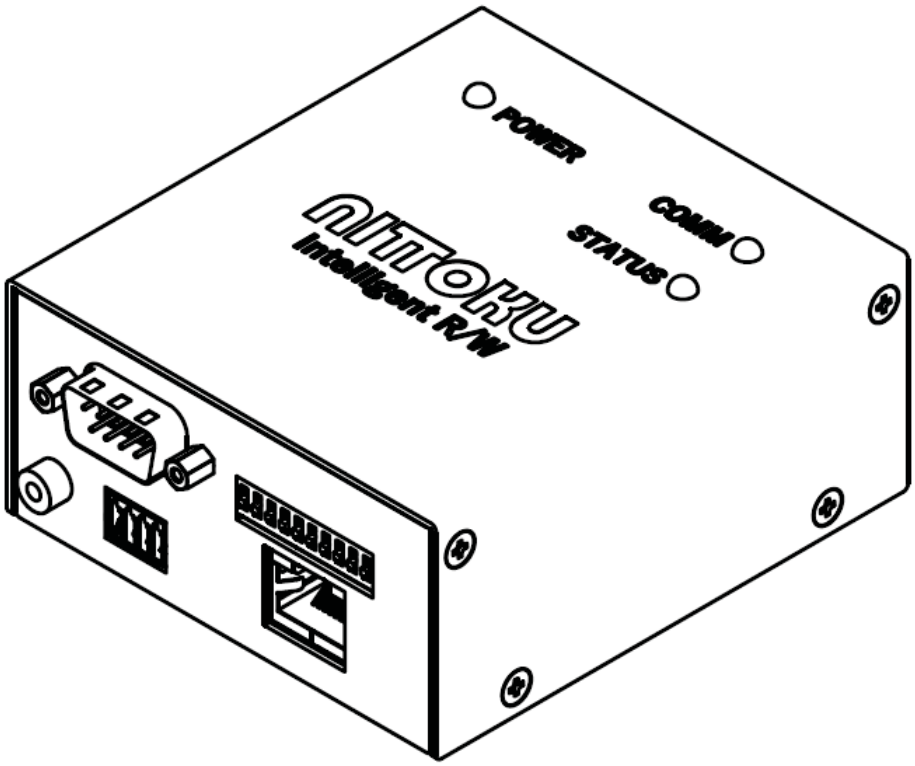
NITTOKU
Design the Next

Intelligent R/W

MODEL: ITS-LRW210

User Manual



Ver1.1

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TEL:(＋81) 48-615-2117 (direct dial call)

Thank you for your purchase.

Please read this manual carefully to ensure correct use.

After reading it, please keep it in a safe place. For details, please refer to the user manual.

This product should be handled by a specialist who has knowledge of electricity.

Reguations

1． Taiwan

Model: ITS-LRW210

Brand: NITTOKU

	Antenna
CCAJ22LP***0T3	ITS-LANT30S-1 ITS-LANT30S-2U
CCAJ22LP***0T3	ITS-LANT30S-3
CCAJ22LP***0T3	ITS-LANT30S-3U

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前述合法通信，指依電信管理法規定作業之無線電通信。

低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Reguations(continue)

2 . The United States

FCCID	Model No	Antenna
2A29T-ITSLRW210V11	ITS-LRW210	ITS-LANT30S-1
		ITS-LANT30S-2U
		ITS-LANT30S-3
		ITS-LANT30S-3U

FCC Note

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including
interference that may cause undesired operation.

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

Do not remove the ferrite core installed on the antenna cable for RF interference suppression

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Safety precautions

Make sure to read before use.

For safety reasons, be sure to observe the following items.

① Please disconnect the power supply of the R/W body when loading and unloading the power supply, signal line wiring, connector and antenna.

② Please do not use it in places that produce flammable and explosive gases.

③ During installation, please make sure to tighten the screws (recommended torque: 0.6 N/m).

④ In order to ensure the safety of operation and maintenance, please install it away from high-voltage equipment and power equipment.

⑤ Please do not put foreign matters including water and metal, etc. into the gap of the box. It may cause fire and electric shock.

⑥ Please do not disassemble, repair or modify this product.

⑦ Please treat it as industrial waste when it is discarded.

⑧ Please pay attention to ventilation when installing.

