

# Isolated Signal Conditioning

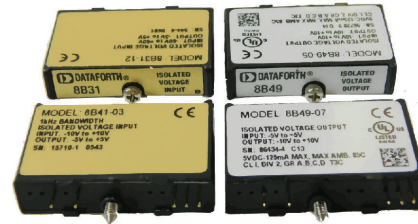
## Analog and Digital Module Selection Guide



### Isolated 8B Analog I/O Modules

8B analog I/O modules provide 500 V channel-to-channel isolated I/O signal conditioning, and allow you to use Measurement Computing data acquisition systems in applications with a diverse range of signal conditioning requirements. These applications include voltage, current loop, frequency, and strain gage input, linearized thermocouple and RTD, plus voltage and current output.

Specifications for the 8B modules available for Measurement Computing products are listed below.



8B Input Modules

8B Output Modules

Voltage Input Modules (3 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B30-01	±10 mV	±5 V
SC-8B30-02	±50 mV	±5 V
SC-8B30-03	±100 mV	±5 V
SC-8B31-01	±1 V	±5 V
SC-8B31-02	±5 V	±5 V
SC-8B31-03	±10 V	±5 V
SC-8B31-07	±20 V	±5 V
SC-8B31-09	±40 V	±5 V
SC-8B31-12	±60 V	±5 V

Current Input Modules (3 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B32-01	4 mA to 20 mA	0 V to 5 V
SC-8B32-02	0 mA to 20 mA	0 V to 5 V

Isolated True RMS Input Modules (10 kHz Bandwidth)		
MCC part number	Input range	Output range
SC-8B33-04	0 V to 150 V	0 V to 5 V
SC-8B33-05	0 V to 300 V	0 V to 5 V
SC-8B33-06	0 A to 1 A	0 V to 5 V

Linearized 2- or 3-Wire RTD Modules (3 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B34-01	±100 °C	0 V to 5 V
SC-8B34-02	0 °C to 100 °C	0 V to 5 V
SC-8B34-03	0 °C to 200 °C	0 V to 5 V
SC-8B34-04	0 °C to 600 °C	0 V to 5 V

Linearized 4-Wire RTD Modules (3 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B35-01	±100 °C	0 V to 5 V
SC-8B35-02	0 °C to 100 °C	0 V to 5 V
SC-8B35-03	0 °C to 200 °C	0 V to 5 V
SC-8B35-04	0 °C to 600 °C	0 V to 5 V

Strain Gage Input Modules					
MCC part number	Input range	Excitation voltage	Sensitivity	Output range	Bandwidth
SC-8B38-01	±10 mV	3.333 V	3 mV/V	±5 V	8 kHz
SC-8B38-02	±30 mV	10.0 V	3 mV/V	±5 V	8 kHz
SC-8B38-05	±20 mV	10.0 V	2 mV/V	±5 V	8 kHz
SC-8B38-31	±10 mV	3.333 V	3 mV/V	±5 V	3 Hz
SC-8B38-32	±30 mV	10.0 V	3 mV/V	±5 V	3 Hz
SC-8B38-35	±20 mV	10.0 V	2 mV/V	±5 V	3 Hz

Current Output Modules (100 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B39-02	±5 V	4 mA to 20 mA
SC-8B39-04	±5 V	0 mA to 20 mA
SC-8B39-07	±5 V	±20 mA

Voltage Input Modules (1 kHz Bandwidth)		
MCC part number	Input range	Output range
SC-8B40-01	±10 mV	±5 V
SC-8B40-02	±50 mV	±5 V
SC-8B40-03	±100 mV	±5 V
SC-8B41-01	±1 V	±5 V
SC-8B41-02	±5 V	±5 V
SC-8B41-03	±10 V	±5 V
SC-8B41-07	±20 V	±5 V
SC-8B41-09	±40 V	±5 V
SC-8B41-12	±60 V	±5 V

