

Reference Manual

CONTEC Data Collector for Analog I/O

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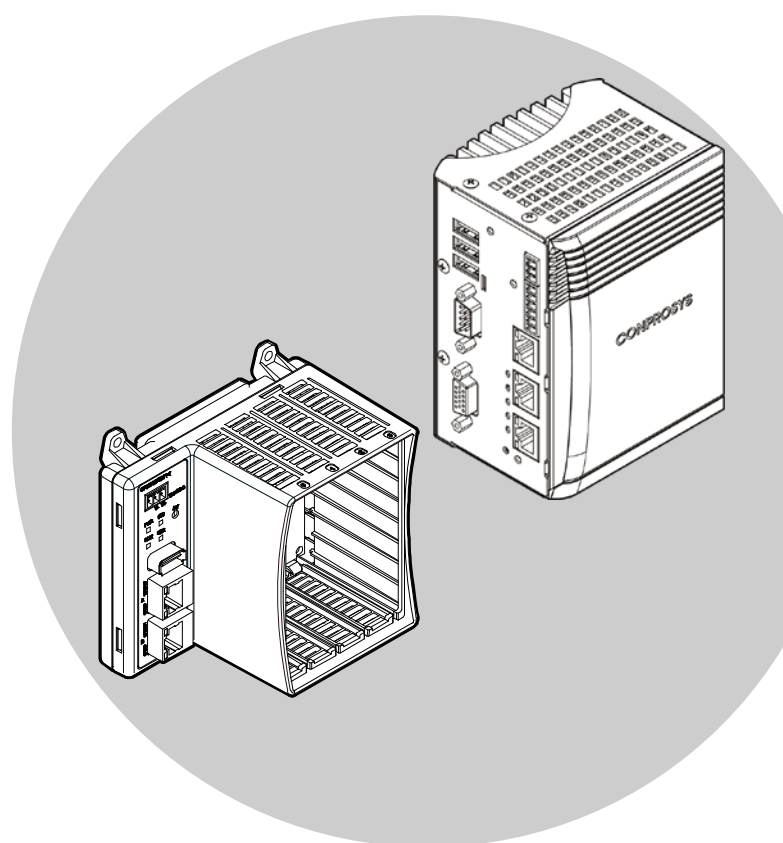


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Overview

This manual provides the information and specifications of the product. Make sure you read this before actual use.

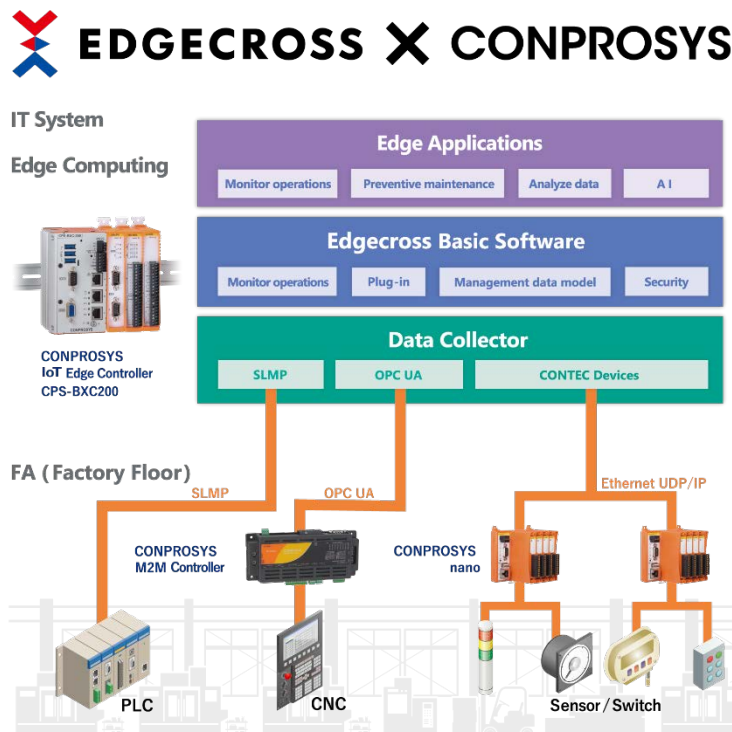
1. Product Overview

1. About Edgexcross

Edgexcross is a standard open edge computing software platform going beyond the bounds of companies and industries that promote the use of IoT at manufacturing sites. It connects the edge computing area between FA and IT systems and realizes seamless data coordination, which is independent from hardware.