⑨ Please do not install near equipment that generates a lot of heat (heater, transformer, large capacity resistor and amplifier, etc.).

⑩When you feel that the product is abnormal, please stop using it immediately, turn off the power supply and contact the branch of the Company.

Precautions for use

Make sure to read before use.

1. Storage environment

① Please pay attention to the ambient temperature and humidity of the storage place during storage.

2. Installation

① Please avoid direct sunlight during installation.

② Please avoid corrosive gas, dust, metal powder and salt during installation.

③ Please avoid water, oil and chemical droplets during installation.

④ Please avoid places with large temperature changes during installation.

⑤ Please install in a place with low humidity and no condensation.

⑥ Please avoid places where the use temperature exceeds the specification range during installation.

⑦ Please avoid the place where vibration or impact is directly transmitted to the main engine.

3. Installation

① This product uses 134.2 kHz frequency band to communicate with ID tag. Some transceivers, motors, monitoring equipment, power supplies (power IC), etc. produce radio waves (noise) that affect communication with ID tags. If you use it near equipment that may produce noise, please check the impact in advance.

Precautions for use (Continue)

4. Wiring work

① Do not carry out reverse connection of ＋and－ power terminals.

② Please use it at the voltage specified in this manual.
③ Please do not use the same wiring path as high voltage wire or power wire.
④ In order to prevent electrostatic damage, when contacting the signal wire inside the terminal part or connector, antistatic measures such as wrist overlap should be taken before working.
⑤ When installing or disassembling the antenna, please do not apply too much load to the connector.
⑥ Please use the correct antenna conforming to R/W.

5. Power supply and grounding wire

① Grounding terminal (frame grounding) terminal must adopt Class D grounding, because the above matter will lead to performance degradation.

6. Cleaning

① Please use commercially available alcohol when cleaning.
② Because organic solvents including diluent, benzin, benzene and acetone, etc. will peel off the resin part and coating, please do not use them.

7. Communication performance

① Because the communication performance will change according to the factors including metal, noise and temperature, etc. at the antenna setting place, please confirm in the actual use environment.
② Because the communication area will change according to the ID tag, please leave enough space when designing.

8. Screw fastening glue

① The screw fastening glue (screw lock) should not be used in the screw of the deteriorated resin portion with possibility of cracking or the resin-made washer portion.

9. Communicate with the host

① After confirming the start of this product, please communicate with the host. In addition, please perform processing such as clearing the reception buffer of the device at initial startup because the host interface may send out uncertain signals when starting this product.

10. Precautions for product startup

① Because of the risk of product failure, please do not turn off the power supply immediately after turning on the power supply, or when mode switching, or when the product is started by reset, etc.

11. Transponder

① This machine communicates with RI-TRP-DR2B (-30), RI-TRP-DR2B (-40) and RI-TRP-WR2B (-30) produced by TI Company.
② Regarding the failure of the transponder, it is difficult to assume the guarantee responsibility.

Introduction

This product is a reader/writer that can read and write data of Texas Instruments (TI)-made tag, RI-TRP-DR2B (-30), RI-TRP-DR2B (-40) and RI-TRP-WR2B (-30).

