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GL20-0032ETP-M/GL20-0032ETN-M Digital Outoput Module

Equipment Guide

Industrial Automation | New Energy Vehicle | Intelligent Elevator | Intelligent Robot | Digital Energy | Rail Transit

Data code PS00021818A01

Legal Information

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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.

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.

1 Fundamental Safety Instructions

1.1 General Safety Instructions

Safety disclaimer

1. Read through the safety instructions before installing, operating, and servicing the equipment, and comply with these instructions.
2. To ensure personal and equipment safety, observe the notes indicated on the product labels and all the safety instructions in the user guide.
3. The "CAUTION", "WARNING", and "DANGER" are only supplements to the safety instructions.
4. Use this product 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

	indicates that failure to comply with the notice will result in severe personal injury or even death.
	indicates that failure to comply with the notice may result in severe personal injury or even death.
	indicates that failure to comply with the notice could result in minor or moderate personal injury, or equipment damage.

Unpacking
 • Do not install the product in the case of any damage, rust, or signs of use on the product or accessories upon unpacking. • Do not install the product in the case of water seepage into the product or missing or damaged components upon unpacking. • Do not install the product in the case of any discrepancy between the product you received and the product name on the packing list.
 • Check for secondary packaging integrity, damage, water seepage, dampness, and deformation before unpacking. • Unpack the package layer by layer. Do not strike the package violently. • Check for damage, rust, or scratches on the surfaces of the product and accessories upon unpacking. • Check the number of the product, accessories, and paper materials against the packing list carefully upon unpacking.

Storage and transportation

WARNING

- Large or heavy equipment must be handled by qualified professionals using specialized hoisting equipment. Failure to comply may result in personal injury or equipment damage.
- Before hoisting the equipment, ensure that components such as the front cover and terminal blocks are secured firmly with screws. Loosely connected components may fall off and result in personal injury or equipment damage.
- Never stand or stay below the equipment which is being hoisted.
- Hoist the equipment at a constant speed with a steel rope to prevent any vibration or shock to the equipment. Never turn the equipment over or keep it suspended for a long time. Failure to comply may result in personal injury or equipment damage.

Caution

- Handle the equipment with care and mind your steps during transportation to prevent personal injury or equipment damage.
- When handling the equipment by hand, hold the enclosure securely to prevent parts from falling. Failure to comply may result in personal injury.
- Store and transport the equipment based on the storage and transportation requirements. Failure to comply may result in equipment damage.
- Do not store or transport the equipment in locations where the equipment may be exposed to splashing water or rain, direct sunlight, strong electric field, strong magnetic field, or strong vibration.
- Store the equipment for up to three months. Take stricter protective measures and carry out the necessary inspections for a longer storage time.
- Pack the equipment securely and properly before transportation. Use a fully enclosed container for long-distance transportation.
- Never transport the equipment with other devices or items that may cause adverse effects or damage to the equipment.

Design

DANGER

- Provide a safety circuit and include an error handling program in the software to ensure that the product remains in a safe state in case of an external power failure or an internal fault.
- Add an external safety device such as a fuse or circuit breaker because the equipment may smoke or burn due to long-time overcurrent caused by a rating error or short-circuited load.

WARNING

- Any damaged output components such as relays or transistors in this product may result in uncontrolled output that stays in a constant ON or OFF state.
- The product design must comply with the overvoltage category requirements specified in the Environmental Specifications. The system-level power supply must have a lightning protection device, assuring that overvoltage due to lightning shock is not applied to the terminals such as power supply input terminals, signal input terminals, and control output terminals, to prevent damage to the product.
- Ensure that appropriate actions have been taken to prevent product malfunction caused by a communication fault between the product and related devices. Failure to comply may cause personal injury or equipment damage.

Caution

Do not configure switches on the touch panel that could cause personal injury or equipment damage. Configure separate switches for performing important operations, or an accident may occur in case of an output error or a fault.

Installation

DANGER

The equipment must be operated by professionals who have received electrical trainings and have sufficient electrical knowledge.

