

An Allied Motion Company

Product Catalog

Industrial I/O | Protocol Gateways | Industrial Displays







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 Easy Tag technology.

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



Spectrum Controls 1705 132nd Ave NF Bellevue, WA 98005 United States

+1.425.746.9481

spectrum@spectrumcontrols.com

spectrumcontrols.com



Inside Sales

Spectrum Controls +1.425.746.9481 spectrum@spectrumcontrols.com

Western Regional Sales Manager

Rebecca DeVaney +1.206.618.0637 rdevaney@spectrumcontrols.com

Northeast Regional Sales Manager

Elliot Fixler +1.603.770.1197 efixler@spectrumcontrols.com

Southeast Regional Sales Manager

Michael Kerrigan +1.678.575.1556 mkerrigan@spectrumcontrols.com

Midwest Regional Sales Manager

Brittney Lee +1.630.776.9637 blee@spectrumcontrols.com

International Regional Sales Manager

Spectrum Controls +1.425.746.9481 spectrum@spectrumcontrols.com

Spectrum Controls



Universal Industrial Gateway





- 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

- 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	✓	✓	✓	✓

PowerFlex® Cards for 753 & 755 Drives



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: $0-150\Omega$, $0-500\Omega$, $0-1000\Omega$, $0-3000\Omega$
 - 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



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

1756 ControlLogix™



8-Ch Universal Analog Input

8-Ch AC Power Monitoring Input



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



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

spectrumcontrols.com



8-Ch Universal <u>Isolated</u> Analog Input



1794sc-IF8IU

8 Universal Analog Inputs Lowers Your System Cost

- Each <u>isolated</u> 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 <u>Isolated</u> Thermocouple/RTD Input



1794sc-IRT81

8 Temperature Sensing Inputs for High Accuracy Applications

- Each <u>isolated</u> 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

1762 MicroLogix[™] I/O



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 (coldjunction 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

Rockwell Automation TechConnect™ Support Included

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

1769 COMPACT

1769 Compact I/O™

RSLogix 500



4-Ch Analog Input + HART 4-Ch Analog Output + HART



- Isolated analog inputs/outputs
- Fach 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

1769sc-OF4IH-K*

• HART PV, SV, TV, FV

1769sc-IF4IH-K*

- 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, 0-3000 Ω
- 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

Rockwell Automation TechConnect™ Support Included

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

5069 Compact 5000[™] I/O



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
- \bullet Timestamp of input at an accuracy of $\pm 10~\mu S$
- 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 $\pm 10 \mu S$
- *Conformal coated





- 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



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



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



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



1746sc-N18U

- 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: $0-3000\Omega$
 - 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°



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: $0-100\Omega$, $0-1000\Omega$, $0-3000\Omega$
 - Thermocouple: J, K, T, E (cold-junction compensated)
 - RTD (2-, 3-, or 4-wire): Pt 385/3916 $100\Omega/1000\Omega$ (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!

spectrumcontrols.com

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 1000 Ω , Pt 385/3916, 100 Ω Ni618, 120 Ni672,10 Ω Cu426, 604 Ω NiFe 518
- Resistance: 0-150 Ω , 0-500 Ω , 0-1000 Ω & 0-3000 Ω
- Open-circuit detection



An Milied Motion Company

+1.425.746.9481 spectrum@spectrumcontrols.com spectrumcontrols.com

Distributor:



Technology Partner

A ROCKWELL AUTOMATION PARTNER