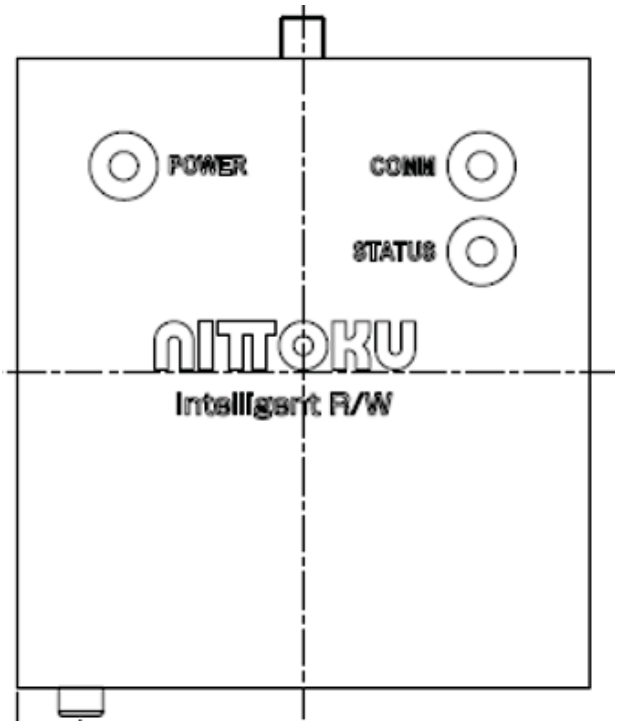
Rating value

Operating frequency	:	134.2kHz
Wireless standard	:	ISO/IEC 18000-2 and SEMI E144-0312
Communication interface	:	RS-232C, RS-485, Ethernet
Protective structure	:	Equivalent to IP20 (non-corrosive gas)
Operating temperature range	:	0 ～＋40℃ (no freezing)
Operating humidity range	:	10～85%RH (no condensation)
Power voltage	:	DC24V +10%, -20% (Class 2 power supply)
Consumption current	:	Below 0.4 A (at DC24.0 V)
Main body dimensions	:	80mm wide × 80mm long × 38mm thick (excluding protrusions)
Main body weight	:	197g
Adaptive antenna	:	ITS-LANT30S-1 ITS-LANT30S-2U ITS-LANT30S-3 ITS-LANT30S-3U

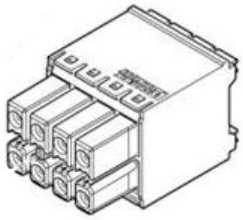
※ In order to improve performance, this rating value is subject to change without prior notice.

●Components

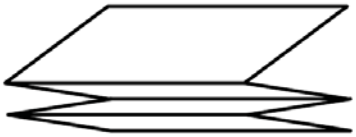
・Please check the contents included with the product.



ITS-LRW210 main unit



Power connector



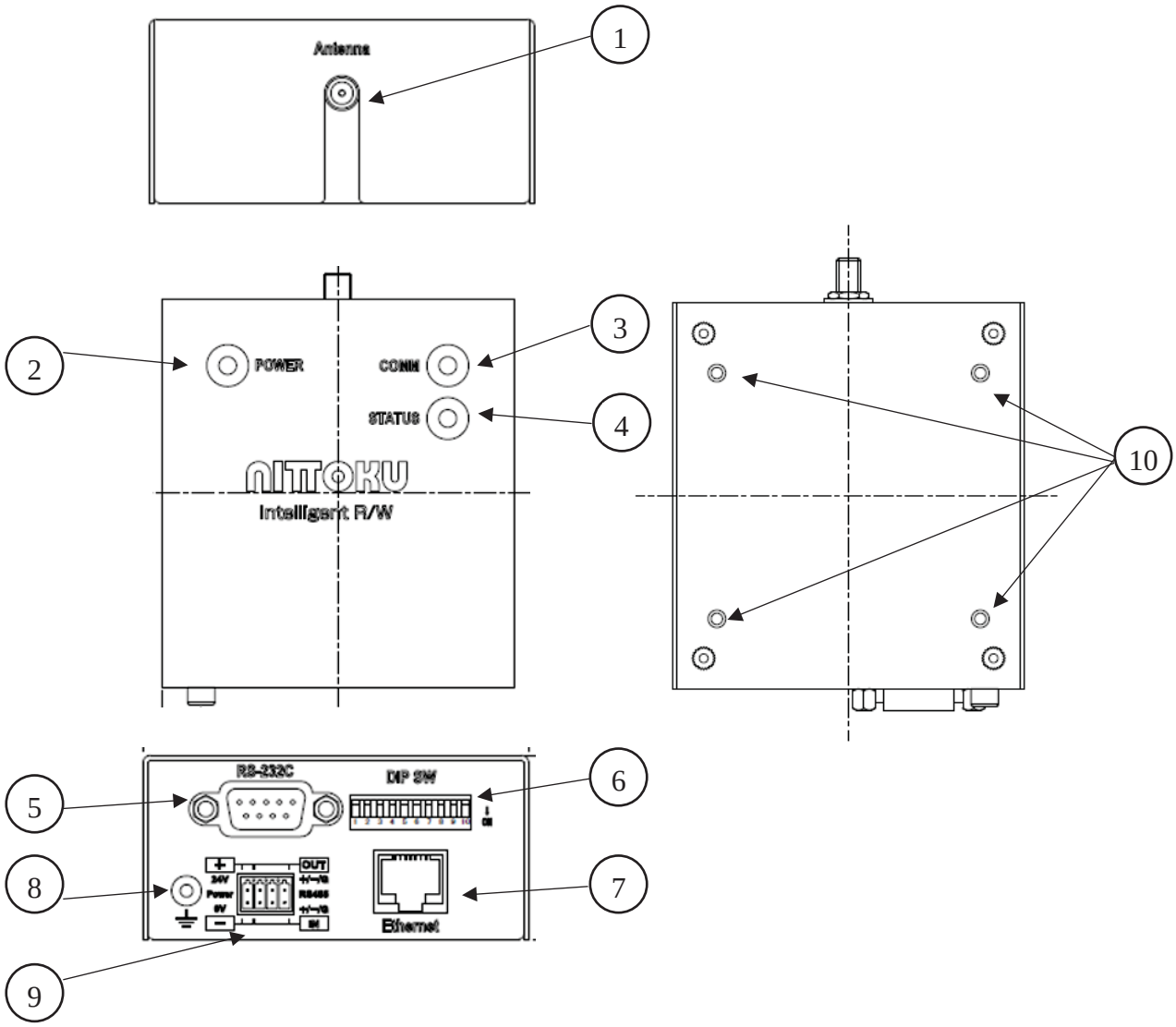
Instruction manual (this document)

