog Output

1762sc-IF4OF4

- 2 current only (0-20 mA, 4-20 mA) analog inputs ***AND***
- 2 Universal analog inputs individually selectable to:
  - Voltage: 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Thermocouple: J, K, E, T (with cold-junction compensation)
- 4 analog outputs individually selectable to:
  - Current: 0-20 mA, 4-20 mA
  - Voltage: 0-5 V, 1-5 V, 0-10 V, ±10 V
- High accuracy, 16-bit resolution
- Channel-selectable filtering for maximum speed with minimum noise
- For Allen-Bradley MicroLogix 1100 and 1200 systems
- Easy to configure using ladder register settings or RSLogix programming software

8-Ch Universal Analog Input

1762sc-IF8U

- Each input channel individually selectable to:
  - Voltage: ±50 mV, ±100 mV, 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 0-150Ω, 0-1000Ω, 0-3000Ω
  - Thermocouple: J, K, T, B, E, R, S, N, C (cold-junction compensation uses 1 channel)
  - RTD (2-, 3-, or 4-wire): Pt 385/3916, Ni618/672, NiFe518, Cu426 (2 channels for 3- & 4-wire)
- High accuracy, 16-bit resolution
- Channel-selectable filtering
- Easy to configure using ladder register settings or RSLogix programming software

8-Ch Analog Output

1762sc-OF8

- Each output individually selectable to:
  - Voltage: 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
- High accuracy, 16-bit resolution
- Perfect fit for high I/O count analog output applications
- Easy to configure using ladder register settings or RSLogix programming software

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1769 Compact I/O™

RSLogix 500 | Studio 5000

Rockwell Automation
TechConnect™ Support Included

4-Ch Analog Input + HART

1769sc-IF4IH
*1769sc-IF4IH-K**

4-Ch Analog Output + HART

1769sc-OF4IH
*1769sc-OF4IH-K**

- **Isolated analog inputs/outputs**
- Each channel selectable to:
  - 4-20 mA with HART
  - 0-20 mA without HART
  - Voltage: 0-5 V, 1-5 V, 0-10 V, ±10 V without HART
- HART PV, SV, TV, FV
- Acts as a HART master, allowing communication with HART field devices
- HART modem per-channel for maximum speed
- HART pass-through messaging
- 710 VDC isolation channel-to-channel
- *Conformal coated

8-Ch Universal Analog Input

1769sc-IF8U
*1769sc-IF8U-K**

- Each channel individually selectable to:
  - Voltage: ±50 mV, ±100 mV, 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 0-150, 0-1000, 0-3000Ω
  - RTD: Pt 385/3916, Ni618/672, NiFe518, Cu426 (2 channels pairs for 3- or 4-wire)
  - Thermocouple: J, K, T, B, E, R, S, N, C
  - Channel-selectable filtering
- *Conformal coated

6-Ch Isolated RTD/Resistance Input

1769sc-IR6I
*1769sc-IR6I-K**

- 6 **Isolated** inputs individually selectable to:
  - Resistance: 0-150Ω, 0-500Ω, 0-1000Ω, 0-3000Ω
  - RTD (2-, 3-, or 4-wire): 100Ω, 200Ω, 500Ω & 1000Ω, Pt 385/3916, 100Ω Ni618, 120Ω Ni672, 604Ω NiFe518, 10Ω Cu426
- 6 filter frequencies (individually selectable by channel) for fastest update times and noise rejection
- Open circuit detect & individually programmable high and low alarms for each channel
- High accuracy, 16-bit resolution
- *Conformal coated

6-Ch Isolated Thermocouple Input

1769sc-IT6I
*1769sc-IT6I-K**

- 6 **Isolated** inputs individually selectable to:
  - Voltage: ±50 mV, ±100 mV
  - Thermocouple: J, K, T, E, R, B, S, N, C, L
- Built-in cold-junction thermocouple compensation
- 6 filter frequencies (individually selectable by channel) for fastest update times and noise rejection
- Open circuit detection & individually programmable high and low alarms for each channel
- High accuracy, 16-bit resolution
- 125 VAC isolation: channel-to-channel, field-wiring-to-backplane & field-wiring-to-chassis-ground
- *Conformal coated