Since 2017, which is when “Edgexcross Consortium” was establishment, operation monitoring, preventive maintenance and data analysis software, or supporting industrial computers have been released, and the applications for those have expanded in the field of edge applications. On the other hand, while data were collected from industrial networks such as OPC UA in the area of FA field, it was difficult to collect the data from sensors or switch circuits that were incompatible with industrial networks due to the lack of supporting devices or software.

With the “CONTEC Data Collector” software, you can utilize our extensive measuring controllers and remote I/O devices on the Edgexcross platform, and collect data from sensors or switch circuits that are incompatible with industrial networks. This software enhances the application range of the Edgexcross platform, and contributes to the development for various industries as well as the manufacturing industry.



2. About “CONTEC Data Collector for Analog I/O”

[CONTEC Data Collector for Analog I/O] is software that implements cooperation between the Edgecross basic software platform and the data of our analog I/O measurement control and remote I/O devices.

By using this Data Collector, the collection function, read function, and write function can be used for compatible analog I/O devices.

2.Data Collector Specifications

1. Common Specifications

Item		Specification
Support Language		English
Collection Function	Collection Interval	100 msec to 900 msec 1 sec to 3600 sec
	Data Type	REAL
Read Function	Collection Interval	100 msec to 900 msec 1 sec to 3600 sec
	Data Type	REAL
Write Function	Collection Interval	100 msec to 900 msec 1 sec to 3600 sec
	Data Type	REAL
Support Device	CPS-BXC200 + Support I/O Module	CPS-AI-1608LI CPS-AI-1608ALI CPS-AO-1604LI CPS-AO-1604VLI
	CPSN-MCB271-S1-041, CPSN-MCB271-1-041 + Support I/O Module	CPSN-AI-1208LI CPSN-AI-2408LI

2. Device Support Function

Device	Collection Function	Read Function	Write Function
CPS-AI-1608LI	Yes	Yes	No
CPS-AI-1608ALI	Yes	Yes	No
CPS-AO-1604LI	No	No	Yes
CPS-AO-1604VLI	No	No	Yes
CPSN-AI-1208LI	Yes	Yes	No
CPSN-AI-2408LI	Yes	Yes	No

3. Analog Input Range

The analog input range that can be set for each device is as follows.

Device	Range	Remarks
CPS-AI-1608LI	-10 to 10V	
CPS-AI-1608ALI	0 to 20mA	
CPSN-AI-1208LI	-10 to 10V	In addition, device switch settings are required.
	-5 to 5V	
	-2.5 to 2.5V	
	0 to 10V	
	-20 to 20mA	
CPSN-AI-2408LI	-10 to 10V	In addition, device switch settings are required.
	-5 to 5V	
	-2.5 to 2.5V	
	0 to 10V	
	0 to 5V	
	0 to 20mA	
	-20 to 20mA	

4. Analog Output Range

The analog output range that can be set for each device is as follows.

Device	Range	Remarks
CPS-AO-1604LI	0 to 20mA	
CPS-AO-1604VLI	-10 to 10V	

3.Function

1. Collection Function

Analog input from the specified channel of the device at the set time interval.

Analog input method, and analog input range can be selected. *1

2. Read Function

Analog input from the specified channel of the device at the timing requested by the Edgecross basic software.

Analog input method, and analog input range can be selected. *1

3. Write Function

Analog output the specified data to the specified channel of the device at the timing requested by the Edgecross basic software.

Analog output range can be selected. *1

*1 The device must have this function.

Software

This section provides the information on the device driver and the data collector software.

1.About Device Driver

1. Installation for Device Driver

It is necessary to install device driver for analog input devices before using [CONTEC Data Collector for Analog I/O]. If device driver has been already installed and enabled, please proceed to the next item.

◆ Download Device Driver

Please download device driver from following URL.

- 1** Access to <https://www.contec.com/download/list/driver-software/apipac/>.
Please download [Run-Time Environment (Run-Time only)] of API-AIO(WDM).
- 2** Expand the downloaded file to a suitable place.
- 3** For details on how to install device driver, please refer to the reference manual for each device.

