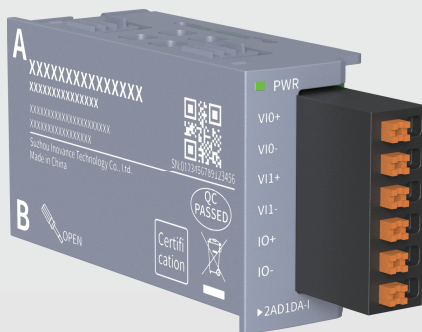




PS00006442A08

GE20-2AD1DA-I Analog Input and Output Current-Type Expansion Card User Guide

Suzhou Inovance Technology Co., Ltd.

Add.: No. 52, Tian E Dang Road, Wuzhong District, 215104,

Suzhou City, Jiangsu Province, P.R. China

Tel: (0512) 6637 6666 Fax: (0512) 6285 6720

www.inovance.com



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■ Disclaimer of Liability

Due to continuous updates and improvements of products and technologies, the content of this documentation may not fully match the actual products. In the event of any discrepancies, the actual products shall prevail.

The contents are subject to change without notice due to product upgrade.

■ Waste Disposal

The storage, use, and disposal of this product (including optional accessories) must comply with local laws and regulations.

■ Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel can identify the risks of the product/system and prevent possible dangers.

■ Proper Use of the Product

Proper transportation, storage, assembly, installation, commissioning, operation, and maintenance are required to ensure the safe operation of the product without any problems. The required ambient conditions must be met. All operations must follow the guidelines provided in this documentation.

Preface

■ Introduction

Thank you for purchasing the GE20-2AD1DA-I analog input and output expansion card independently developed and produced by Inovance Technology. The GE20-2AD1DA-I can be used with Easy300/Easy500/AM300/AM500/EVO500 series PLC and supports two analog inputs and one analog output (current type).

This guide describes the product information, mechanical installation, electrical installation, and programming examples of the product. Before use, please read this guide thoroughly.

■ Standards Compliance

The table below lists the certifications, directives, and standards that the product may comply with. For details about the acquired certificates, see the certification marks on the product nameplate.

Certification	Directive		Standard
CE certification	EMC directive	2014/30/EU	24 VDC products: EN 61131-2 220 VAC products: EN 61131-2 EN 61000-3-2 EN 61000-3-3
	LVD directive	2014/35/EU	EN 61010-1 EN 61010-2-201
	RoHS directive	2011/65/EU amended by (EU) 2015/863	EN IEC 63000
UL/cUL certification	-		UL 61010-1 UL 61010-2-201 CAN/CSA-C22.2 No. 61010-1 CSA C22.2 No. 61010-2-201
KCC certification	-		-

Certification	Directive		Standard
EAC certification	-		-
UKCA certification	Safety regulations	Electrical Equipment (Safety) Regulations 2016	EN 61010-1 EN 61010-2-201
	EMC regulations	Electromagnetic Compatibility Regulations 2016	24 VDC products: EN 61131-2 220 VAC products: EN 61131-2 EN 61000-3-2 EN 61000-3-3
	RoHS regulations	Directive (RoHS) Regulations 2012	EN IEC 63000

■ More Documents

Name	Data code	Description
Easy Series Programmable Logic Controller User Guide	PS00006444	Introduces the product information, installation and wiring, operation and maintenance of the Easy series products.
AM300 Series Programmable Logic Controller User Guide	PS00008836	This guide describes installation and wiring of the AM300 series PLC, including product information, mechanical installation, and electrical installation.
AM500 Series Programmable Logic Controller User Guide	PS00008837	This guide describes installation and wiring of the AM500 series PLC, including product information, mechanical installation, and electrical installation.

Name	Data code	Description
EVO500 Series Programmable Logic Controller User Guide	PS00016754	This guide describes installation and wiring of the EVO500 series PLC, including product information, mechanical installation, and electrical installation.
H5U and Easy Series Programmable Logic Controller Programming and Application Guide	19012249	Describes the basic knowledge of PLC programming, quick start guidance, communication, motion control, and the use of high-speed counters.
H5U & Easy Series Programmable Logic Controller Instructions Guide	19012250	Describes the basic and complex instructions, as well as examples of instructions used in product programming and application.
GE20-2AD1DA-I Analog Input and Output Current-Type Expansion Card User Guide (This guide)	PS00006442	Introduces the product information, mechanical installation, electrical installation, and programming examples of the product.

■ Revision History

Date	Version	Description of change(s)
January 2026	A08	Updated effect diagrams and product codes.
January 2025	A07	Modified the capacitance of filter capacitors in "4.3 Terminal Wiring" on page 20 .
January 2024	A06	Added the following content: Added "Appendix: Setting Communication Mode with PLC" on page 28. Updated the following content: Modified "2.3.5 Other Specifications" on page 15.
October 2023	A05	Minor corrections.

Date	Version	Description of change(s)
September 2023	A04	Modified the external input/output wiring diagrams in <i>"4.3 Terminal Wiring" on page 20.</i>
July 2023	A03	Minor corrections.
March 2023	A02	Updated nameplate description and added some product specification data.
July 2024	A01	Minor corrections.
August 2022	A00	First release.