Frequency Input Modules			
MCC part number	Input range	Output range	Bandwidth
SC-8B45-01	0 Hz to 500 Hz	0 V to 5 V	500 Hz
SC-8B45-02	0 kHz to 1 kHz	0 V to 5 V	1 kHz
SC-8B45-03	0 kHz to 2.5 kHz	0 V to 5 V	2.5 kHz
SC-8B45-04	0 kHz to 5 kHz	0 V to 5 V	5 kHz
SC-8B45-05	0 kHz to 10 kHz	0 V to 5 V	10 kHz
SC-8B45-06	0 kHz to 25 kHz	0 V to 5 V	25 kHz
SC-8B45-07	0 kHz to 50 kHz	0 V to 5 V	50 kHz
SC-8B45-08	0 kHz to 100 kHz	0 V to 5 V	100 kHz

Linearized Thermocouple Input Modules (3 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B47-J-01	0 °C to 760 °C	0 V to 5 V
SC-8B47-J-02	-100 °C to 300 °C	0 V to 5 V
SC-8B47-J-03	0 °C to 500 °C	0 V to 5 V
SC-8B47-J-12	-100 °C to 760 °C	0 V to 5 V
SC-8B47-K-04	0 °C to 1000 °C	0 V to 5 V
SC-8B47-K-05	0 °C to 500 °C	0 V to 5 V
SC-8B47-K-13	-100 °C to 1350 °C	0 V to 5 V
SC-8B47-K-14	0 °C to 1200 °C	0 V to 5 V
SC-8B47-T-06	-100 °C to 400 °C	0 V to 5 V
SC-8B47-T-07	0 °C to 200 °C	0 V to 5 V

Voltage Output Modules (100 Hz Bandwidth)		
MCC part number	Input range	Output range
SC-8B49-02	±5 V	±5 V
SC-8B49-03	±5 V	0 V to 5 V
SC-8B49-05	±10 V	±10 V
SC-8B49-06	±10 V	0 V to 10 V

Voltage Input Modules (20 kHz Bandwidth)		
MCC part number	Input range	Output range
SC-8B50-01	±20 mV	±5 V
SC-8B50-02	±50 mV	±5 V
SC-8B50-03	±100 mV	±5 V
SC-8B51-01	±1 V	±5 V
SC-8B51-02	±5 V	±5 V
SC-8B51-03	±10 V	±5 V
SC-8B51-07	±20 V	±5 V
SC-8B51-09	±40 V	±5 V
SC-8B51-12	±60 V	±5 V

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## Analog and Digital Module Selection Guide



### Isolated SSR Digital I/O Modules

SSR digital I/O modules are relay control modules that provide 4000 Vrms of optical isolation. Digital input modules sense AC/DC voltages from field devices and convert them to digital TTL signals. Digital output modules use TTL signals to switch and control AC/DC loads.

A wide selection of SSR digital I/O modules are available to switch or sense a large range of AC or DC voltages.

Specifications for the SSR modules available for Measurement Computing products are listed below.



SSR Digital I/O Modules

Digital Input Sensing Modules						
MCC part number	Input type	Isolation voltage	Input voltage range	Input current @ max line	Turn-on time	Turn-off time
SSR-IAC-05	AC	4000 Vrms	90-140 VAC/DC	8 mA	20 mS	20 mS
SSR-IAC-05A	High voltage AC	4000 Vrms	180-280 VAC/DC	6 mA	20 mS	20 mS
SSR-IDC-05	DC	4000 Vrms	3-32 VDC	18 mA	0.20 mS	0.40 mS
SSR-IDC-05NP	Non-polarized, AC or DC	4000 Vrms	15-32 VAC, 10-32 VDC	18 mA	5 mS	5 mS

Digital Output Switching Modules						
MCC part number	Output type*	Isolation voltage	Load voltage range	Load current range	Turn-on time	Turn-off time
SSR-OAC-05	AC	4000 Vrms	24-140 VAC	0.03-3.5 A	8.33 mS	8.33 mS
SSR-OAC-05A	AC	4000 Vrms	24-280 VAC	0.03-3.5 A	8.33 mS	8.33 mS
SSR-ODC-05	DC	4000 Vrms	3-60 VDC	0.02-3.5 A	20 $\mu$ S	50 $\mu$ S
SSR-ODC-05A	DC	4000 Vrms	4-200 VDC	0.02-3.5 A	75 $\mu$ S	750 $\mu$ S