2. Installation for Data Collector

- 1** Expand the downloaded Data Collector package to a suitable place.
- 2** Execute the following expanded file.
¥Installer¥AIO¥setup.exe
- 3** Follow the instructions to install.
When the installation is complete, [CONTEC Data Collector] will be added to the start menu and this Reference Manual will be stored in the folder.

3. Uninstall

Select [CONTEC Data Collector for Analog I/O] from [Add/Remove Programs] in [Control Panel] and uninstall it.

2.About Data Collector

The data collector settings are described here.

1. Parameter Setting

◆ Communication Parameters

Select and set the device which is to be used with this Data Collector.

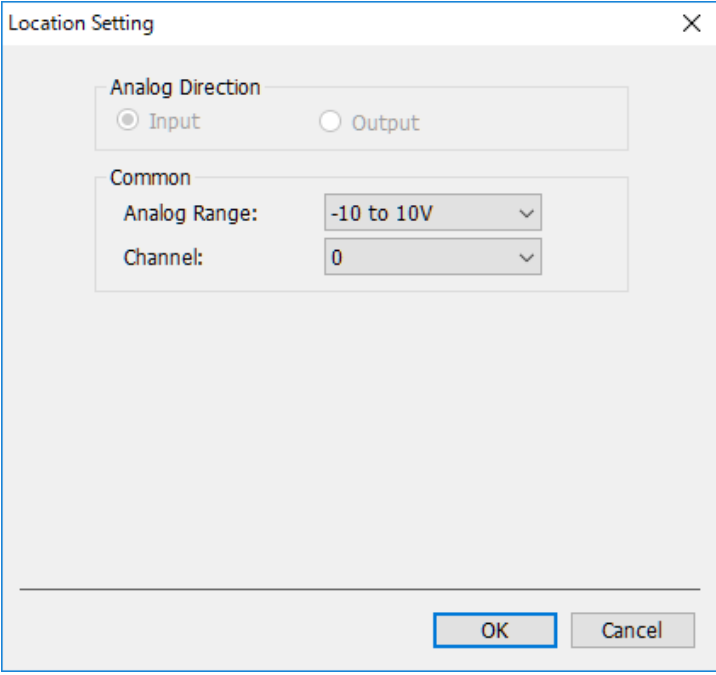
Setting Item	Description
Device Name	Select the device you want to use from the list of device names set in the driver.
Analog Input Method	Select the analog input method. It cannot be set if the device cannot be used.

◆ Collection Parameters

Set the data collection interval.

◆ Location Parameters

Set the actual I/O target for the selected device.

A screenshot of the 'Location Setting' dialog box. The dialog has a title bar with a close button (X). It contains two main sections: 'Analog Direction' with radio buttons for 'Input' (selected) and 'Output'; and 'Common' with two dropdown menus. The 'Analog Range' dropdown is set to '-10 to 10V' and the 'Channel' dropdown is set to '0'. At the bottom right are 'OK' and 'Cancel' buttons.

Location Setting

Analog Direction
☒ Input ☐ Output

Common
Analog Range: -10 to 10V
Channel: 0

OK Cancel

Setting Item	Description
I/O Direction	For analog input, select [Input]. For analog output, select [Output]. If only one of these functions can be used depending on the function and device used, the setting value is fixed.
Analog Range	Select the range.
Channel	Select the target channel for analog input or analog output.

2. Error Handling

◆ Supplement on Error Code

If an error occurs in the device driver, as detailed information, [Driver API name] and [Driver API error] items are displayed, and the API name, error code, and error code description of the device driver in which the error occurred are displayed.

When you make an inquiry, please provide this information together to make it easier to understand the details of the phenomenon.