Installation

WARNING

- Read through the guide and safety instructions before installation.
- Do not install this equipment in places with strong electric or magnetic field.
- Before installation, check that the mechanical strength of the installation site can bear the weight of the equipment. Failure to comply may result in mechanical hazards.
- Before installation, ensure that the mounting environment meets the environmental specifications. Failure to comply may result in equipment damage.
- Do not wear loose clothes or accessories during installation. Failure to comply may result in an electric shock.
- Before installing the equipment in an enclosed environment (such as a cabinet or case), use a cooling device (such as a fan or air conditioner) to cool the environment to the required temperature. Failure to comply may result in equipment over-temperature or a fire.
- Do not retrofit the equipment.
- Do not fiddle with the bolts used to fix equipment components or the bolts marked in red.
- Install the equipment in an indoor cabinet or terminal device that is equipped with a fire-resistant enclosure, an electrical protection enclosure, or a mechanical protection enclosure meeting the IEC standards and local laws and regulations.
- Before installing devices with strong electromagnetic interference, such as a transformer, install a shielding device for this equipment to prevent malfunction.
- Install the equipment onto an incombustible object such as a metal. Keep the equipment away from combustible objects. Failure to comply may result in a fire.
- For any equipment not supporting hot swapping, disconnect all external power supplies of the system before installing/disassembling the equipment. Failure to comply may result in an electric shock or equipment fault or malfunction.

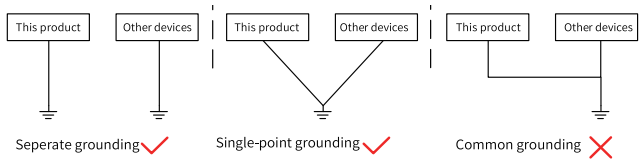
Caution

- Cover the top of the equipment with a piece of cloth or paper during installation. This is to prevent unwanted objects such as metal chippings, oil, and water from falling into the product and causing faults. After installation, remove the cloth or paper for effective ventilation and cooling.
- During installation, fasten the equipment securely to appropriate connectors with connecting hooks. Improper installation may cause the equipment malfunction, failure, or loosening.

Wiring

DANGER

- The equipment must be operated by professionals who have received electrical trainings and have sufficient electrical knowledge.
- Before wiring, switch off all power supplies of the equipment. Wait for at least the time designated on the warning label before further operations because residual voltage still exists after power-off. Measure the DC voltage of the main circuit and make sure that it is below the safety voltage. Failure to comply may result in an electric shock.
- Do not perform wiring, remove the equipment cover, or touch the circuit board with power-on. Failure to comply may result in an electric shock.
- Check that the equipment is grounded properly. Failure to comply may result in an electric shock. Separate grounding or single-point grounding, other than common grounding, is recommended.



- 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 an electric shock or equipment damage.
- Install the terminal cover attached to the equipment before power-on or operation after wiring is completed. Failure to comply may result in an electric shock.

Wiring

• Never connect the power cable to output terminals of the equipment. Failure to comply may cause equipment damage or even a fire. • Cables must meet size and shield requirements. The shield must be reliably grounded at one end. • Fix the terminal screws with the tightening torque specified in the guide. Improper tightening torque may cause the connecting part over-temperature or damage, resulting in a fire. • After wiring, be sure that all cables are connected properly with no screws, gaskets, or exposed cables inside the product, or it may result in an electric shock or equipment damage.

• Follow the proper electrostatic discharge (ESD) procedure and wear an anti-static wrist strap to perform wiring. Failure to comply may result in damage to the equipment or its internal circuits. • Use shielded twisted pair cables for the control circuit. Connect the shield to the grounding terminal of the equipment. Failure to comply may result in equipment malfunction.

Power-on

• The equipment must be operated by professionals who have received electrical trainings and have sufficient electrical knowledge. • Before power-on, check that the equipment is installed and wired properly. • Before power-on, make sure that the power supply meets equipment requirements to prevent equipment damage or even a fire. • Never open the cabinet door or protective cover of the equipment, touch any terminal of the equipment, or remove any part of the equipment with power-on. Failure to comply may result in personal injury or even death.

After wiring, perform a trial run of the equipment to confirm it operates safely. Failure to comply may result in personal injury or equipment damage.

Operation

• The equipment must be operated by professionals. Failure to comply will result in personal injury or even death. • During the equipment operation, never touch any terminals or remove any parts of the equipment. Failure to comply may result in an electric shock.

