



Discrete I/O Modules (Input)

RSTi discrete input modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (110 VAC, 220 VAC). The input modules are available in 4, 8 or 16 point density to optimize panel space.

	ST-1124	ST-1114	ST-1214	ST-1224	ST-1314
Product Name	5 VDC Input, 4 points Negative Logic	5 VDC Input, 4 points Positive Logic	12/24 VDC Input, 4 points Positive Logic	12/24 VDC Input, 4 points Negative Logic	48 VDC Input, 4 points Positive Logic
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Input Voltage Range	5 VDC (4.5 VDC to 5.5 VDC)	5 VDC (4.5 VDC to 5.5 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (10.2 VDC to 28.8 VDC)	48 VDC (34 VDC to 60 VDC)
Number of Points	4	4	4	4	4
Points per Common	4	4	4	4	4
Input Impedance	~1.3K ohms	~1.3K ohms	~5.1K ohms	~5.1K ohms	~12K ohms
Input Signal Delay	< 0.5msec	< 0.5msec	3.0msec	3.0msec	3.0msec
Filtering Time	Typical 1.5 msec. (software filtering)	Typical 1.5 msec. (software filtering)	Typical 1.5 msec.	Typical 1.5 msec.	
Trigger Voltage	On State: 2.4 VDC to 5.5 VDC OFF State: 0.8 VDC	On State: 2.4 VDC to 5.5 VDC OFF State: 0.8 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 48 VDC (34 VDC to 60 VDC) OFF State: 10 VDC
Maximum On State Current	4.5 mA per point at 5.5 VDC	4.5 mA per point at 5.5 VDC	6 mA per point at 28.8 VDC	6 mA per point at 28.8 VDC	4 mA per point at 48 VDC
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Input)

RSTi discrete input modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (110 VAC, 220 VAC). The input modules are available in 4, 8 or 16 point density to optimize panel space.

	ST-1324	ST-131F	ST-1218	ST-1228	ST-121F
Product Name	48 VDC Input, 4 points Negative Logic	48 VDC Input, 16 points Positive Logic	12/24 VDC Input, 8 points Positive Logic	12/24 VDC Input, 8 points Negative Logic	12/24 VDC Input, 16 points Positive Logic
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input	Discrete Input	Discrete Input
Input Voltage Range	48 VDC (34 VDC to 60 VDC)	48 VDC (34 VDC to 60 VDC)	24 VDC (10.2 VDC to 28.8 VDC)	24 VDC (10.2 VDC to 28.8 VDC)	24 VDC (10.2 VDC to 28.8 VDC)
Number of Points	4	16	8	8	16
Points per Common	4	16	8	8	16
Input Impedance	~12K ohms	~12K ohms	~5.1K ohms	~5.1K ohms	~5.1K ohms
Input Signal Delay	3.0msec	3.0msec	3.0msec	3.0msec	3.0msec
Filtering Time		Typical 1.5 msec.	Typical 1.5 msec.	Typical 1.5 msec.	Typical 1.5 msec.
Trigger Voltage	ON State: 48 VDC (34 VDC to 60 VDC) OFF State: 10 VDC	ON State: 48 VDC (34 VDC to 60 VDC) OFF State: 10 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC
Maximum On State Current	4 mA per point at 48 VDC	2.5 mA per point at 60 VDC	6 mA per point at 28.8 VDC	6 mA per point at 28.8 VDC	6 mA per point at 28.8 VDC
Connector Type	Spring Clamp Terminal Block	Connector Type Hirose, HIF3BA-20D-2.54DSA	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Connector Type Hirose, HIF3BA-20D-2.54DSA
Internal Power Used (5 VDC loading)	35 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Input)

RSTi discrete input modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (110 VAC, 220 VAC). The input modules are available in 4, 8 or 16 point density to optimize panel space.

	ST-122F	ST-1804	ST-1904
Product Name	12/24 VDC Input, 16 points Negative Logic	110 VAC Input, 4 points (47 to 63Hz)	240 VAC Input, 4 points (47 to 63Hz)
Lifecycle Status	Active	Active	Active
Module Type	Discrete Input	Discrete Input	Discrete Input
Input Voltage Range	24 VDC (10.2 VDC to 28.8 VDC)	120 VAC (85 VAC to 132 VAC)	240 VAC (170 VAC to 264 VAC)
Number of Points	16	4	4
Points per Common	16	4	4
Input Impedance	~5.1K ohms	~11K ohms	~22K ohms
Input Signal Delay	3.0msec	10.0msec	10.0msec
Filtering Time	Typical 1.5 msec.		
Trigger Voltage	ON State: 10.2 to 28.8 VDC OFF State: 5 VDC	ON State: 85 VAC to 132 VAC OFF State: 60 VAC	ON State: 170 VAC to 264 VAC OFF State: 130 VAC
Maximum On State Current	6 mA per point at 28.8 VDC	8 mA per point at 132 VAC	12 mA per point at 264 VAC
Connector Type	Connector Type Hirose, HIF3BA-20D-2.54DSA	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	45 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum	35 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Input)

RSTi analog input modules are available in a wide range of voltage and current signals. Analog input modules are available in 12 bit or 14 bit resolution.