■ Access to the Guide

The guide is not delivered with the product. Download the PDF file in the following ways:

- Visit <https://www.inovance.com/global>, choose Service&Support > Support > Documentation Download.
- Scan the **QR code** on the product with your smart phone.
- Scan the QR code below to install the **My Inovance app**, where you can search for and download user guides.



■ Warranty

Inovance provides warranty service within the warranty period (as specified in your order) for any fault or damage that is caused by proper operation of the user. Maintenance will be charged after the warranty expires.

Within the warranty period, maintenance fee will be charged for the following damage:

- Damage caused by operations not following the instructions in the guide
- Damage caused by fire, flood, and unusual voltage

- Damage caused by using the product for unintended functions
- Damage caused by using the product outside the specified scope
- Secondary damage caused by force majeure (natural disasters, earthquakes and lightning strikes)

When applicable, relevant maintenance fee will be charged according to the latest Price List of Inovance. If otherwise agreed upon, the agreed terms and conditions shall prevail.

For details, see the Warranty Card.

1 Fundamental Safety Instructions

1.1 Fundamental Safety Instructions

■ Safety Disclaimer

1. Read and comply with the safety instructions during installation, operation, and maintenance of the equipment.
2. To ensure your safety and prevent damage to the equipment, follow the marks on the equipment and all the safety instructions in this guide.
3. "CAUTION", "WARNING", and "DANGER" in this guide do not indicate all safety precautions that need to be followed; instead, they just supplement the safety precautions.
4. Use this equipment according to the designated environment requirements.
Damage caused by improper use is not covered by warranty.
5. Inovance shall take no responsibility for any personal injury or property damage caused by improper use.

■ Safety Levels and Definitions



"DANGER" indicates that failure to comply with the notice can result in severe personal injury or even death.



"WARNING" indicates that failure to comply with the notice may result in severe personal injury or even death.



"CAUTION" indicates that failure to comply with the notice may result in minor or moderate personal injury or equipment damage. Keep this guide properly for future use and deliver it to the end user.

Control System Design



DANGER

- Provide a safety circuit outside the PLC so that the control system can still work safely once external power failure or PLC fault occurs.
- Add a fuse or circuit breaker because the module may smoke or catch fire due to long-time overcurrent caused by operation above rated current or load short-circuit.



WARNING

- An emergency stop circuit, a protection circuit, a forward/reverse operation interlocked circuit, and an upper position limit and lower position limit interlocked circuit must be set in the external circuits of PLC to prevent damage to the machine.
- To ensure safe operation, for the output signals that may cause critical accidents, use external protection circuits and safety mechanism.
- Once the CPU of the PLC detects an exception in the system, all outputs may be closed; however, when a fault occurs in the controller circuit, the output may not be under control. Therefore, it is necessary to design an appropriate external control circuit to ensure normal operation.
- If the output units such as relays or transistors are damaged, the output may fail to switch between ON and OFF states according to the commands.
- The PLC is designed to be used in an indoor electrical environment (overvoltage category II). The power supply must have a system-level surge protector, assuring that overvoltage due to lightning shock cannot be applied to the PLC's power supply input terminals, signal input terminals and output terminals, preventing damage to the equipment.

Installation



WARNING

- Installation must be carried out by qualified professionals.
- Disconnect all external power supplies of the system before removing/installing the module. Failure to do so may result in electric shock, module fault or malfunction.
- Do not use the PLC where there are dust, oil smoke, conductive dust, corrosive or combustible gases, or exposed to high temperature, condensation, wind & rain, or subject to vibration and impact. Electric shock, fire and malfunction may also result in damage or deterioration to the equipment.
- The PLC is open-type equipment that must be installed in a control cabinet with lock (IP rating of the control cabinet enclosure > IP20). Only qualified professionals can open the cabinet.

Installation



CAUTION

- Prevent metal filings and wire ends from dropping into ventilation holes of the PLC during installation. Failure to comply may result in fire, fault and malfunction.
- Ensure there are no unwanted matters on ventilation surface. Failure to comply may result in poor ventilation, which may cause fire, fault and malfunction.
- Ensure the module is connected to the respective connector securely and hook the module firmly. Improper installation may result in malfunction, fault or fall-off.

Wiring



DANGER

- Wiring must be carried out by qualified professionals.
- Disconnect all external power supplies of the system before wiring. Failure to comply may result in electric shock, module fault or malfunction.
- Install the terminal cover attached to the equipment before power-on or operation after wiring is done. Failure to comply may result in electric shock.
- Insulate the cable terminals properly to ensure the insulation distance between cables will not be shortened after cables are connected to the terminal block. Failure to comply may result in electric shock or damage to the equipment.



CAUTION

- To avoid electric shock, cut off the power supply before connecting the equipment to the power supply.
- The input power supply of the HMI must be 24 VDC. Power supplies outside $\pm 20\%$ of 24 VDC can cause severe damage to the equipment. Therefore, check whether the DC power supply provided by the switching-mode power supply is stable at a regular interval.