Display contents example

1 Overview
Connection Processing error

2 Event code
2200

3 Detailed information
[Process Flow information]
Source function :Data Collection Process Flow type :Data logging flow Data logging/diagnosis flow No. :1 Process No. :1 Target device setting No. :1

[Driver API name]
AioInit()

[Driver API error]
10000: The devicename which wasn't registered by a device manager or a setup-tool was specified

4 Cause
An error occurred in the driver.

3. Details of Error Code [Data Collector]

Error code [Hex]	Description (Overview / Cause)
1001	Driver initialization error
	Read data No. is incorrect.
1002	Collection data No. error
	Collection data No. is incorrect.
1003	Read data No. error
	Read data No. is incorrect.
1004	Write data No. error
	Write data No. is incorrect.
1005	Collection parameter error
	Collection parameter is incorrect.
1006	Connection status notification error
	Connection status notification failed.
1007	Event notification function registration error
	Error occurred in communication driver.
1008	Communication parameter acquisition failure
	Failed to get the communication parameter.
1009	Data parameter acquisition failure
	Failed to get the data parameter.
1300	Collection processing error
	Parameter is incorrect.
1400	Read processing error
	Parameter is incorrect.
1500	Write processing error
	Parameter is incorrect.
2200	Connection processing error
	An error occurred in the driver.
2300	Disconnection processing error
	An error occurred in the driver.
2400	Collection processing error
	An error occurred in the driver.
2500	Read processing error
	An error occurred in the driver.
2600	Write processing error
	An error occurred in the driver.

4. Details of Error Code [Driver]

Value [Dec]	Description
0	Normality completion
1	Failed in the acquisition of the resource When you install the hardware, the resource of I/O address, interrupt level cannot be retrieved. Check the resource in Device Manager.
2	Failed in the registration of the interruption routine The device may be being used by such another driver as API-AIO. Please remove other drivers by using Device Manager. And, if the device is with interrupt jumper, please do the necessary settings.
3	Failed in the allocation of the memory Memory is insufficient. Terminate the unnecessary applications.
4	Failed in the access of registry Please contact CONTEC Information Center.
7	Execute AioResetDevice function because the device has recovered from standby mode
8	Initialization failed because caio.sys is not found
9	Initialization failed because the file version of caio.dll cannot be acquired
10	Initialization failed because the file version of caio.sys cannot be acquired
11	Initialization failed because the file version of caio.dll is not same as caio.sys
10000	The device name which wasn't registered by a device manager was specified Specify the right device name.
10001	Invalid ID was specified Please use the ID retrieved from Aiolnit to specify the ID in function.
10002	AIO driver can't be called At first, perform the function Aiolnit.
10003	Failed in the creation of the file Please confirm whether the device driver has been started up normally in Device Manager. If the device driver has not been started up normally, delete the device from Device Manager, and recognize the device again.
10004	Failed in the closing of the file There is a possibility that you performed termination processing for a device which was not initialized. This error may be ignored.
10005	Failed in the creation of the thread Please contact CONTEC Information Center.
10006	Device not found Make sure that the device is registered in device manager.
10007	Pointer to DeviceName is NULL
10008	Pointer to Device is NULL
10009	Device not found Make sure that the device is registered in device manager.
10010	Pointer to DeviceName is NULL
10011	Pointer to Device is NULL
10012	Pointer to BoardId is NULL

Value [Dec]	Description
10013	Could not get device type
10014	Pointer to Device is NULL
10015	Pointer to DeviceType is NULL
10100	A device name isn't stored in DeviceName The string DeviceName is empty. Please store the device name into it.
10101	Pointer to Id is NULL Specify the address of variable to parameter.
10180	Pointer to ErrorString is NULL Specify the address of variable to parameter.
10220	The value of Offset is a minus Specify a positive number to Offset.
10240	The value of Offset is a minus Specify a positive number to Offset.
10241	Pointer to Data is NULL Specify the address of variable to parameter.
10242	The value of Flag is outside the designated range of the function
10260	The value of Offset is a minus Specify a positive number to Offset.
10261	Pointer to Data is NULL Specify the address of variable to parameter.
10262	The value of Flag is outside the designated range of the function
10280	The value of Offset is a minus Specify a positive number to Offset.
10281	The value of Flag is outside the designated range of the function
10300	The value of Offset is a minus Specify a positive number to Offset.
10301	The value of Flag is outside the designated range of the function
10320	The value of Offset is a minus Specify a positive number to Offset.
10321	The value of Flag is outside the designated range of the function
10340	The value of Signal is outside the designated range of the function
10341	The value of Value is outside the designated range of the function
10350	The value of Signal is outside the designated range of the function
10351	Pointer to Value is NULL
11000	The value of AiInputMethod is outside the designated range of the function Set 0(single end input) or 1(differential input) to AiInputMethod.
11010	Pointer to AiInputMethod is NULL Specify the address of variable to parameter.
11020	The value of AiChannels is outside the designated range of the function Specify the number of analog input channels in range: 1 <= AiChannels <= Max number of channels.
11030	Pointer to AiChannels is NULL Specify the address of variable to parameter.