• Never touch the enclosure, fan, or resistor with a bare hand. Failure to comply may result in burns. • Prevent metal or other objects from falling into the equipment during operation. Failure to comply may result in a fire or equipment damage. • Do not bring live parts into contact with the metal enclosure of the running equipment. Failure to comply may result in a fire or equipment damage.


Operation
• Operate the equipment within the specified environmental conditions. Failure to comply may result in equipment failure or damage. • Touch the HMI panel with hands only. Failure to comply may cause panel damage, which is out of the warranty range.
Safety recommendations • In positions where the operator directly touches the mechanical components, for example, where a mechanical device is loaded/unloaded, or where a machine runs automatically, manually-operated devices or other alternative means must be carefully designed so that they are independent of the product to start or stop the automatic operation 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.

Battery usage
 • Do not replace batteries that do not meet product requirements. Failure to comply may cause a fire, explosion, injury, or death. • Do not throw batteries in fire or hot ovens or crush or cut them. Failure to comply may cause a fire, explosion, injury, or death. • Do not expose batteries to extremely high temperatures. Failure to comply may cause a fire, explosion, injury, or death. • Do not swallow batteries. Failure to comply may result in chemical burns. • Seek for medical treatment immediately if a button battery is swallowed, because this may cause severe internal burns within two hours and even death.
 • Keep batteries out of reach of children. • If the battery compartment is not securely closed, stop using the product immediately and keep it out of reach of children.

Maintenance
 • Maintenance must be performed by qualified maintenance personnel who have received electrical trainings and have sufficient electrical knowledge. • Never maintain the equipment with power-on. Failure to comply may result in an electric shock. • Before maintenance, disconnect all the power supplies of the equipment and wait for at least the time specified on the warning label. • Disconnect all external power supplies of the system before cleaning the equipment or re-tightening screws on the terminal block or screws of the connectors. Failure to comply may result in an electric shock. • Before disassembling this equipment or connecting or disconnecting cables, disconnect all external power supplies of the system. Failure to comply may result in an electric shock or malfunction.
 Perform routine and periodic inspection and maintenance on the equipment according to maintenance requirements and keep a maintenance record.

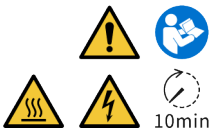
Repair
 • Repair must be performed by qualified repair personnel who have received electrical trainings and have sufficient electrical knowledge. • Never repair the equipment with power-on. Failure to comply may result in an electric shock. • Before inspection or repair, disconnect all the power supplies of the equipment and wait for at least the time specified on the warning label.

Repair
WARNING • Submit a request for repair based on the warranty agreement. • When the fuse is blown or the circuit breaker or earth leakage circuit breaker (ELCB) trips, wait for at least the time specified on the warning label before power-on or further operations. Failure to comply may result in equipment damage, personal injury, or even death. • Troubleshooting and repair of a faulty or damaged equipment must be performed by professionals based on the repair instructions, with the repair records kept properly. • Replace quick-wear parts of the equipment according to the replacement instructions. • Never operate the damaged equipment. Failure to comply may result in personal injury or death, or greater equipment damage. • After replacing the equipment, always check the wiring and configure the parameters again.

Disposal
WARNING • Dispose of the retired equipment in accordance with applicable national regulations and standards. Failure to comply may result in property damage, personal injury, or death. • Recycle retired equipment in accordance with industry waste disposal standards to avoid environmental pollution. • Treat the retired equipment as industrial waste. Dispose of used batteries according to local laws and regulations.

Safety labels

To ensure safe operation, comply with safety labels on the equipment and do not damage or remove the labels. The following table describes the meanings of the safety labels.

Safety labels	Description
	• Read through the guide and safety instructions before operating the equipment. Failure to comply may result in equipment damage, personal injury, or death. • Do not touch the terminals or remove the cover with power-on or within 10 minutes after power-off. Failure to comply may result in an electric shock. • The surface of the running equipment may become very hot. Do not touch these hot areas. Failure to comply may cause burns.

1.2 Industrial Information Security

The product provides interfaces for network connection and data transmission. To protect factories, systems, machines, and networks from cyberattacks, it is essential to implement proper protection mechanism for industrial security.