Operation and Maintenance



- Operation and maintenance must be carried out by qualified professionals.
- Do not touch the terminals with power on. Failure to comply may result in electric shock or malfunction.
- Disconnect all external power supplies of the system before cleaning the module or re-tightening screws on the terminal block or screws of the connector. Failure to comply may result in electric shock.
- Disconnect all external power supplies of the system before disassembling the module or connecting/disconnecting the communication cables. Failure to comply may result in electric shock or malfunction.

Safety Recommendations

- In the position where the operator directly touches the machinery part, for example, where a machinery tool is loaded/unloaded, or where a machine runs automatically, the on-site manual operating devices and any other alternative means must be carefully arranged and designed so that they are independent of the programmable controller and can start or terminate the automatic running of the system.
- If you need to modify the program while the system is running, use the lock function or other protective measures. Ensure that only authorized personnel can make the necessary modifications.

Disposal



- Treat the scrapped equipment as industrial waste. Dispose of the battery according to local laws and regulations.
- Recycle retired equipment by observing industry waste disposal standards to avoid environmental pollution.

1.2 Industrial Information Security

This product provides an interface to connect to the network and transmit data through the network interface. To protect factories, systems, machines, and networks from cyber attacks, appropriate industrial information security protection mechanisms need to be implemented to ensure the safe operation of factories, systems, machines, and networks.

The customer is responsible for providing and continuously ensuring a secure connection between the product and the customer's network or any other network, to prevent unauthorized access to their factory, systems, machines, and networks. The system or machine may only be connected to the corporate network or the Internet when a secure connection is established and proper security measures are in place (for example, using antivirus software and installing firewalls).

INOVANCE continuously develops and improves its products and solutions to enhance safety. It is strongly recommended that you update your products promptly and always use the latest product versions.



Caution

Malware (such as viruses, Trojans, and worms) can bring the device into an unsafe operating state, resulting in death, serious injury, and property damage. Observe the following precautions strictly:

- Always use the latest software version. If the product version is no longer supported or the latest program version is not applied, customers are at increased risk of cyberattacks.
 - Implement and maintain appropriate security measures (including but not limited to deploying anti-virus software, firewall, WAF, IPS/IDS, situational awareness system, ID verification, and data encryption) to prevent files in the removable storage device from being damaged by malware and to protect products, networks, systems, and interfaces from unauthorized access, disruption, intrusion, data leakage, or information theft.
 - Check all safety-related interfaces and settings after commissioning.
-

2 Product Information

2.1 Model and Nameplate

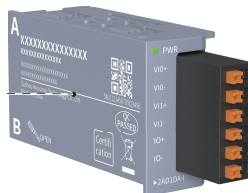
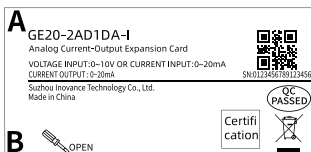
■ Model description

GE20 – 2AD1DA– I

① ② ③

① Product series GE20 series general-purpose expansion card	③ Product Code Current type
② Product Code Expansion card with two analog inputs and one analog output	-

■ Nameplate

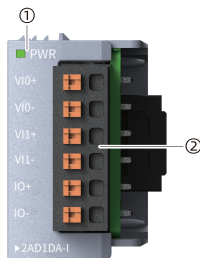


Note

The letters "A" and "B" on the nameplate indicate that the card slots A and B of the PLC are supported.

Model	Description	Code
GE20-2AD1DA-I-INT	GE20 series expansion card with two analog inputs and one analog output (current type)	01480138

2.2 Components



No.	Type	Terminal Identification	Assignment	Indicator Color	Description
①	Power supply indicator	PWR	Power supply normal	Yellow-green	ON when the expansion card is powered on.
②	User terminals	-	-	-	See details in "4.2 S1/S2 state" on page 19.

2.3 Product Specifications

2.3.1 General Specifications

Item	Specification
IP rating	IP20
Dimensions (W x H x D)	69.5 mm x 29.5 mm x 23 mm
Weight	About 18 g

2.3.2 Power Supply Specifications

Item	Specification
Rated input voltage	5 VDC (4.75 VDC to 5.25 VDC)
Rated input current	65 mA (max@5 V)

Item	Specification
Input short-circuit protection	Supported
Hot swap	Not supported

2.3.3 Input Specifications

Item	Specification
Number of input channels	2
Voltage input range	0 V to 10 V
Voltage input impedance	> 200 k Ω
Conversion speed	6 ms/channel
Current input range	0 mA to 20 mA
Current sampling impedance	250 Ω
Input accuracy (normal temperature: 25°C)	Voltage: $\pm 1\%$, current: $\pm 1\%$ (full range)
Input accuracy (full temperature range)	Voltage: $\pm 3\%$, current: $\pm 3\%$ (full range)
Input signal frequency	< 10 Hz
Resolution	12 bits
Digital output (DO)	0 to 20000