16-Ch High-Speed Discrete Inputs (Sourcing)

5069-IV16F-SC
*5069-IV16FK-SC**

16-Point 24-Volt Discrete Sourcing Input Module

- Sixteen configurable 24-VDC sourcing input points
- Sourcing inputs
- Features 250 VAC RMS, basic insulation type channel-to-backplane isolation
- Includes Add-on Profile to allow full configuration using Studio 5000® software
- Provides low power consumption
- Applicable for voltages from 10 VDC to 32 VDC
- Timestamp of input at an accuracy of ±10 µS
- Inputs allow event recording and pattern matching
- *Conformal coated

16-Ch High Speed Discrete Outputs (Sinking)

5069-OV16F-SC
*5069-OV16FK-SC**

16-Point 24-Volt Discrete Sinking Output Module

- Sixteen Configurable 24-VDC sinking output points
- Provides configuration of individual output points to specific states when the module is in Program mode or Communications Fault mode
- Features 250 VAC RMS, basic insulation type channel-to-backplane isolation
- Includes Add-on Profile to allow full configuration using Studio 5000® software
- Provides low power consumption
- Applicable for voltages from 10 VDC to 32 VDC
- Scheduled outputs at an accuracy of ±10 µS
- Delay time for outputs (backplane to screw) a fast ±10 µS
- *Conformal coated

4-Ch Isolated Analog Output (C)

1746sc-INO4I

- 4 isolated analog inputs individually selectable to:
  - Current: 0-20 mA, 0-21 mA, 4-20 mA
- Use any combination of input types at one time
- High accuracy, 16-bit resolution
- Easy to configure using ladder register settings or RSLogix programming software

4-Ch Isolated Analog Output (V/C)

1746sc-INO4VI

- 4 isolated analog inputs individually selectable to:
  - Voltage: 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 0-21 mA, 4-20 mA
- High accuracy, 16-bit resolution
- Easy to configure using ladder register settings or RSLogix programming software

4/8-Ch Counter/Flowmeter

1746sc-CTR4
1746sc-CTR8

- 4 or 8 incremental, single-ended counters or up to four pairs for up/down or quadrature counters
- Configure each input group as 5, 12, or 24 VDC counters, or as turbine flow (Variable Reluctance Coil) AC inputs
- Counter Speed: 0 Hz to 50 kHz
- Includes scaling K factor for turbine flowmeters
- Use for flowmeter proving requirements

4-Ch Isolated Analog Input (C)

1746sc-INI4I

- 4 isolated analog inputs individually selectable to:
  - Current: 0-20 mA, 4-20 mA
- High accuracy, 16-bit resolution
- Easy to configure using ladder register settings or RSLogix programming software

4-Ch Isolated Analog Input (V/C)

1746sc-INI4VI

- 4 isolated analog inputs individually selectable to:
  - Voltage: 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
- High accuracy, 16-bit resolution
- Easy to configure using ladder register settings or RSLogix programming software

8-Ch Universal Analog Input

1746sc-NI8U

- Selectable ranges:
  - Voltage: ±50 mV, ±100 mV, ±0.5 V ±2.0 V, 0-5 V, 1-5 V, 0-10 V, ±10 V
  - Current: 0-20 mA, 4-20 mA
  - Resistance: 0-3000Ω
  - Thermocouple: J, K, T, B, E, R, S, N, C
  - RTD: Pt 385/3916, Ni618/672, Cu426

*Rockwell Automation encourages customers to migrate to their Compact 5000™ I/O modules used with the Logix control platform.