Customers are responsible for providing and maintaining a secure connection between the product and their network or any other network to protect their factories, systems, machines, and networks from unauthorized access. Such systems or machines can be connected to an enterprise network or the Internet only when a secure connection is established and appropriate security measures (such as using antivirus software or installing firewalls) are in place.

Inovance continuously develops and improves products and solutions to enhance safety. It is strongly recommended that you update the product promptly and always use the latest version.

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:

- Always use the latest software version. If the product version is no longer supported or the latest version is not used, you will be exposed to increased risk of cyber attacks.
- Develop and maintain appropriate protective measures (including but not limited to antivirus software, firewalls, WAF, IPS/IDS, situational awareness system, identity authentication, and data encryption) to prevent the files in mobile storage devices from being damaged by malware, and to protect the products, networks, systems, and interfaces from unauthorized access, tampering, hacking, data leakage, or information theft.
- Check all safety-related interfaces and settings after commissioning.

2 Product Introduction

- GL20-0032ETP-M is a 32-channel digital output expansion module with ejector header. It supports source output and can be used with communication interface modules (for example, GL20-RTU-ECT32).
- GL20-0032ETN-M is a 32-channel digital output expansion module with ejector header. It supports sink output and can be used with communication interface modules (for example, GL20-RTU-ECT32).

3 Model and Nameplate

Model

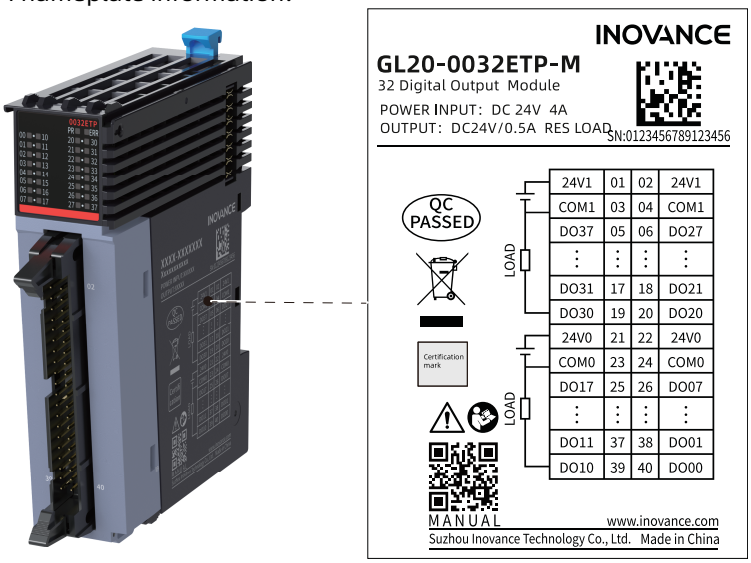
GL 20 - 00 32 E TP - M

① ② ③ ④ ⑤ ⑥ ⑦

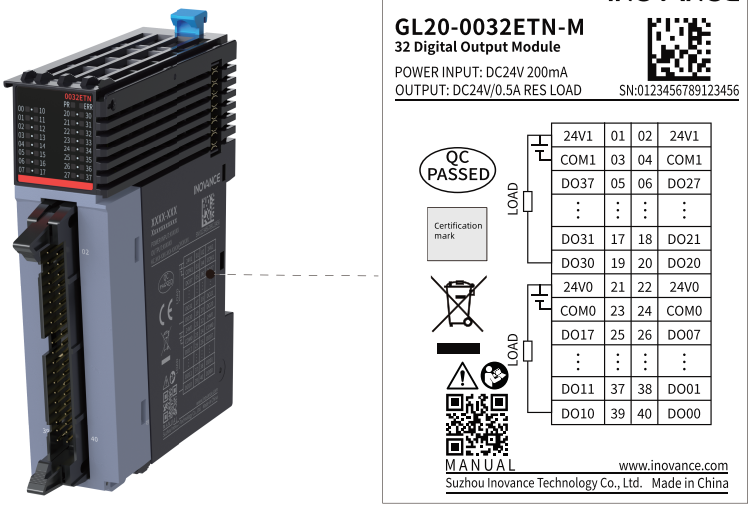
①	**Product information** GL: General local module	⑤	**Module type** E: Logic I/O expansion module
②	**Series** 20: 20 series module	⑥	**Output type** • TP: Transistor output (source) • TN: Transistor output (sink)
③	**Number of I/O channels** 00: 0 input channel	⑦	**Terminal type** M: Ejector header (For the PUSHIN terminal, this item is empty by default)
④	**Number of I/O channels** 32: 32 output channels	-	