	ST-3114	ST-3118	ST-3134	ST-3214	ST-3218
Product Name	Analog 0 to 20 mA, 12bit Input, 4 channels	Analog 0 to 20 mA, 12bit Input, 8 channels	Analog 0 to 20 mA, 14bit Input, 4 channels	Analog 4 to 20 mA, 12bit Input, 4 channels	Analog 4 to 20 mA, 12bit Input, 8 channels
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input	Analog Input
Range	0 to 20 mA Range	0 to 20 mA Range	0 to 20 mA Range	4 to 20 mA Range	4 to 20 mA Range
Number of Points	4	8	4	4	8
Points per Common	4	8	4	4	8
Diagnostic Supported				Open Wire if < 3 mA	
Update Rate	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels
Resolution	12 bits: 4.88 microAmp/bit	12 bits: 4.88 microAmp/bit	14 bits: 1.22 microAmp/bit	12 bits: 3.9 microAmp/bit	12 bits: 3.9 microAmp/bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Input Impedance	120 ohms	120 ohms	120 ohms	120 ohms	120 ohms
Internal Power Used (5 VDC loading)	165 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Input)

RSTi analog input modules are available in a wide range of voltage and current signals. Analog input modules are available in 12 bit or 14 bit resolution.

	ST-3234	ST-3274	ST-3424	ST-3428	ST-3444
Product Name	Analog 4 to 20 mA, 14bit Input, 4 channels	Analog 4 to 20 mA, 12bit Input, 4 channels (connector type)	Analog 0 to 10 VDC, 12bit Input, 4 channels	Analog 0 to 10 VDC, 12bit Input, 8 channels	Analog 0 to 10 VDC, 14bit Input, 4 channels
Lifecycle Status	Active	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input	Analog Input
Range	4 to 20 mA Range	4 to 20 mA Range	0 to 10 VDC	0 to 10 VDC	0 to 10 VDC
Number of Points	4	4	4	8	4
Points per Common	4	4	4	8	4
Diagnostic Supported	Open Wire if < 3 mA	Open Wire if < 3 mA			
Update Rate	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels
Resolution	14 bits: 0.9 microAmp/bit	12 bits: 3.9 microAmp/bit	12 bits: 2.44 mV/bit	12 bits: 2.44 mV/bit	14 bits: 0.6 mV/bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Input Impedance	120 ohms	120 ohms	500K ohms	500K ohms	500K ohms
Internal Power Used (5 VDC loading)	165 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	165 mA @ 5.0 VDC Maximum	60 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Requires Sensor Connect 3M Mini-Clamp Plug, 37104 Series	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Analog I/O Modules (Input)

RSTi analog input modules are available in a wide range of voltage and current signals. Analog input modules are available in 12 bit or 14 bit resolution.