2.3.4 Output Specifications

Item	Specification
Number of output channels	1
Output current range	0 mA to 20 mA
Current output impedance	0 Ω to 500 Ω
Conversion speed	1 ms
Output accuracy (normal temperature: 25°C)	$\pm 1\%$ (full range)
Output accuracy (full temperature range)	$\pm 5\%$ (full range)

Item	Specification
Resolution	12 bits
DO	0 to 20000

2.3.5 Other Specifications

Item	Specification
Sampling cycle	1 ms
Communication cycle with PLC (AutoShop)	Expansion cards with firmware versions earlier than V2.3 support only normal mode, while those with firmware version V2.3 or later support both high-speed mode and normal mode. The communication mode with PLC can be set by the AutoShop programming software. For details, see "Appendix: Setting Communication Mode with PLC" on page 28 • High-speed mode: ≤ 6 ms (modification of channel mapping elements is not supported) • Normal mode: ≤ 20 ms (modification of channel mapping elements is supported)
Isolation method	Not isolated
Output short-circuit detection	Not supported
Output open-circuit detection	Not supported

2.3.6 Environmental Specifications

Item	Specification
Ambient environment	Free from conductive dust, conductive fibers, explosive dust, flammable gases, water mist/greasy dirt, corrosive dust/gases, strong vibration, and repetitive shock
Altitude	≤ 2000 m
Pollution degree	Level 2
Immunity	2 kV on power supply line (compliant with IEC 61000-4-4)

Item	Specification
Overvoltage category	I
EMC immunity level	Zone B, IEC61131-2
ESD protection level	Contact discharge +/-6 kV, air discharge +/-8 kV
Vibration resistance	● Application scenario: Tested according to IEC60068-2-6. 3.5 mm amplitude at 5 Hz to 8.4 Hz; 1 g acceleration at 8.4 Hz to 200 Hz; in ten cycles/axes ● Transportation scenario: Tested according to IEC60068-2-64, 0.01 g²/Hz power spectral density at 5 Hz to 100 Hz; 0.001 g²/Hz power spectral density at 200 Hz; 1.14 g Grms
Shock resistance	Application/Transportation scenario: Tested according to IEC60068-2-27; 15 g peak gravitational acceleration, 11 ms pulse width, 18 times in X/Y/Z-axis directions
Storage temperature/humidity	● Temperature: -20 °C to +60 °C ● Humidity: < 90% RH (30°C), without condensation
Transportation temperature/humidity	● Temperature: -40 °C to +70 °C ● Humidity: < 95% RH (30°C), without condensation
Operating temperature/humidity	● Temperature: -20 °C to +55 °C ● Humidity: < 95% RH (40°C), without condensation

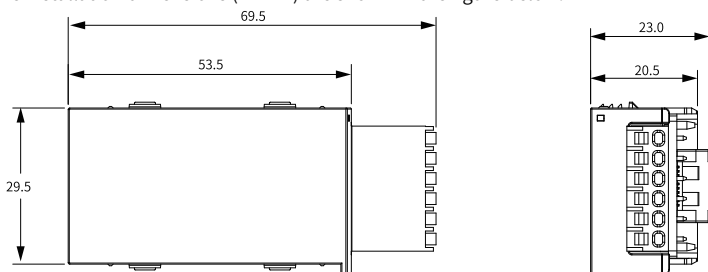
3 Mechanical Installation

3.1 Installation Precautions

- Make sure the PLC is powered off before installing or removing the expansion card.
- Do not hot swap the expansion cards. Otherwise, the PLC is subject to restart, user data loss or corruption.
- Do not drop or shock the housing or terminals of the expansion card to avoid damage.

3.2 Installation Dimensions

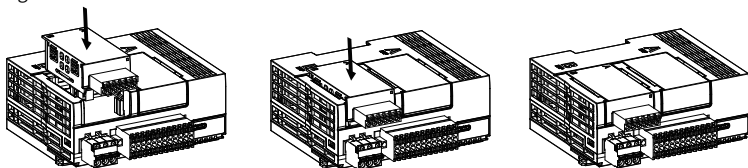
The installation dimensions (in mm) are shown in the figure below.



3.3 Installation Method

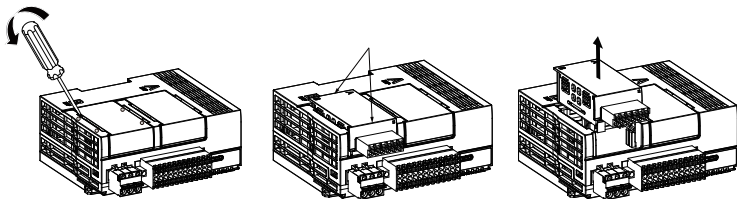
■ Installing the expansion card

The expansion card is snap-fitted with the PLC. Place the PLC horizontally, place the expansion card into the card slot A or B vertically along the guide ribs, and press the expansion card. When you hear a click and the surface of the expansion card is flush with the surface of the PLC, the expansion card is installed in place, as shown in the figure below.



■ Removing the expansion card

Place the PLC horizontally, insert the slotted screwdriver into the snap-fit joints in the order shown in the figure on the left, and pry the expansion card in the direction indicated by the arrow. When you hear a click, the expansion card is initially disengaged from the PLC. Then you can hold the expansion card with two fingers at the positions indicated by the arrow as shown in the middle figure and take out the expansion vertically.