Value [Dec]	Description
11040	The value of AiChennal is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
11041	The value of AiRange is outside the designated range of the function
11050	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
11051	Pointer to AiRange is NULL Specify the address of variable to parameter.
11060	The value of AiRange is outside the designated range of the function
11080	The value of AiMemoryType is outside the designated range of the function Set 0(FIFO) or 1(RING) to AiMemoryType.
11090	Pointer to AiMemoryType is NULL Specify the address of variable to parameter.
11100	The value of AiRepeatTimes is outside the designated range of the function AiRepeatTimes should be set to a value greater than or equal to 0.
11110	Pointer to AiRepeatTimes is NULL Specify the address of variable to parameter.
11120	The value of AiClockType is outside the designated range of the function Set 0(clock for conversion) or 1(external clock) to AiClockType.
11130	Pointer to AiClockType is NULL Specify the address of variable to parameter.
11140	The value of AiSamplingClock is outside the designated range of the function AiSamplingClock should be set to a value greater than or equal to 1.
11150	Pointer to AiSamplingClock is NULL Specify the address of variable to parameter.
11160	The value of AiStartTrigger is outside the designated range of the function
11170	Pointer to AiStartTrigger is NULL Specify the address of variable to parameter.
11180	The value of AiChennal is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
11181	The value of AiDirection is outside the designated range of the function Set 0(both sides), 1(rising) or 2(falling) to AiDirection.
11190	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <=AiChannel <= Max channel.
11191	Pointer to AiStartLevel is NULL Specify the address of variable to parameter.
11192	Pointer to AiDirection is NULL Specify the address of variable to parameter.
11260	The value of AiStopTrigger is outside the designated range of the function Specify the condition for stopping conversion in range: 0 <= AiStopTrigger <= 4.
11270	Pointer to AiStopTrigger is NULL Specify the address of variable to parameter.
11280	The value of AiStopTimes is outside the designated range of the function AiStopTimes should be set to a value greater than or equal to 1.

Value [Dec]	Description
11290	Pointer to AiStopTimes is NULL Specify the address of variable to parameter.
11300	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
11301	The value of AiDirection is outside the designated range of the function Set 0(both sides), 1(rising) or 2(falling) to AiDirection.
11310	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
11311	Pointer to AiStopLevel is NULL Specify the address of variable to parameter.
11312	Pointer to AiDirection is NULL Specify the address of variable to parameter.
11360	The value of AiStopDelayTimes is outside the designated range of the function AiStopDelayTimes should be set to a value greater than or equal to 0.
11370	Pointer to AiStopDelayTimes is NULL Specify the address of variable to parameter.
11390	Pointer to AiEvent is NULL Specify the address of variable to parameter.
11400	The value of AiSamplingTimes is outside the designated range of the function AiSamplingTimes should be set to a value greater than or equal to 0.
11410	Pointer to AiSamplingTimes is NULL Specify the address of variable to parameter.
11420	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
11421	Pointer to AiData is NULL Specify the address of variable to parameter.
11440	The value of AiChannels is outside the designated range of the function Specify the number of channels setting in range: 1 <= AiChannels <= Max number of channels.
11441	Pointer to AiData is NULL Specify the address of variable to parameter.
11460	The thread can't be carried out
11480	A driver inner error occurred
11481	A driver inner error occurred
11482	A driver inner error occurred
11483	A driver inner error occurred
11500	Pointer to AiStatus is NULL Specify the address of variable to parameter.
11520	Pointer to AiSamplingCount is NULL Specify the address of variable to parameter.
11540	Pointer to AiRepeatCount is NULL Specify the address of variable to parameter.
11560	Pointer to AiStopTriggerCount is NULL Specify the address of variable to parameter.