☐ ITS LRW-210 main unit

☐ Power connector

☐ User manual

● Names of the components

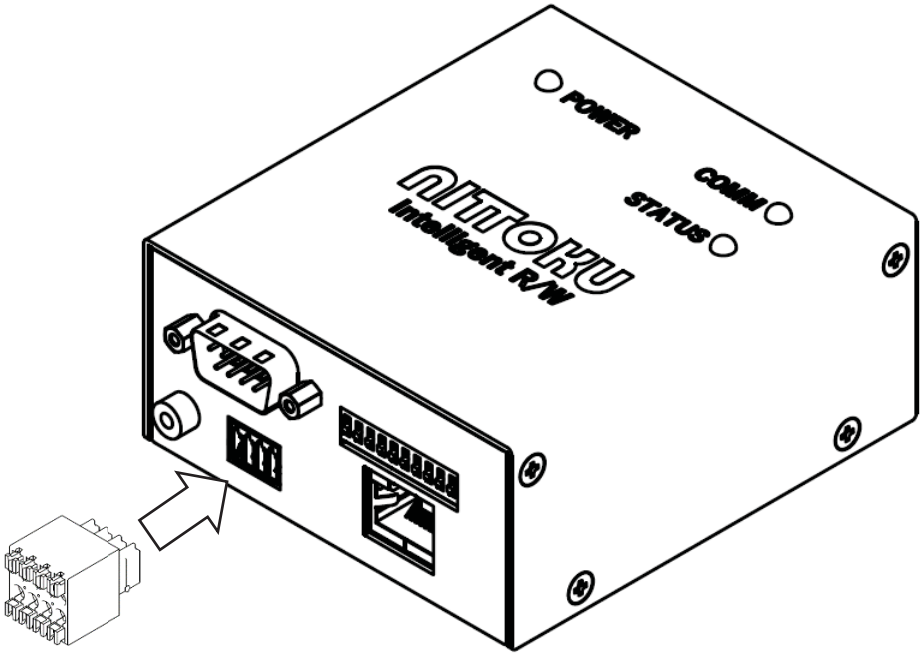


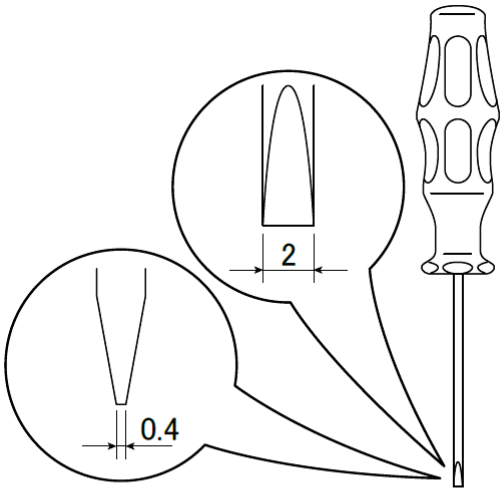
① : Antenna connector
② : Power lamp (power supply)
③ : COMM lamp (in communication)
④ : STATUS lamp (status)
⑤ : RS-232C connector jack
⑥ : DIP-SW
⑦ : Ethernet connector jack (LAN)
⑧ : Grounding terminal
⑨ : Power connector jack (DC24V, RS-485)
⑩ : M3 Mounting hole×4