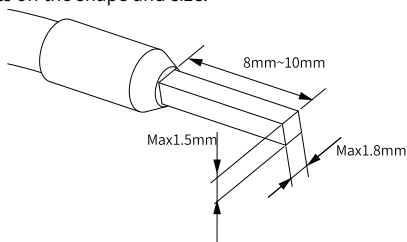
4 Electrical Installation

4.1 Cable Selection

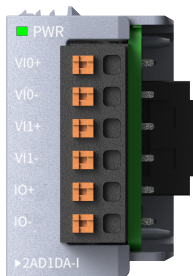
The cable lugs and cable sizes in the following table are for reference only. Select proper cables based on actual situations.

Material Name	Applicable Cable Size		KST		Suzhou Yuanli	
	mm ²	AWG	Model	Crimping Tool	Model	Crimping Tool
Tubular lug	0.3	22	E0308	KST2000L	0308	YAC-5
	0.5	20	E0508		0508	
	0.75	18	E7508		7508	
	1.0	18	E1008		1008	

If other tubular lugs are used, crimp them to twisted cables. The following figure shows requirements on the shape and size.



4.2 S1/S2 state



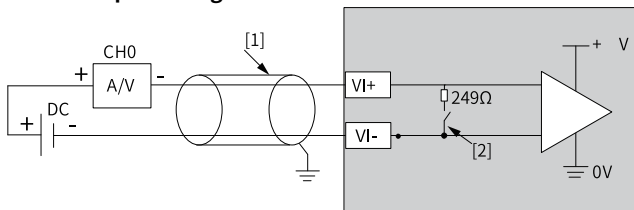
Terminal Name	Description
VI0+	Voltage/Current channel 0 input+
VI0-	Voltage/Current channel 0 input-
VI1+	Voltage/Current channel 1 input+
VI1-	Voltage/Current channel 1 input-
IO+	Current channel output+
IO-	Current channel output-

4.3 Terminal Wiring

■ Precautions

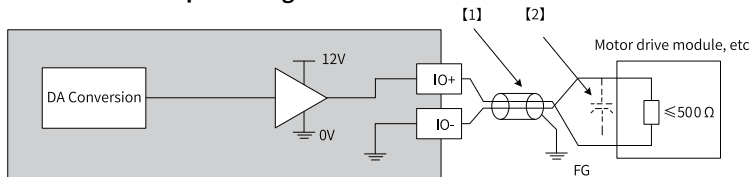
- Do not bundle the expansion cable together with power cables (high voltage, large current) that produce strong interference signals; otherwise, it may be influenced by noise, surge and induction. Separate it from other cables and avoid cabling in parallel.
- Select recommended cables for connection. It is recommended that shielded cables be used as expansion cables to enhance capacity of resisting interference.
- Apply single-point grounding for the shielding of shielded cable and solder sealed cable.

■ External input wiring



- [1]: Use 2-core shielded twisted pair cable for analog signal.
- [2]: Current input is provided when the switch is closed, which is controlled by the software.

External output wiring



- [1]: Use 2-core shielded twisted pair cable as power cable.
- [2]: If noises or ripples are generated in external wiring, connect a capacitor of 0.1 to 0.47 μF 25V between terminals IO+ and IO-.

4.4 Cable Connection

Select tubular cables referring to ["4.1 Cable Selection" on page 19](#) and insert the cables into the input and output ports.

5 Programming Examples

5.1 Autoshop Programing (When used with Easy523)

Note:

The type ID of the GE20-2AD1DA-I expansion card is 3. The configured type of expansion card must be consistent with the type of expansion card actually installed.

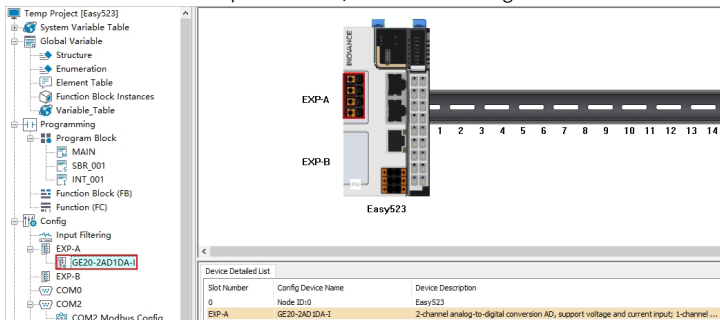
You can view the configured expansion card type ID through the value of the variable name "_ExtCard [x].ConfigModule" in the system variable table "_SEYS-INFO", and the actual installed expansion card type ID through the value of the variable name "_ExtCard [x].MountedModule" in the system variable table "_SEYS-INFO".

Introduction

In this section, Easy523 is used as the control module. As an example, we assign the input current of channel-0 (AD) of the GE20-2AD1DA-I expansion card to the corresponding variable, and convert the corresponding variable value of channel-2 (DA) to the output current.