Nameplate

- GL20-0032ETP-M nameplate information:



- GL20-0032ETN-M nameplate information:

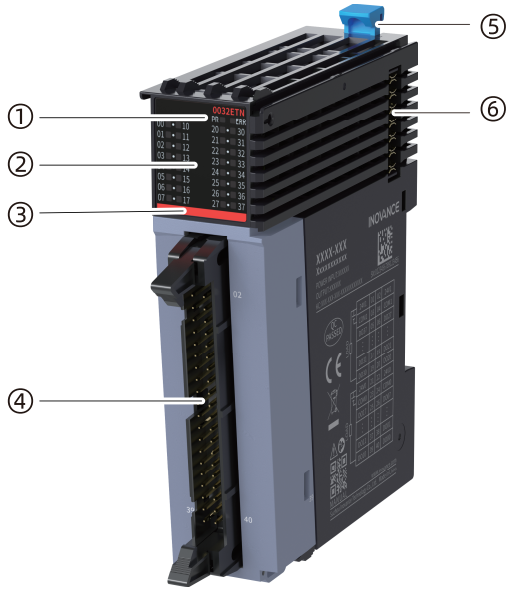


Based on the above model and nameplate information, relevant ordering information of the product is provided in the following table.

Model	Description	Product code	Applicable model
GL20-0032ETP-M-INT	GL20 series 32-channel digital PNP transistor output module	01441529	Applicable to GL20 series communication interface modules (for example, GL20-RTU-ECT32)
GL20-0032ETN-M-INT	GL20 series 32-channel digital NPN transistor output module	01441076	

4 Components

Only components of GL20-0032ETN-M are described below, because the components of GL20-0032ETP-M and GL20-0032ETN-M are identical.



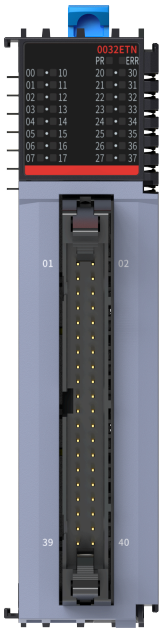
No.	Name	Description			
①	Signal indicator	PR (POWER+RUN)	Power/Operation indicator	Yellow-green	• Steady ON: The module is in normal operation. • Fast flashing: The module is addressed successfully. • Slow flashing: The module is powered on but not addressed. • OFF: The module is not powered on or is faulty.
		ERR	Fault indicator	Red	ON: The module is faulty.
②	I/O signal indicator	00–37	I/O signal indicator	Yellow-green	• ON: Input/Output active • OFF: Input/Output inactive
③	Color identification		Red: Digital output		Orange: Analog output
			Gray: Digital input		Green: Analog input
			White: Communication		Blue: Other modules
④	Ejector header	For details, see *"5.1 Terminal Assignment" on page 14*			
⑤	Rail mounting latch	Used to secure the module to the DIN rail.			
⑥	Three-position terminal block	Used for backplane bus power supply and communication.			

Note

- Fast flashing: ON for 200 ms and OFF for 200 ms (cyclic).
- Slow flashing: ON for 200 ms and OFF for 1 s (cyclic).