\* SPST, normally open

## Ordering Information

### 8B Analog I/O Modules

Part No.	Description
SC-8B30-01	Voltage input, 3 Hz, $\pm 10$ mV input range
SC-8B30-02	Voltage input, 3 Hz, $\pm 50$ mV input range
SC-8B30-03	Voltage input, 3 Hz, $\pm 100$ mV input range
SC-8B31-01	Voltage input, 3 Hz, $\pm 1$ V input range
SC-8B31-02	Voltage input, 3 Hz, $\pm 5$ V input range
SC-8B31-03	Voltage input, 3 Hz, $\pm 10$ V input range
SC-8B31-07	Voltage input, 3 Hz, $\pm 20$ V input range
SC-8B31-09	Voltage input, 3 Hz, $\pm 40$ V input range
SC-8B31-12	Voltage input, 3 Hz, $\pm 60$ V input range
SC-8B32-01	Current input, 3Hz, 4 mA to 20 mA input range
SC-8B32-02	Current input, 3Hz, 0 mA to 20 mA input range
SC-8B33-04	Isolated true RMS input, 10 kHz, 0 V to 150 V input range
SC-8B33-05	Isolated true RMS input, 10 kHz, 0 V to 300 V input range
SC-8B33-06	Isolated true RMS input, 10 kHz, 0 A to 1 A input range

Part No.	Description
SC-8B34-01	Linearized 2- or 3-wire RTD input, 3 Hz, $\pm 100$ °C input range
SC-8B34-02	Linearized 2- or 3-wire RTD input, 3 Hz, 0 °C to 100 °C input range
SC-8B34-03	Linearized 2- or 3-wire RTD input, 3 Hz, 0 °C to 200 °C input range
SC-8B34-04	Linearized 2- or 3-wire RTD input, 3 Hz, 0 °C to 600 °C input range
SC-8B35-01	Linearized 4-wire RTD input, 3 Hz, $\pm 100$ °C input range
SC-8B35-02	Linearized 4-wire RTD input, 3 Hz, 0 °C to 100 °C input range
SC-8B35-03	Linearized 4-wire RTD input, 3 Hz, 0 °C to 200 °C input range
SC-8B35-04	Linearized 4-wire RTD input, 3 Hz, 0 °C to 600 °C input range
SC-8B38-01	Strain gage input, 8 kHz, 3.33 V excitation, $\pm 10$ mV input range
SC-8B38-02	Strain gage input, 8 kHz, 10 V excitation, $\pm 30$ mV input range
SC-8B38-05	Strain gage input, 8 kHz, 10 V excitation, $\pm 20$ mV input range

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## Analog and Digital Module Selection Guide