● Preparation

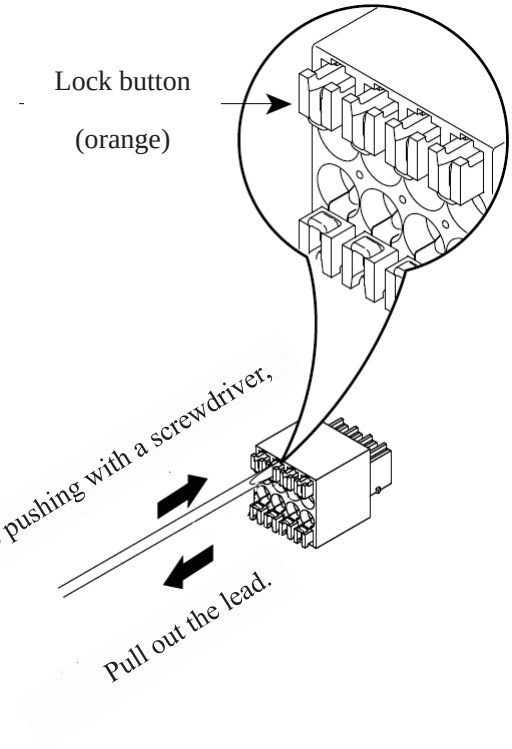
・Please insert the power connector into the main unit.

・If you want to disconnect the power connector, use a dedicated driver or equivalent and disconnect the power connector while pressing the lock button on the connector.





Phoenix Contact-made
Dedicated driver
（szs0,4x2,0-1205202）

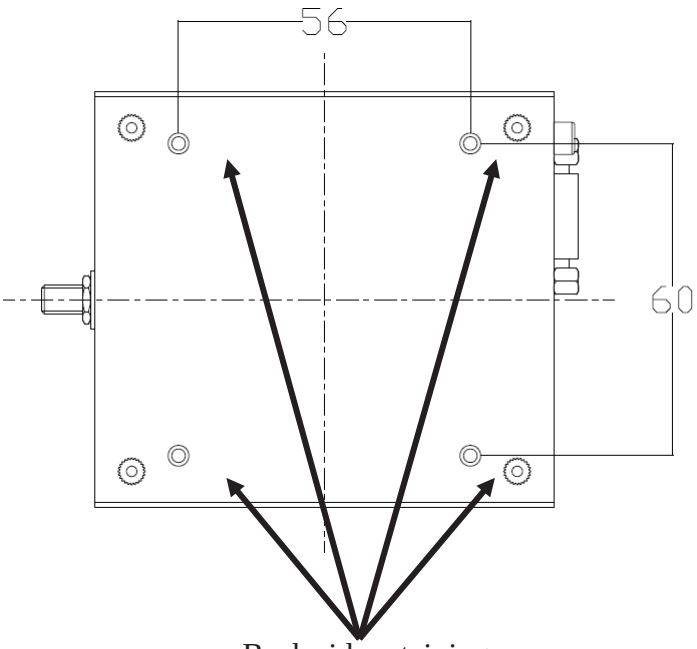


● Installation

・Please fix the 4 positions in the special mounting holes at the back side of the main unit with M3 screws.

・Please ensure that the ground terminal is grounded to prevent malfunction and faults caused by surges.

・Please do not extend the screw over 3mm from the mounting plate to the inside of the body.
There is risk of damage to internal parts.