Value [Dec]	Description
11580	Pointer to AiSamplingTimes is NULL Specify the address of variable to parameter.
11581	Pointer to AiData is NULL Specify the address of variable to parameter.
11720	Pointer to AiMaxChannels is NULL Specify the address of variable to parameter.
11740	Pointer to AiResolution is NULL Specify the address of variable to parameter.
11760	The value of AiChannel is outside the designated range of the function Specify the analog input channel in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11761	The value of Sequence is outside the designated range of the function Specify the order for channels to convert in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11770	The value of AiChannel is outside the designated range of the function Specify the analog input channel in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11771	Pointer to Sequence is NULL Specify the address of variable to parameter.
11820	The value of AiMemorysize is outside the designated range of the function
11830	Pointer to AiMemorySize is NULL
11840	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11841	Pointer to AiData is NULL Specify the address of variable to parameter.
11860	The value of AiChannels is outside the designated range of the function Specify the number of channels setting in range: $1 \leq \text{AiChannels} \leq \text{Max number of channels}$.
11861	Pointer to AiData is NULL Specify the address of variable to parameter.
11880	Pointer to AiSamplingTimes is NULL Specify the address of variable to parameter.
11881	Pointer to AiData is NULL Specify the address of variable to parameter.
11920	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11921	The value of AiDirection is outside the designated range of the function
11930	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11931	Pointer to AiStartLevel is NULL Specify the address of variable to parameter.
11932	Pointer to AiDirection is NULL
11940	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.
11941	The value of AiDirection is outside the designated range of the function
11950	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AiChannel} \leq \text{Max channel}$.

Value [Dec]	Description
11951	Pointer to AiStopLevel is NULL Specify the address of variable to parameter.
11952	Pointer to AiDirection is NULL Specify the address of variable to parameter.
11960	The value of AiTransferMode is outside the designated range of the function
11970	Pointer to AiTransferMode is NULL Specify the address of variable to parameter
11980	The value of DataNumber is outside the designated range of the function
11981	Pointer to Buffer is NULL Specify the address of variable to parameter.
11982	It failed in securing a buffer for Bus-Master transfer
12020	Pointer to DataSize is NULL Specify the address of variable to parameter.
12040	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12041	The value of StateTimes is outside the designated range of the function
12050	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12051	Pointer to Level1 is NULL Specify the address of variable to parameter.
12052	Pointer to Level2 is NULL Specify the address of variable to parameter.
12053	Pointer to StateTimes is NULL Specify the address of variable to parameter.
12060	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12061	The value of StateTimes is outside the designated range of the function
12070	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12071	Pointer to Level1 is NULL Specify the address of variable to parameter.
12072	Pointer to Level2 is NULL Specify the address of variable to parameter.
12073	Pointer to StateTimes is NULL Specify the address of variable to parameter.
12080	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12081	The value of StateTimes is outside the designated range of the function
12090	The value of AiChannel is outside the designated range of the function
12091	Pointer to Level1 is NULL Specify the address of variable to parameter.
12092	Pointer to Level2 is NULL Specify the address of variable to parameter.

Value [Dec]	Description
12093	Pointer to StateTimes is NULL Specify the address of variable to parameter.
12100	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12101	The value of StateTimes is outside the designated range of the function
12110	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12111	Pointer to Level1 is NULL Specify the address of variable to parameter.
12112	Pointer to Level1 is NULL Specify the address of variable to parameter.
12113	Pointer to StateTimes is NULL Specify the address of variable to parameter.
12120	The value of AiTransferTimes is outside the designated range of the function
12130	Pointer to AiSamplingTimes is NULL Specify the address of variable to parameter.
12140	Pointer to AiTransferCount is NULL Specify the address of variable to parameter.
12160	Pointer to Lap is NULL Specify the address of variable to parameter.
12180	Pointer to Count is NULL Specify the address of variable to parameter.
12200	The value of Range is outside the designated range of the function
12201	The value of Type is outside the designated range of the function
12202	The value of Data is outside the designated range of the function
12003	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <=AiChannel <= Max channel.
12210	The value of Range is outside the designated range of the function
12211	The value of Type is outside the designated range of the function
12212	Pointer to Data is NULL Specify the address of variable to parameter.
12213	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12220	The value of Range is outside the designated range of the function
12221	The value of Type is outside the designated range of the function
12222	Pointer to Data is NULL Specify the address of variable to parameter.
12223	The value of AiChannel is outside the designated range of the function Specify the channel setting in range: 0 <= AiChannel <= Max channel.
12240	The value of AiScanClock is outside the designated range of the function
12250	Pointer to AiScanClock is NULL
12260	Pointer to AoSamplingClock is NULL