Steps:

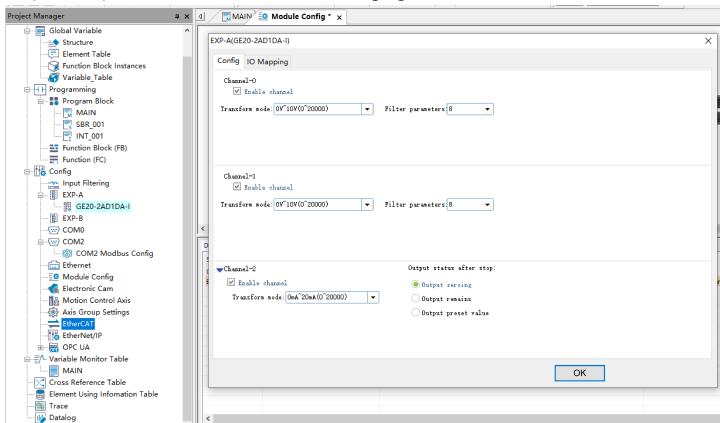
1. Create a project.
2. In the Project Manager, go to Config, right-click EXP-A or EXP-B and select GE20-2AD1DA-I. Alternatively, you can right-click Module Config and select Auto Scan to add the GE20-2AD1DA-I expansion card, as shown in the figure below.



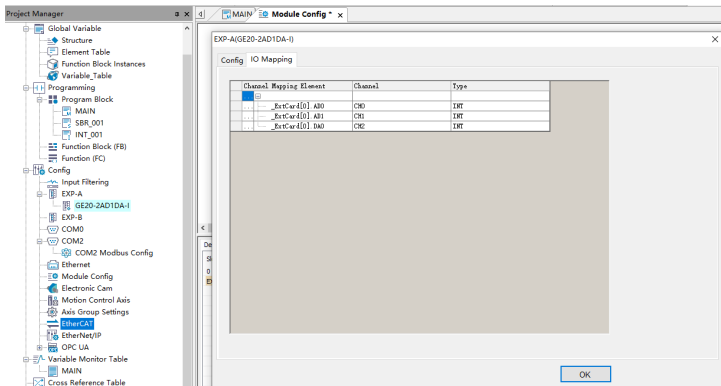
Note

The PLC and the GE20-2AD1DA-I expansion card communicate through the serial port. After the addition of the expansion card, the corresponding serial port configuration will be automatically generated. The serial port configuration of the GE20-2AD1DA-V expansion card is “COM2” when the card is installed in expansion slot A (EXP-A) and “COM3” when the card is installed in expansion slot B (EXP-B).

3. Double-click “GE20-2AD1DA-I”. In the Config tab, Check Enable channel for channels I and III, configure “transfer mode”, “filter parameters” and “output status after stop” as required, as shown in the following figure.



4. (Optional) Click the IO Mapping tab and you can view the channel mapping elements in the IO Mapping interface. The channels are mapped into the system variable “_ExtCard”, as shown in the following figure.



Note

AutoShop V4.8.1.0 and above does not support the modification of channel mapping elements. To modify the element, do as follows in AutoShop earlier than V4.8.1.0:

Double-click  to map the channel I/O to an element that is currently unoccupied.

5. After successful compiling, download the project and run it.

5.2 InoProShop Programming (When used with AM522)

Note:

The configured expansion card type must be consistent with the actually installed expansion card type.

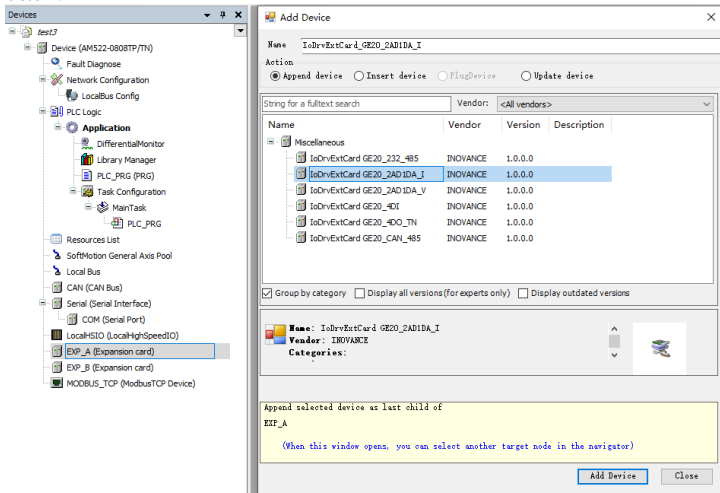
Introduction:

In this section, AM522 is used as the main control module. The following is an example where the input voltage of channel-0 (AD) of the GE20_2AD1DA_I expansion card is assigned to the corresponding variable, and the corresponding variable value of channel-2 (DA) is converted to output voltage.