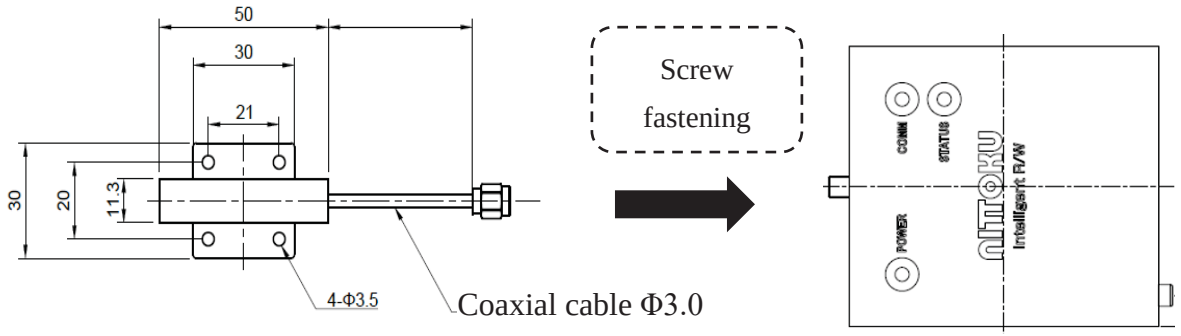
Back side retaining screws
(M3 burring)

● Installation of antenna

・Please connect the specified antenna to the antenna connector.

Make sure to tighten with an RP-SMA torque wrench (0.6-1.0 Nm).

* The main unit antenna connector may be damaged if tightened with a mechanical wrench.



・The antenna head shall be fixed according to the usage method of each antenna.

・When fixing the antenna coaxial cables, do not tighten it to such an extent that it deforms the coaxial cables.

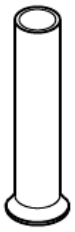
(This may affect the properties.)

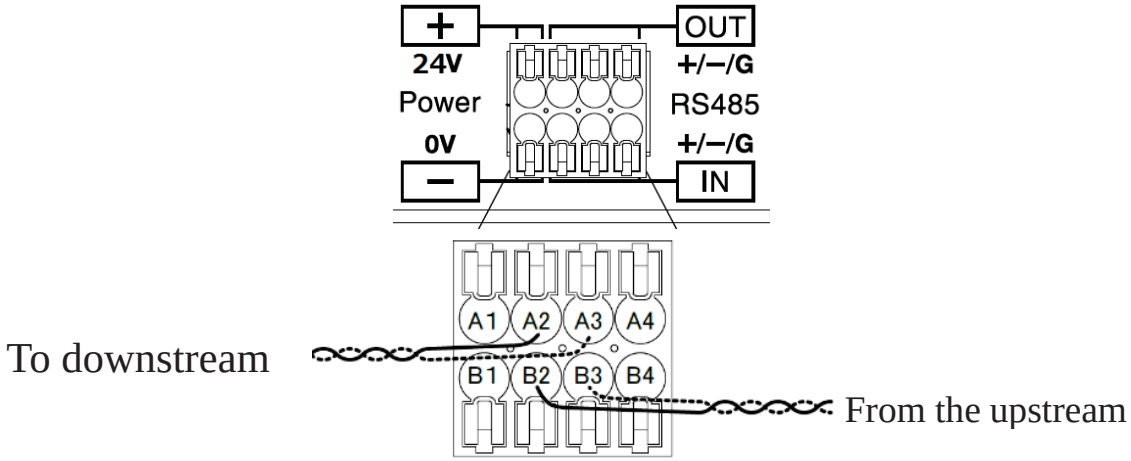
● Wiring

・Please carry out wiring of the power and signal wires according to the pin configuration diagram in the figure below.

・Make sure to use twisted pair wiring.

・It is recommended to use rod terminals at the tip of the wire.

	Phoenix Contact-made
	Rodless sleeve terminal－AI0.25-8-YE-3203037・・・AWG26-24
	Rodless sleeve terminal－A0.25-7-3202478・・・AWG26-24
	Rodless sleeve terminal－A0.34-7-3009202・・・AWG22
	Single wire-AWG26-20
	Stranded wire -AWG26-20