5 Terminal Wiring

5.1 Terminal Assignment



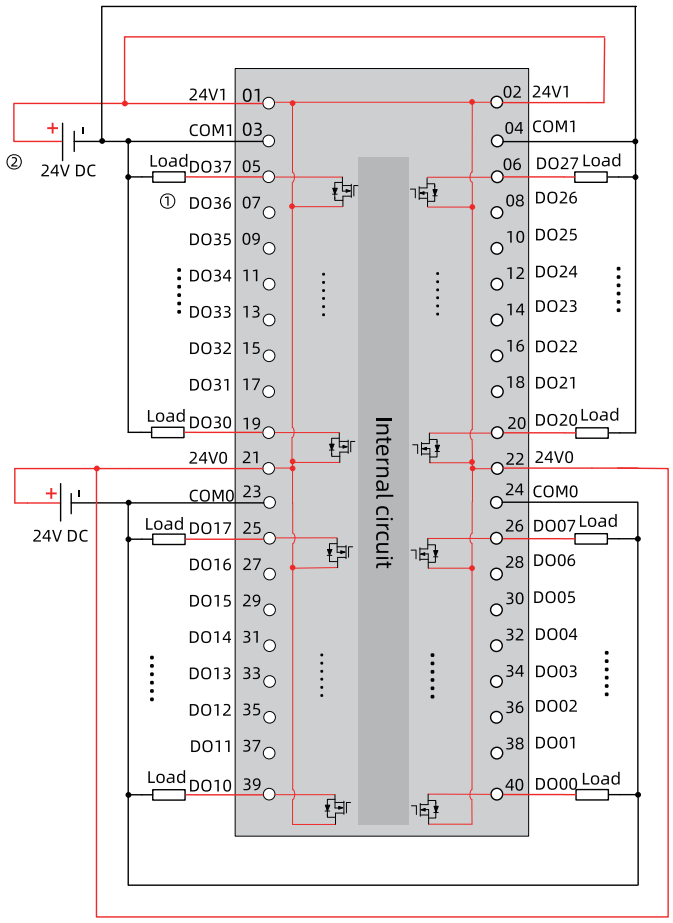
Indicator (left)	Signal (left)	Terminal (left)	Terminal (right)	Signal (right)	Indicator (right)
-	24V1	01	02	24V1	-
-	COM1	03	04	COM1	-
37	DO37	05	06	DO27	27
36	DO36	07	08	DO26	26
35	DO35	09	10	DO25	25
34	DO34	11	12	DO24	24
33	DO33	13	14	DO23	23
32	DO32	15	16	DO22	22
31	DO31	17	18	DO21	21
30	DO30	19	20	DO20	20
-	24V0	21	22	24V0	-
-	COM0	23	24	COM0	-
17	DO17	25	26	DO07	07
16	DO16	27	28	DO06	06
15	DO15	29	30	DO05	05
14	DO14	31	32	DO04	04
13	DO13	33	34	DO03	03
12	DO12	35	36	DO02	02
11	DO11	37	38	DO01	01
10	DO10	39	40	DO00	00

5.2 Terminal Wiring Diagram

Precautions

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

Circuit wiring diagram for GL20-0032ETP-M

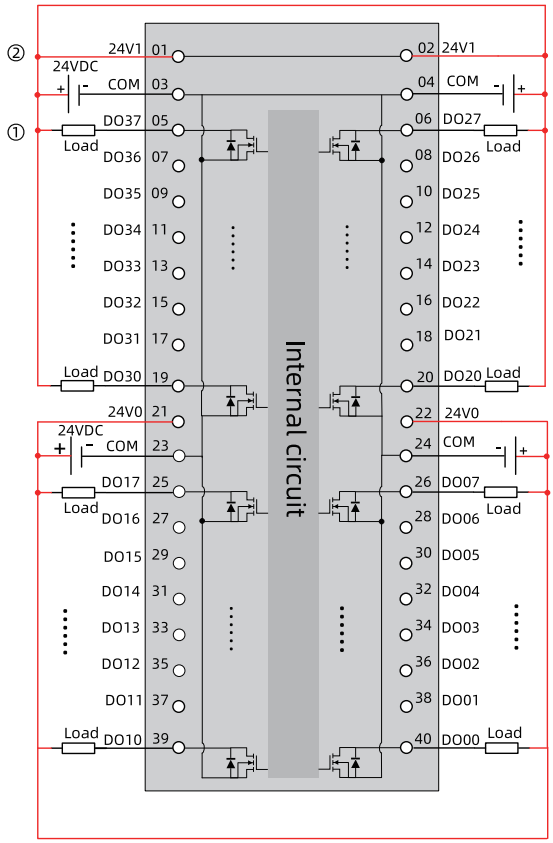


No.	Description
①	Terminals (05 to 19), (06 to 20), (25 to 39), and (26 to 40) are output terminals for wiring.
②	Terminals (01, 03), (02, 04), (21, 23), and (22, 24) are power supply terminals for wiring.