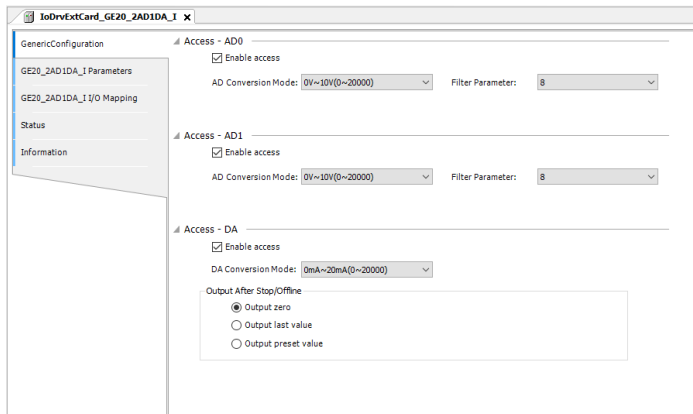
Procedure:

1. Create a project.

- In the **Devices**, right-click **EXP_A (Expansion card)** or **EXP_B (Expansion card)** and select **Add Device**.
- Select **IoDrvExtCard GE20_2AD1DA_I** and click **Add Device**, as shown in the figure below.



- Double-click **IoDrvExtCard_GE20_2AD1DA_I** to open the configuration interface.
 - Click **Generic Configuration** to view the access state of default channels. You can also configure **Conversion Mode**, **Filter Parameter**, and **Output After Stop/Offline**, as shown in the figure below.



Parameter	Description	Value	Default Value
Enable access	Check to enable the channel	• Checked • Unchecked	Checked
AD Conversion Mode	Select the mode based on actual conditions	• 0 V to 10 V • 0 V to 5 V • 1 V to 5 V • 0 mA to 20 mA • 4 mA to 20 mA	0 V to 10 V
Filter Parameter	Filter level	1 to 255	8
DA Conversion Mode	Select the mode based on actual conditions	• 0 mA to 20 mA • 4 mA to 20 mA	0 mA to 20 mA
Output After Stop/Offline	Output value after the system stops	• Output zero • Output last value • Output preset value	Output zero

- In the **GE20_2AD1DA_I I/O Mapping** tab, configure the channel I/O mapping of the GE20_2AD1DA_I expansion card, as shown in the figure below.

IoDrvExtCard_GE20_2AD1DA_I X								
GenericConfiguration	Find		Filter Show all		Set Continuous Address			
GE20_2AD1DA_I Parameters	Variable	Mapping	Channel	Address	Type	Default Value	Unit	Description
GE20_2AD1DA_I I/O Mapping	AI2CH		AI2CH	%IW1	ARRAY [0..1] OF INT			
Status	AI2CH[0]			%IW1	INT			
Information	AI2CH[1]			%IW2	INT			
	AOCH		AOCH	%QW1	ARRAY [0..0] OF INT			
	AOCH[0]			%QW1	INT			

5. After successful compiling, download the project and run it.

6 Appendix: Setting Communication Mode with PLC



Caution

This feature is only supported in AutoShop V4.8.2.4 and later.

By default, the expansion card in this guide communicates with the PLC in high-speed mode. The high-speed mode is supported only by expansion card firmware version V2.3 and above. If the firmware version is below V2.3, switch to normal mode.

Procedure

1. Check the expansion card firmware version.

a. In the Project Manager, go to Variable Monitor Table, and double-click MAIN to open the table.

The screenshot shows the AutoShop software interface. On the left is the Project Manager tree, where 'MAIN' is selected under 'Variable Monitor Table'. On the right is the 'Variable Input Assistant' dialog box. The 'Element name' field contains '_ExtCard', and the 'Search' button is highlighted. Below the dialog, a table lists the elements found in the project.

Element Name	Data Type	Display Format	Comment
1			
2			
3			
4			
5			

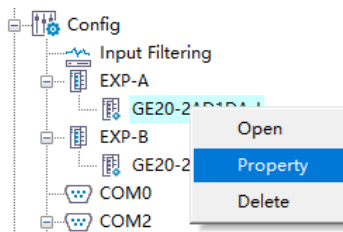
Element Name	Data Type	Comment
1165	ConfigTagCard1	Extension Card 1 config tag
1166	ConfigTagCard2	Extension Card 2 config tag
1167	ExtCard	Extend Card Slot
1168	ExtCard[0]	Extend Card
1169	ConfigModule	Configure card type
1170	MountedModule	Card type installed
1171	LogicVersion	Logic Version
1172	SWVersion	Software Version
1173	Error	Error Status
1174	DI0	4DI Card DI0
1175	DI1	4DI Card DI1
1176	DI2	4DI Card DI2
1177	DI3	4DI Card DI3
1178	DO0	4DO Card DO0
1179	DO1	4DO Card DO1
1180	DO2	4DO Card DO2
1181	DO3	4DO Card DO3
1182	AO0	2ADIDA Card AO0
1183	AO1	2ADIDA Card AO1
1184	DAO	2ADIDA Card DAO
1185	ConfigData	Extension Cards Config Data
1186	ConfigData[0]	
1187	ConfigData[1]	
1188	ConfigData[2]	

- b. Click "..." in the "Element Name" column.
- c. Enter "_ExtCard" in the Element name text box.
- d. Click Search.
- e. Double-click "_ExtCard" in the results to add the monitor variable "_ExtCard".
- f. Click  in the toolbar to enter the monitoring state. View the current value of "SWVersion", which indicates the firmware version of the expansion card. "_ExtCard[0]" indicates the card slot A of the PLC and "_ExtCard[1]" indicates the card slot B.

