

Yes: Supported, ---: Not supported

Function	Unit		Analog I/O Slave Units					
			Units with 2-tier Terminal block		Units with e-CON Connectors		Units with MIL Connectors	
			CRT1-AD04 CRT1-DA02		CRT1-VAD04S CRT1-VDA02S		CRT1-VAD04ML CRT1-VDA02ML	
	Input Units	Output Units	Input Units	Output Units	Input Units	Output Units		
Operation Time Monitor	---							
Contact Operation Monitor*	---							
Total ON Time Monitor*	---							
Automatic Baud Rate Detection	Yes							
Unit Conduction Time Monitor	Yes							
Naming Units	Yes							
Naming Connected Devices	Yes							
Network Power Voltage Monitor	Yes							
I/O Power Status Monitor	---							
Communications Error History Monitor	Yes							
Input Filter	---							
Communications Error Output	---	Yes	---	Yes	---	Yes		
Preventing Malfunctions Caused by Inrush Current at I/O Startup	---							
Power Short-circuit Detection	---							
Unconnected Line Detection	---							
Load Short-circuit Detection	---							
Disconnected Line Detection	Yes	---	Yes	---	Yes	---		
Removable Terminal Block Structure	Yes							
Expansion Using Expansion Units	---							
Scaling	Yes							
Last Maintenance Date	Yes							
Cumulated Count	Yes							
Moving Average	Yes	---	Yes	---	Yes	---		
Setting the Number of AD Conversion Points	Yes	---	Yes	---	Yes	---		
Rate of Change	Yes	---	Yes	---	Yes	---		
Comparator	Yes	---	Yes	---	Yes	---		
Peak/Bottom Hold	Yes	---	Yes	---	Yes	---		
Top/Valley Hold	Yes	---	Yes	---	Yes	---		
User Adjustment	Yes							
Top/Valley Count	---							
Temperature Range Total Time Count	---							
Input Temperature Variation Detection	---							
Input Error Detection Disable Function	---							

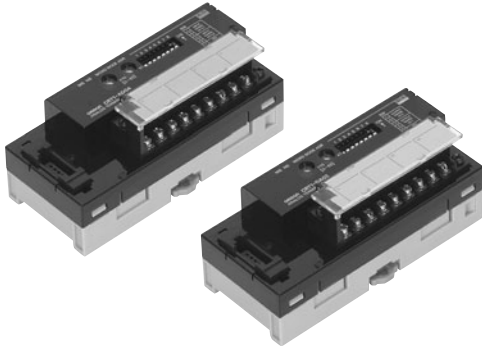
* The Contact Operation Monitor and the Total ON Time Monitor cannot be used at the same time for the same contact.

Analog I/O Slave Units CRT1-AD04/DA02

Convert to Smart for Smarter Processing! Simple and Intelligent Analog I/O Slaves

In addition to analog data input and output, Analog I/O Slave Units can use a variety of functions internally, such as scaling, that previously required processing in ladder programming at the host PLC.

- Analog processing equivalent to digital panel meters is supported, such as with the scaling function.
- Use deviation and cumulative counter functions for analog calculations, such as for equipment error prediction and flow rate applications.
- The user adjustment function can be used to compensate offsets in inputs or outputs.
- Easily change the input or output range with a switch setting.



Ordering Information

Name	Specifications		Model
Analog I/O Slave Units *	Analog inputs	4 inputs	CRT1-AD04
	Analog outputs	2 outputs	CRT1-DA02

* These Units are also available with a DCN-TB4 Terminal Conversion Adapter included in the package. Add "(-B)" to the end of the model number to receive the Adapter as well.

Performance Specifications

For Basic Performance Specifications of Slave Units, refer to page 30.

Input Section Specifications

Item	Specification		
	Voltage input	Current input	
Model	CRT1-AD04		
Input signal ranges	0 to 5 V 1 to 5 V 0 to 10 V -10 to 10 V	0 to 20 mA 4 to 20 mA	
Maximum signal input	±15 V	±30 mA	
Input impedance	1 M Ω min.	Approx. 250 Ω	
Resolution	1/6,000 (full scale)		
Overall accuracy	25°C	±0.3% FS	±0.4% FS
	-10 to 55°C	±0.6% FS	±0.8% FS
Conversion cycle	1 ms/1 points		
AD conversion data	-10 to 10 V range: F448 to 0BB8 hex full scale (-3,000 to 3,000) Other ranges: 0000 to 1770 hex full scale (0 to 6,000) AD conversion range: ±5% FS of the above data ranges.		
Isolation method	Photocoupler isolation (between input and communications lines) No isolation between input signal wires		
Mounting	DIN Track mounting		
Power supply type	Multi-power supply		
Communications power current consumption	110 mA max. for 24-VDC power supply 175 mA max. for 14-VDC power supply		
Weight	153 g		