Value [Dec]	Description
12310	The value of AiClockEdge is outside the designated range of the function
12320	Pointer to AiClockEdge is NULL
12382	Timeout occurred. Please reset the device, or extend the timeout period.
13000	The value of AoChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AoChannel} \leq \text{Max channel}$.
13020	The value of AoChannels is outside the designated range of the function Specify the number of analog output channels in range: $1 \leq \text{AoChannels} \leq \text{Max number of channels}$.
13021	Pointer to AoData is NULL Specify the address of variable to parameter.
13040	Pointer to AoResolution is NULL Specify the address of variable to parameter.
13060	The value of AoChannels is outside the designated range of the function Specify the number of analog output channels in range: $1 \leq \text{AoChannels} \leq \text{Max number of channels}$.
13070	Pointer to AoChannels is NULL Specify the address of variable to parameter.
13080	Pointer to AoMaxChannels is NULL Specify the address of variable to parameter.
13100	The value of AoChannels is outside the designated range of the function Specify the number of analog output channels in range: $1 \leq \text{AoChannels} \leq \text{Max number of channels}$.
13101	The value of AoRange is outside the designated range of the function
13110	The value of AoChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AoChannel} \leq \text{Max channel}$.
13111	Pointer to AoRange is NULL Specify the address of variable to parameter.
13120	The value of AoRange is outside the designated range of the function
13140	The value of AoMemoryType is outside the designated range of the function Set 0(FIFO) or 1(RING) to AiMemoryType.
13150	Pointer to AoMemoryType is NULL Specify the address of variable to parameter.
13160	The value of AoRepeatTimes is outside the designated range of the function AoRepeatTimes should be set to a value greater than or equal to 0.
13170	Pointer to AoRepeatTimes is NULL Specify the address of variable to parameter.
13180	The value of AoClockType is outside the designated range of the function Set 0(clock for conversion) or 1(external clock) to AoClockType.
13190	Pointer to AoClockType is NULL Specify the address of variable to parameter.
13200	The value of AoSamplingClock is outside the designated range of the function AoSamplingClock should be set to a value greater than or equal to 1.
13210	Pointer to AoSamplingClock is NULL Specify the address of variable to parameter.

Value [Dec]	Description
13220	The value of AoSamplingTimes is outside the designated range of the function AoSamplingClock should be set to a value greater than or equal to 1.
13221	Pointer to AoData is NULL Specify the address of variable to parameter.
13230	Pointer to AoSamplingTimes is NULL Specify the address of variable to parameter.
13240	The value of AoStartTrigger is outside the designated range of the function
13250	Pointer to AoStartTrigger is NULL Specify the address of variable to parameter.
13260	The value of AoStopTrigger is outside the designated range of the function
13270	Pointer to AoStopTrigger is NULL Specify the address of variable to parameter.
13290	Pointer to AoEvent is NULL Specify the address of variable to parameter.
13300	The value of AoSamplingTimes is outside the designated range of the function AoStopTimes should be set to a value greater than or equal to 1.
13310	Pointer to AoSamplingTimes is NULL Specify the address of variable to parameter.
13320	The thread can't be carried out
13360	The value of AoChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AoChannel} \leq \text{Max channel}$.
13370	The value of AoChannel is outside the designated range of the function Specify the channel setting in range: $0 \leq \text{AoChannel} \leq \text{Max channel}$.
13380	Pointer to AoStatus is NULL Specify the address of variable to parameter.
13400	Pointer to AoSamplingCount is NULL Specify the address of variable to parameter.
13420	Pointer to AoRepeatCount is NULL Specify the address of variable to parameter.
13480	The value of AoMemorySize is outside the designated range of the function
13490	Pointer to AoMemorySize is NULL
13500	The value of AoChannel is outside the designated range of the function
13520	The value of AoChannels is outside the designated range of the function
13521	Pointer to AoData is NULL
13540	The value of AoSamplingTimes is outside the designated range of the function
13541	Pointer to AoData is NULL
13580	The value of AoTransferMode is outside the designated range of the function
13590	Pointer to AoTransferMode is NULL
13600	The value of DataNumber is outside the designated range of the function
13601	Pointer to Buffer is NULL
13602	It failed in securing a buffer for Bus-Master transfer
13640	Pointer to DataSize is NULL