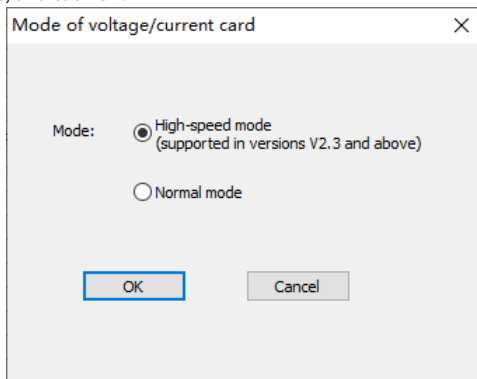
Take the figure below as an example, the current value of "SWVersion" for "_ExtCard[0]" is "0x203", indicating that the expansion card firmware version of the card slot A is V2.3. In this case, set the communication mode with PLC to high-speed mode.

Element Name	Data Type	Display Format	Current Value	Address	Comment
1 ... ▢ _ExtCard	_EXT_CARD[2]			0X620A200	Extend Card Slot
2 ▢ _ExtCard[0]	_EXT_CARD			0X620A200	
3 ConfigM...	INT	Dec	11	0X620A200	Configure card type
4 Mounted...	INT	Dec	11	0X620A210	Card type installed
5 LogicVe...	INT	Dec	0	0X620A220	Logic Version
6 SWVersion	INT	Dec	0x203	0X620A230	Software Version
7 Error	BOOL	Bin	OFF	0X620A260	Error Status
8 DIO	BOOL	Bin	OFF	0X620A280	4DI Card DIO
9 DI1	BOOL	Bin	OFF	0X620A281	4DI Card DI1
10 DI2	BOOL	Bin	OFF	0X620A282	4DI Card DI2
11 DI3	BOOL	Bin	OFF	0X620A283	4DI Card DI3
12 DO0	BOOL	Bin	OFF	0X620A290	4DO Card DO0
13 DO1	BOOL	Bin	OFF	0X620A291	4DO Card DO1
14 DO2	BOOL	Bin	OFF	0X620A292	4DO Card DO2
15 DO3	BOOL	Bin	OFF	0X620A293	4DO Card DO3
16 ADO	INT	Dec	77	0X620A2A0	2ADIDA Card ADO
17 AD1	INT	Dec	90	0X620A2B0	2ADIDA Card AD1
18 DAO	INT	Dec	0	0X620A2E0	2ADIDA Card DAO
19 ConfigData	INT[16]			0X620A320	Extension Cards Config Data
36 ▢ _ExtCard[1]	_EXT_CARD			0X620A600	
37 ConfigM...	INT	Dec	0	0X620A600	Configure card type
38 Mounted...	INT	Dec	14	0X620A610	Card type installed
39 LogicVe...	INT	Dec	0	0X620A620	Logic Version
40 SWVersion	INT	Dec	0	0X620A630	Software Version
41 Error	BOOL	Bin	OFF	0X620A660	Error Status
42 DIO	BOOL	Bin	OFF	0X620A680	4DI Card DIO
43 DI1	BOOL	Bin	OFF	0X620A681	4DI Card DI1
44 DI2	BOOL	Bin	OFF	0X620A682	4DI Card DI2
45 DI3	BOOL	Bin	OFF	0X620A683	4DI Card DI3
46 DO0	BOOL	Bin	OFF	0X620A690	4DO Card DO0
47 DO1	BOOL	Bin	OFF	0X620A691	4DO Card DO1
48 DO2	BOOL	Bin	OFF	0X620A692	4DO Card DO2
49 DO3	BOOL	Bin	OFF	0X620A693	4DO Card DO3
50 ADO	INT	Dec	0	0X620A6A0	2ADIDA Card ADO
51 AD1	INT	Dec	0	0X620A6B0	2ADIDA Card AD1
52 DAO	INT	Dec	0	0X620A6E0	2ADIDA Card DAO
53 ConfigData	INT[16]			0X620A720	Extension Cards Config Data
70 ...					

2. In the Project Manager, go to Config, right-click the added expansion card, and select Property.



3. In the pop-up dialog box, select High-speed mode (supported by V2.3 and above) or Normal mode, and click OK.



Service and Support

Should you encounter a safety accident during the use or operation of the product, or face challenges in operating and maintaining the equipment, which remain unresolved after the relevant documentation is consulted, we provide multiple channels to ensure prompt resolution:

- Channel #1: Contact service@inovance.com.
- Channel #2: Visit <https://www.inovance.com/global> to access document downloads, after-sales support, spare parts ordering, repair applications, and authenticity verification services.
- Channel #3: Download My Inovance app (<https://zshc-eu.inovance.com/download-pc/>) where you can access products info and documentation, and query product parameters.

We are committed to providing you with quick and professional technical support, and we look forward to your satisfaction and trust.