Note

- It is recommended to add one COM connection for every additional 8 output channels to enhance the current-carrying capacity.
- The terminal current-carrying capacity is limited at full load. Do not connect multiple 24V wires to a single terminal.

Circuit wiring diagram for GL20-0032ETN-M



No.	Description
①	Terminals (05 to 19), (06 to 20), (25 to 39), and (26 to 40) are output terminals for wiring.
②	Terminals (01, 03), (21, 23), (02, 04), and (22, 24) are power supply terminals for wiring.

Caution

It is recommended to add one COM connection for every additional 8 output channels to enhance the current-carrying capacity.

6 Technical Specifications

Mechanical specifications

Item	GL20-0032ETP-M	GL20-0032ETN-M
IP rating	IP20	
Dimensions (W x H x D)	24 mm x 100 mm x 75 mm	
Weight	Approx. 90 g	Approx. 87 g

Power supply specifications

Item	GL20-0032ETP-M	GL20-0032ETN-M
Rated bus input voltage	5 VDC (4.75 VDC to 5.25 VDC)	
Rated bus input current	90 mA (typical@5 V)	85 mA (typical@5 V)
Rated terminal input voltage	24 VDC (20.4 VDC to 28.8 VDC)	
Rated terminal input current	4 A (typical@24 V)	100 mA (typical@24 V)
Rated terminal output voltage	None	
Rated terminal output current	None	
Hot swap	Not supported	

Interface specifications

Item	GL20-0032ETP-M	GL20-0032ETN-M
Output type	Digital output, high-side transistor output	Digital output, low-side transistor output
Output mode	Source	Sink
Number of output channels	32	
Output voltage class	24 VDC (20.4 VDC to 28.8 VDC)	
Output load (resistive load)	0.5 A/channel; 1 A/group; 4 A/module	0.5 A/channel; 8 A/module
Output load (inductive load)[1]	7.2 W/channel; 6 W/group; 24 W/module	7.2 W/channel; 48 W/module
Output load (lamp load)[2]	5 W/channel; 9 W/group; 36 W/module	5 W/channel; 36 W/module
Hardware response time (ON/OFF)	300 μs/300 μs	100 μs/100 μs
OFF-state leakage current	10 μA	
Switching frequency	Resistive load: 100 Hz; inductive load: 0.5 Hz; lamp load: 10 Hz	
Isolation	No	Yes
Output status display	The output indicator turns on (controlled by software) when the output is in drive state.	

Item	GL20-0032ETP-M	GL20-0032ETN-M
Output derating	Taking resistive load as an example, the module operates at full load at 45°C (with a total output current of up to 4 A when 32 output channels are activated simultaneously), and operates at 50% of full load at 55°C (with a total output current of up to 2 A when 32 output channels are activated simultaneously).	The module operates at full load at 45° C (with a total output current of up to 8 A when 32 output channels are activated simultaneously), and operates at 50% of full load at 55°C (with a total output current of up to 4 A when 32 output channels are activated simultaneously).
Protection function	Supports channel-level short-circuit and overcurrent protection, with a response current of 1.3 A per channel. The channel is deactivated in case of overcurrent or short circuit.	Short-circuit protection, overcurrent protection



- [1]: Stopping inductive loads generates a large back EMF, which lasts for a time shorter than the configured switch-off cycle.
- [2]: When the lamp load is closed, a large inrush current is generated, generally 10 to 15 times the normal operating current. This module can safely drive loads with an inrush current up to 10 A for durations within 300µs.