Value [Dec]	Description
13660	The value of AoTransferTimes is outside the designated range of the function
13670	Pointer to AoSamplingTimes is NULL
13680	Pointer to AoTransferCount is NULL
13700	Pointer to Lap is NULL
13720	The value of Range is outside the designated range of the function
13721	The value of Type is outside the designated range of the function
13722	The value of Data is outside the designated range of the function
13723	The value of AoChannel is outside the designated range of the function
13730	The value of Range is outside the designated range of the function
13731	The value of Type is outside the designated range of the function
13732	Pointer to Data is NUL
13733	The value of AoChannel is outside the designated range of the function
13740	The value of Range is outside the designated range of the function
13741	The value of Type is outside the designated range of the function
13742	Pointer to Data is NULL
13743	The value of AoChannel is outside the designated range of the function
13760	Pointer to AoSamplingClock is NULL
13770	The value of AoClockEdge is outside the designated range of the function
13780	Pointer to AiClockEdge is NULL
14000	The value of DiBit is outside the designated range of the function Specify the digital input bit in range: $0 \leq \text{DiBit} \leq \text{Max bit}$.
14001	Pointer to DiData is NULL Specify the address of variable to parameter.
14010	The value of DiPort is outside the designated range of the function Specify the digital input port in range: $0 \leq \text{DiPort} \leq \text{Max port}$.
14011	Pointer to DiData is NULL Specify the address of variable to parameter.
14020	The value of DoBit is outside the designated range of the function Specify the digital output bit in range: $0 \leq \text{DoBit} \leq \text{Max bit}$.
14021	The value of DoData is outside the designated range of the function
14030	The value of DoPort is outside the designated range of the function Specify the digital output port in range: $0 \leq \text{DoPort} \leq \text{Max port}$.
14031	The value of DoData is outside the designated range of the function
14040	The value of Bit is outside the designated range of the function
14041	The value of Value is outside the designated range of the function
14050	The value of Bit is outside the designated range of the function
14051	Pointer to Value is NULL
15000	The value of CntChannel is outside the designated range of the function
15010	The value of CntChannel is outside the designated range of the function
15011	Pointer to CntMode is NULL

Value [Dec]	Description
15020	The value of CntChannel is outside the designated range of the function
15021	The value of PresetNumber is outside the designated range of the function
15022	The value of Flag is outside the designated range of the function

Appendix

This section describes words and terms used in this manual, software details, and inquiries.

1. Glossary

◆ Channel

The channel represents the number of analog inputs or analog outputs.
In this driver, the first channel is from 0 on.

◆ Input Method

The input method is the connection method of input analog signal. There are two input methods: Single end and Differential input. For environments where the potential difference between the signal source and the ground and noise components can be ignored, single ended input is suitable. Also, in an environment where the potential difference between the signal source and the ground and the noise component can not be ignored, the differential input is suitable. When differential input is used, the number of usable channels is half of that of single ended input.

◆ Range

Range is the range of the possible voltage (current) which can be analog input or analog output.

2. Inquiries

Contact your retailer about the matter which is not described by this reference manual or unusual operation.

Moreover, because the contents of question are hard to grasp as being oral, please inquire it in E-mail or Web form. We will contact you back.

When it is thought that operation is unusual, please write down the version of driver, Edgecross basic software, Data Collector and the hardware environment of PC or other using devices in detail.

Please note that we cannot answer general questions such as how to use the Edgecross basic software.

Before inquiry

The retailer first checks whether the hardware is not working properly or the software is not working, and responds according to each situation.

If you suspect an abnormal operation, please let us know in detail as much as possible after confirming the reproduction procedure and the location where the problem occurred.

Inquiry Contact to

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FAQ library is also available.

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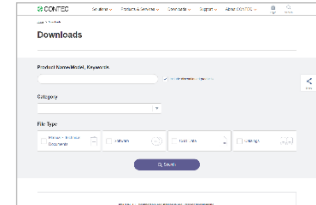
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