### 8B Analog I/O Modules (continued)

Part No.	Description	Part No.	Description
SC-8B38-31	Strain gage input, 3 Hz, 3.33 V excitation, $\pm 10$ mV input range	SC-8B47-J-01	Linearized thermocouple input, J type, 3 Hz, 0 °C to 760 °C input range
SC-8B38-32	Strain gage input, 3 Hz, 10 V excitation, $\pm 30$ mV input range	SC-8B47-J-02	Linearized thermocouple input, J type, 3 Hz, -100 °C to 300 °C input range
SC-8B38-35	Strain gage input, 3 Hz, 10 V excitation, $\pm 20$ mV input range	SC-8B47-J-03	Linearized thermocouple input, J type, 3 Hz, 0 °C to 500 °C input range
SC-8B39-02	Current output, 100 Hz, $\pm 5$ V input range, 4 mA to 20 mA output range	SC-8B47-J-12	Linearized thermocouple input, J type, 3 Hz, -100 °C to 760 °C input range
SC-8B39-04	Current output, 100 Hz, $\pm 5$ V input range, 0 mA to 20 mA output range	SC-8B47-K-04	Linearized thermocouple input, K type, 3 Hz, 0 °C to 1000 °C input range
SC-8B39-07	Current output, 100 Hz, $\pm 5$ V input range, $\pm 20$ mA output range	SC-8B47-K-05	Linearized thermocouple input, K type, 3 Hz, 0 °C to 500 °C input range
SC-8B40-01	Voltage input, 1 kHz, $\pm 10$ mV input range	SC-8B47-K-13	Linearized thermocouple input, K type, 3 Hz, -100 °C to 1350 °C input range
SC-8B40-02	Voltage input, 1 kHz, $\pm 50$ mV input range	SC-8B47-K-14	Linearized thermocouple input, K type, 3 Hz, 0 °C to 1200 °C input range
SC-8B40-03	Voltage input, 1 kHz, $\pm 100$ mV input range	SC-8B47-T-06	Linearized thermocouple input, T type, 3 Hz, -100 °C to 400 °C input range
SC-8B41-01	Voltage input, 1 kHz, $\pm 1$ V input range	SC-8B47-T-07	Linearized thermocouple input, T type, 3 Hz, 0 °C to 200 °C input range
SC-8B41-02	Voltage input, 1 kHz, $\pm 5$ V input range	SC-8B49-02	Voltage output, 100 Hz, $\pm 5$ V input range, $\pm 5$ V output range
SC-8B41-03	Voltage input, 1 kHz, $\pm 10$ V input range	SC-8B49-03	Voltage output, 100 Hz, $\pm 5$ V input range, 0 V to 5 V output range
SC-8B41-07	Voltage input, 1 kHz, $\pm 20$ V input range	SC-8B49-05	Voltage output, 100 Hz, $\pm 10$ V input range, $\pm 10$ V output range
SC-8B41-09	Voltage input, 1 kHz, $\pm 40$ V input range	SC-8B49-06	Voltage output, 100 Hz, $\pm 10$ V input range, 0 V to 10 V output range
SC-8B41-12	Voltage input, 1 kHz, $\pm 60$ V input range	SC-8B50-01	Voltage input, 20 kHz, $\pm 20$ mV input range
SC-8B45-01	Frequency input, 500 Hz, 0 Hz to 500 Hz input range	SC-8B50-02	Voltage input, 20 kHz, $\pm 50$ mV input range
SC-8B45-02	Frequency input, 1 kHz, 0 kHz to 1 kHz input range	SC-8B50-03	Voltage input, 20 kHz, $\pm 100$ mV input range
SC-8B45-03	Frequency input, 2.5 kHz, 0 kHz to 2.5 kHz input range	SC-8B51-01	Voltage input, 20 kHz, $\pm 1$ V input range
SC-8B45-04	Frequency input, 5 kHz, 0 kHz to 5 kHz input range	SC-8B51-02	Voltage input, 20 kHz, $\pm 5$ V input range
SC-8B45-05	Frequency input, 10 kHz, 0 kHz to 10 kHz input range	SC-8B51-03	Voltage input, 20 kHz, $\pm 10$ V input range
SC-8B45-06	Frequency input, 25 kHz, 0 kHz to 25 kHz input range	SC-8B51-07	Voltage input, 20 kHz, $\pm 20$ V input range
SC-8B45-07	Frequency input, 50 kHz, 0 kHz to 50 kHz input range	SC-8B51-09	Voltage input, 20 kHz, $\pm 40$ V input range
SC-8B45-08	Frequency input, 100 kHz, 0 kHz to 100 kHz input range	SC-8B51-12	Voltage input, 20 kHz, $\pm 60$ V input range

### SSR Digital I/O Modules

Part No.	Description	Part No.	Description
SSR-IAC-05	AC sense input module, 90 to 140 VAC/VDC	SSR-OAC-05	AC switch output module, 24 to 140 VAC, 3.5 A @ 120 VAC, SPST normally open
SSR-IAC-05A	AC sense input module, 180 to 280 VAC/VDC	SSR-OAC-05A	AC switch output module, 24 to 280 VAC, 3.5 A @ 240 VAC, SPST normally open
SSR-IDC-05	DC sense input module, 3 to 32 VDC	SSR-ODC-05	DC switch output module, 3 to 60 VDC @ 3.5 A, SPST normally open
SSR-IDC-05NP	DC sense input module, 10 to 32 VDC non-polarized	SSR-ODC-05A	DC switch output module, 4 to 200 VDC @ 3.5 A, SPST normally open