Software specifications

Item	GL20-0032ETP-M	GL20-0032ETN-M
Output PDO data size	4 bytes	
Programming software version	• AutoShop V4.12.0.0 and later • InoProShop V1.9.1.0 and later	• AutoShop V4.8.1 and later • InoProShop V1.7.3 and later
Output state mode during fault stop	Output zero, last value, or preset value	
Preset output value during fault stop	0 or 1	
Output terminal fault detection and indication	Supported	Not supported
Logic level configuration for output channels	Not supported	
Independent channel configuration	Not supported	
Diagnostic reporting function	Not supported	
Output in the stop mode	According to output state mode during fault stop and preset output value, without further refreshing	
I/O mapping	Supports bitwise, bytewise, and wordwise addressing	

7 Environmental Specifications

Item	Specification
Installation/Operating environment	Free from conductive dust, conductive fibers, explosive dust, flammable gases, water mist/greasy dirt, corrosive dusts/gases, strong vibration, and repetitive shock
Altitude	≤ 2000 m
Pollution degree	Level 2
Immunity	2 kV on power supply line (Conforms to IEC 61000-4-4)
Overvoltage category	I
EMC immunity level	Zone B, IEC61131-2
Anti-static rating	Contact discharge +/-6 kV and 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; 10 cycles per axis. • Transportation scenario: Tested according to IEC60068-2-64, 0.01 g^2/Hz power spectral density at 5 Hz to 100 Hz; 0.001 g2/Hz power spectral density at 200Hz; 1.14 g G_{rms}
Shock resistance	Application/Transportation scenario: Tested according to IEC60068-2-27; 15 g peak acceleration, 11 ms pulse width, 18 shocks in total in X, Y and Z axes
Operating temperature/ humidity	• Temperature: -20°C to +55°C • Humidity: < 95% RH (30°C), without condensation
Storage temperature/ humidity	• Temperature: -20°C to +60°C • Humidity: < 95% RH (30°C), without condensation
Transportation temperature/humidity	• Temperature: -40°C to +70°C • Humidity: < 95% RH (40°C), without condensation

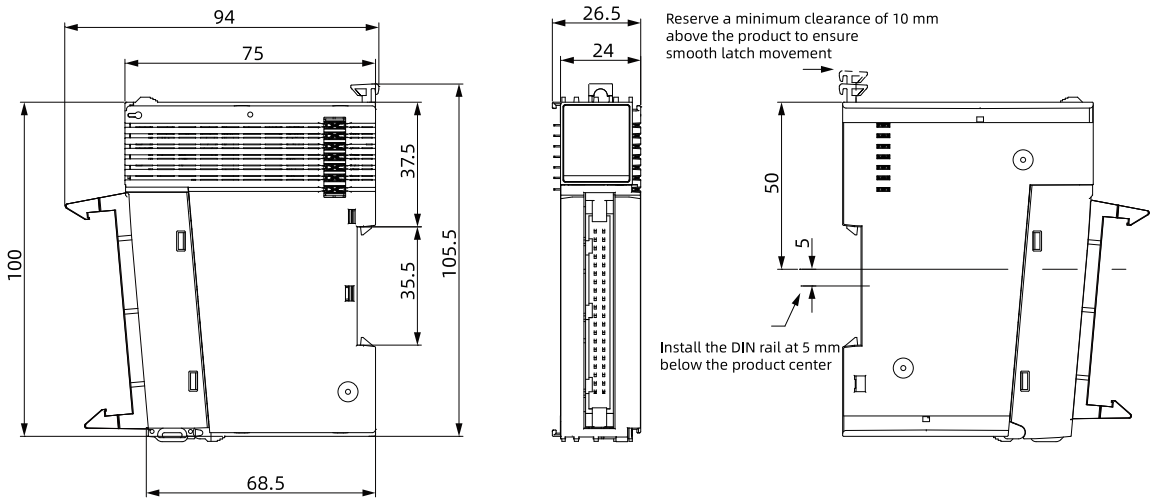
8 List of Spare Parts

The terminal type for this module is ejector header. After the module is installed, it is connected to the external IO terminal blocks via cables. For ordering data of the terminal blocks and cables, see the following table.

Name	Material code	Specification and model	Description	Remarks
Cable (without a connector)	15310167	XA3210A-40-L0.5M-01	40-pin MIL cable (500 mm)	High density adapter cable, including two 40-pin MIL connectors (500 mm)
	15310166	XA3210A-40-L2M-01	40-pin MIL cable (2000 mm)	High density adapter cable, including two 40-pin MIL connectors (2000 mm)
Terminal block	15020452	T024-K	40-pin MIL-to-screw terminal block	T024-K

9 Dimension Drawing

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



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.

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