Output Section Specifications

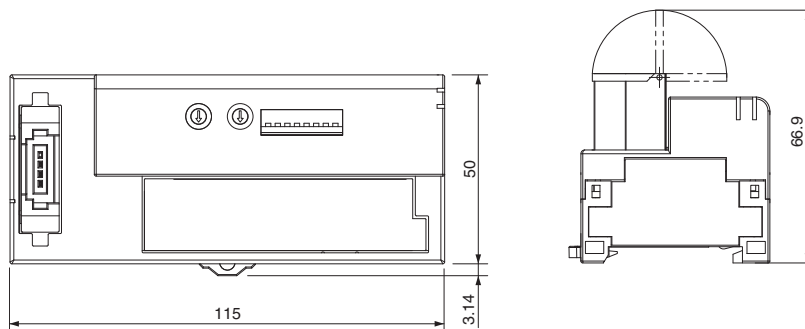
Item	Specification		
	Voltage output	Current output	
Model	CRT1-DA02		
Output signal ranges	0 to 5 V 1 to 5 V 0 to 10 V -10 to 10 V	0 to 20 mA 4 to 20 mA	
External output allowable load resistance	1 kΩ min.	600 Ω max.	
Resolution	1/6,000 (full scale)		
Overall accuracy	25°C	±0.4% FS	±0.4% FS *
	-10 to 55°C	±0.8% FS	±0.8% FS *
Conversion cycle	2 ms/2 points		
DA conversion data	-10 to 10 V range: F448 to 0BB8 hex full scale (-3,000 to 3,000) Other ranges: 0000 to 1770 hex full scale (0 to 6,000) AD conversion range: ±5% FS of the above data ranges.		
Isolation method	Photocoupler isolation (between output and communications lines) No isolation between output signal wires.		
Mounting	DIN Track mounting		
Power supply type	Multi-power supply		
Communications power current consumption	125 mA max. for 24-VDC power supply 205 mA max. for 14-VDC power supply		
Weight	155 g		



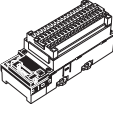
* The specified accuracy does not apply below 0.2 mA when using the 0 to 20 mA range.

Dimensions

(Unit: mm)

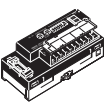


CRT1-AD04
CRT1-DA02



Name	Appearance	Specifications			Model	Standards	
MIL Connector		Inputs	16 inputs	NPN	---	CRT1-VID16ML *	CE, UC, UC1, N
				PNP		CRT1-VID16ML-1 *	
		Outputs	16 outputs	NPN		CRT1-VOD16ML *	
				PNP		CRT1-VOD16ML-1 *	
MIL Connector		Inputs	32 inputs	NPN	---	CRT1-VID32ML *	CE, UC, UC1, N
				PNP		CRT1-VID32ML-1 *	
		Outputs	32 outputs	NPN		CRT1-VOD32ML *	
				PNP		CRT1-VOD32ML-1 *	
		Inputs/Outputs	16 inputs/16 outputs	NPN		CRT1-VMD32ML *	
				PNP		CRT1-VMD32ML-1 *	
Clamp Terminal Blocks		Inputs	8 inputs	NPN	---	CRT1-ID08SL	U, CE, N
				PNP		CRT1-ID08SL-1	
		Outputs	8 outputs	NPN		CRT1-OD08SL	
				PNP		CRT1-OD08SL-1	
		Inputs	16 inputs	NPN		CRT1-ID16SL	
				PNP		CRT1-ID16SL-1	
		Outputs	16 outputs	NPN		CRT1-OD16SL	
				PNP		CRT1-OD16SL-1	
		Inputs/Outputs	8 inputs/8 outputs	NPN		CRT1-MD16SL	
				PNP		CRT1-MD16SL-1	

* These Units are also available with a DCN-TB4 Terminal Conversion Adapter included in the package. Add "(-B)" to the end of the model number to receive the Adapter as well.

● Analog I/O Slave Units

Name	Appearance	Specifications		Model	Standards
Analog I/O Slave Units		Analog inputs	4 inputs	CRT1-AD04 *	CE, U, U1, C, N
		Analog outputs	2 outputs	CRT1-DA02 *	
MIL Connector Type		Analog inputs	4 inputs	CRT1-VAD04ML	CE, UC, UC1
		Analog outputs	2 outputs	CRT1-VDA02ML	
e-CON Connector Type		Analog inputs	4 inputs	CRT1-VAD04S	
		Analog outputs	2 outputs	CRT1-VDA02S	

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