2080 Plug-In I/O for Micro820® / 850® / 870®

Rockwell Software CCW

Rockwell Automation
TechConnect™ Support Included

2080 MICRO800™ I/O

MicroSD Memory with Real-Time Clock

2080-SDMEMRTC-SC

- Real-time clock functionality
- MicroSD memory card sizes 4, 8, 16, and 32 GB
- Data logging up to 10 MB of data per day
- Firmware update of the controller no longer requires carrying around a PC as the MicroSD card will complete this function:
  - Commissioning new machines / replacing the controller is quick & easy
- Store up to 10 Recipe sets with 128 variables each, max. of 50 Recipes per set

BACNet Communications (Serial & Ethernet)

2080sc-BAC

- 1 Ethernet communications channel
- 1 serial communications channel:
  - RS-485 or RS-232 configurable
- 5 standard BACnet objects supported
- Reduce system cost
- Improve energy efficiency
- Automate lighting control
- Add your machine into your building automaton system

4-Ch Universal Analog Inputs

2080sc-IF4U

- Each input channel selectable to:
  - Current: 0-20 mA, 4-20 mA,
  - Voltage: ±50 mV, ±100 mV, 0-5 V, 0-10 V, ±10 V
  - Resistance: 0-100Ω, 0-1000Ω, 0-3000Ω
  - Thermocouple: J, K, T, E (cold-junction compensated)
  - RTD (2-, 3-, or 4-wire): Pt 385/3916 100Ω/1000Ω (1 input pair per 4 wire RTD)
- Channel-selectable filtering

4-Ch Thermistor Analog Inputs

2080sc-NTC

- Four channels of thermistor/resistance (2-wire resistance) inputs
- NTC thermistor support
- Fully linearized sensor data
- High accuracy, 16-bit resolution
- Channel-selectable filtering for fastest analog update time and noise rejection

2-Ch High Current Relay Outputs

2080sc-OW2IHC

- 2-form A, normally open relays
- 10 A at 0-30 VDC
- 10 A at 120 VAC or 250 VAC
- Channel-to-channel isolated
- LED indicators show visual status of the relay state
- Use for high current loads without the need for interposing relays!

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2085 Expansion I/O for Micro850®/870®

8-Ch Universal Analog Input

2085-sc-IF8U

- Current: 0-20 mA, 4-20 mA
- Voltage: ±50 mV, ±100 mV, 0-5 V, 0-10 V, ±10 V
- Resistance: 150Ω, 500Ω, 1000Ω, & 3000Ω
- Thermocouple: Type J, N, T, K, E, S, R, C, B
- RTD: Pt 385/3916, Ni618, Ni672, Cu426 & NiFe518
- Open-circuit detection

4-Ch Analog Input & 4-Ch Analog Output Combo

2085-IF4XOF4-SC

- 4 inputs & 4 outputs all configurable to:
  - Current: 0-20 mA, 4-20 mA
  - Voltage: 0-5 V, 0-10 V, ±10 V
- Configurable open circuit/ output fault detection
- Supports range alarms with latches
- High accuracy, 16-bit
- Great for PID loops

16-Ch High-Density Analog Input

2085sc-IF16C
2085sc-IF16V

- IF16C: 0-20 mA, 4-20 mA
- IF16V: 0-5 V, 0-10 V, ±10 V
- High accuracy, 16-bit resolution
- Supports range alarms with latches
- Open-circuit detection,
- Range scaling of input data in module

8-Ch High Density Analog Output

2085-sc-OF8

- 8 configurable outputs:
  - Current: 0-20 mA, 4-20 mA
  - Voltage: 0-5 V, 0-10 V, ±10 V
- Supports range alarms with latches
- Open circuit detection,
- Range scaling of input data in module

32-Ch 24 V Source/Sink Discrete Outputs

2085-OB32-SC (source)
2085-OV32-SC (sink)

- 0.5 Amps per output
- Report module status including brownout detection
- One LED indicator per point
- Highest density discrete outputs for Micro800™ controllers

8-/16-Ch Thermocouple Analog Input

2085-IT8-SC
2085-IT16-SC

- 8 or 16 channels of input:
  - Voltage: ±50 mV, ±100 mV
  - Thermocouple: J, N, T, K, E, S, R, C, B
- High accuracy, 16-bit resolution
- Configurable open-circuit detection
- Differential inputs provide 10 VDC of channel-to-channel isolation

8-Ch RTD Analog Input

2085-IR8-SC

- 16 channels of input:
  - RTD: 100, 200, 500, and 1000Ω, Pt 385/3916, 100Ω Ni618, 120 Ni672,10Ω Cu426, 604Ω NiFe 518
  - Resistance: 0-150Ω, 0-500Ω, 0-1000Ω & 0-3000Ω
- Open-circuit detection