	ST-3524	ST-3544	ST-3624	ST-3644
Product Name	Analog -10 to 10 VDC, 12bit Input, 4 channels	Analog -10 to 10 VDC, 14bit Input, 4 channels	Analog 0 to 5 VDC, 12bit Input, 4 channels	Analog 0 to 5 VDC, 14bit Input, 4 channels
Lifecycle Status	Active	Active	Active	Active
Module Type	Analog Input	Analog Input	Analog Input	Analog Input
Range	-10 to 10 VDC	-10 to 10 VDC	0 to 5 VDC	0 to 5 VDC
Number of Points	4	4	4	4
Points per Common	4	4	4	4
Diagnostic Supported				
Update Rate	4msec/All channels	4msec/All channels	4msec/All channels	4msec/All channels
Resolution	12 bits: 4.8 mV/bit	14 bits: 1.2 mV/bit	12 bits: 1.22 mV/bit	14 bits: 0.3 mV/bit
Accuracy	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C	±0.1% Full Scale @ 25°C ±0.3% Full Scale @ 0°C, 60°C
Input Impedance	500K ohms	500K ohms	500K ohms	500K ohms
Internal Power Used (5 VDC loading)	170 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum	170 mA @ 5.0 VDC Maximum
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-2114	ST-2124	ST-2314	ST-2324
Product Name	5 VDC/20 mA TTL Inverting Output, 4 points	5 VDC, 4 Points, TTL Non-Inverting Output (Default: 0V)	4 points, 24 VDC Negative Logic, Output 0.5 Amps	4 points, 24 VDC Positive Logic, Output 0.5 Amps
Lifecycle Status	Active	Active	Active	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	5 VDC nominal, Min. 4.5 VDC to Max. 5.5 VDC	5 VDC nominal, Min. 4.5 VDC to Max. 5.5 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC
Number of Points	4	4	4	4
Points per Common	4	4	4	4
Diagnostic Supported				
Protection	Output Short-Circuit protection Field Power Over Voltage Protection (about 6.7 VDC) Field Power Reverse Voltage Protection	Output Short-Circuit protection Field Power Over Voltage Protection (about 6.7 VDC) Field Power Reverse Voltage Protection	Over Temperature shut down: Min. 150°C Over Current Limit : Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max.7.5A Per Channel Short Circuit Protection ESD Protection: 5.0Kv
ON Voltage/OFF Voltage	Min. 4.8 VDC @ 5 VDC, 5 mA	Max. 0.3 VDC @ 0 VDC, 5 mA		
Load Current per Point	Max. 20 mA Per Channel Max. 80 mA All Common	Max. 20 mA Per Channel Max. 80 mA All Common	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 0.5A Per Channel Max. 2.0A All Common
Output Inrush Current	40 mA For 10ms, Repeatable Every 1 Sec.	40 mA For 10ms, Repeatable Every 1 Sec.		
Response Time (ms)	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON : Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms
Polarity	TTL Inverting	TTL Non-Inverting	Negative Logic	Positive Logic
Field Power Requirement	5 VDC (4.5 VDC to 5.5 VDC)	5 VDC (4.5 VDC to 5.5 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation			5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	50 mA @ 5.0 VDC Maximum	50 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70



Discrete I/O Modules (Output)

RSTi discrete output modules are available for a wide range of applications requiring DC voltages (5 VDC, 24 VDC, 48 VDC) and AC voltages (12 VAC, 125 VAC). The modules are available in 4, 8 or 16 point density to optimize panel space. Relay output modules are also available. The ST-2792 has an added feature of manual/automatic override.

	ST-2414	ST-2424	ST-2514	ST-2524
Product Name	4 points, 24 VDC Negative Logic, Output 0.5 Amps with Diagnostics	4 points, 24 VDC Positive Logic, Output 0.5 Amps with Diagnostics	4 points, 24 VDC Negative Logic, Output 2 Amps with Diagnostics	4 points, 24 VDC Positive Logic, Output 2 Amps with Diagnostics
Lifecycle Status	Active	Active	Active	Active
Module Type	Digital Outputs	Digital Outputs	Digital Outputs	Digital Outputs
Output Range	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC	24 VDC nominal, Min. 11 VDC to Max. 28.8 VDC
Number of Points	4	4	4	4
Points per Common	4	4	4	4
Diagnostic Supported	Point Fault Reported to Network Interface	Point Fault Reported to Network Interface	Point Fault Reported to Network Interface	Point Fault Reported to Network Interface
Protection	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max.7.5A Per Channel Short Circuit Protection ESD Protection: 5.0Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 3.5A/Max. 7A Per Channel Short Circuit Protection ESD Protection: 16.5Kv	Over Temperature shut down: Min. 150°C Over Current Limit: Min. 6A/Max. 15A Per Channel Short Circuit Protection ESD Protection: 5.0Kv
ON Voltage/OFF Voltage				
Load Current per Point	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 0.5A Per Channel Max. 2.0A All Common	Max. 2A Per Channel Max. 8A All Common	Max. 2A Per Channel Max. 8A All Common
Output Inrush Current				
Response Time (ms)	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON: Max. 0.3ms ON to OFF: Max. 0.3ms	OFF to ON : Max. 0.3ms ON to OFF: Max. 0.3ms
Polarity	Negative Logic	Positive Logic	Negative Logic	Positive Logic
Field Power Requirement	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)	24 VDC (11 VDC to 28.8 VDC)
Power Dissipation	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel	5 mA @ 28.8 VDC Per Channel
Connector Type	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block	Spring Clamp Terminal Block
Internal Power Used (5 VDC loading)	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum	45 mA @ 5.0 VDC Maximum
Dimensions (H x W x D) in mm	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70	99 x 12 x 70