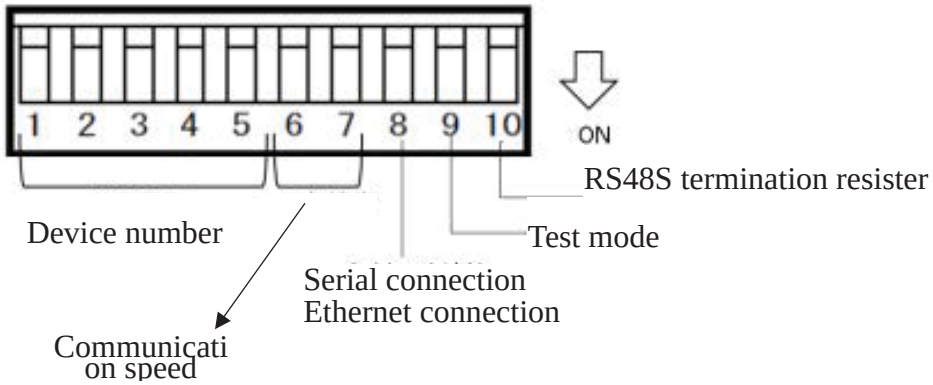
Pin configuration	A1: Power supply DC+24V Input	
	B1: Supply GND (0V)	
	A2:＋OUT RS-485 daisy chain connection output＋	If RS-485 communication is not used, no connection is required.
	A3:－OUT RS-485 daisy chain connection output-	
	A4: SG ground (bus side)	
	B2:＋IN RS-485 daisy chain connection input＋	
	B3:－IN RS-485 daisy chain connection input -	
	B4: SG ground (bus side)	

※ Please use RS-485 ground A4 and B4 as required.
The RS-485 communication unit is isolated from internal circuits.

・LAN Cable is a shielded twisted pair type.

● DIP-SW settings

・Use DIP-SW to set the device ID for serial communication, the IP address for Ethernet communication, the switching of communication mode, on/off of termination resistor and on/off of test mode.
Please refer to the user manual of the equipment for details.



● LED display

・The LED display at the time of action shows the status display in the following table.

Reader/writer status	POWER LED	COMM LED	STATUS LED
Power OFF	Light OFF	Light OFF	Light OFF
Power ON normally	Green light ON	Light OFF	Light OFF
Power supply error	Green light ON	Light OFF	Flashing red light
Command under processing	Green light ON	Orange light ON	Light OFF
Command completed successfully	Green light ON	Light OFF	Green light ON
Command completed abnormally	Green light ON	Light OFF	Red light ON

Guarantee provisions

9.1 Warranty terms

1) Guarantee period

The warranty period of this product is one year after purchase or delivery to the designated place. It should be noted that the warranty period of the repaired products will not exceed the warranty period before the repair.

Furthermore, regardless of the warranty period, the price of the Company's products does not include service fees such as technical personnel dispatch.

2) Scope of guarantee

If this product fails during the above warranty period, the Company will provide free replacement products or repair the faulty products at the place where the products are purchased.

However, if the cause of the failure is the following (a-h), it is not included in this warranty.。

a. Regarding use relating to conditions, environments and handling conditions other than those recorded in the operating instructions, user manuals and main unit attention labels

b. In case of reasons other than this product

c. In case of renovation or repair by a party except the Company or a service company commissioned by the Company

d. In case of uses other than the original purpose

e. In case of application in equipment, production lines or systems that do not conform to or do not abide by the regulations, safety and industry standards

f. In the event that the scientific and technical level at the time of shipment from the Company can't be predicted.

g. Other reasons other than the Company's responsibility, such as natural disasters or disasters.

The warranty here refers to a single warranty for the Company's single products, and the damage caused by the failure of the Company's products is not included in the scope of guarantee.

Guarantee provisions (continued)

9.2 Limitation of liability

1) No matter whether it is within the warranty period or not, the Company shall not be liable for any damage caused by reasons not attributable to the Company, the Company shall not be responsible for the opportunity loss and profit loss caused to customers due to the failure of this product, the damage caused by special circumstances foreseen or unforeseen by the Company, secondary damage and accident compensation, the damage caused by products other than this product and the compensation for other businesses.
2) The Company does not assume any responsibility for the consequences arising from the program of this product.
3) Customer shall confirm the compatibility of this product with the systems, machines and equipment used. Otherwise, the Company is not responsible for the compatibility of this product.

9.3 Terms and Conditions

1) This product is used under such conditions that even if this product fails or nonconformity occurs, the application will not cause serious accidents, and in the event of a failure or failure, backup and fail-safe functions will be systematically performed outside the device.
2) The Company's products are designed and manufactured as general products for general industrial applications. Therefore, the Company's products are not suitable for applications requiring special quality assurance systems, such as applications that may cause serious risks to life or property. However, even if oriented to these purposes, the products can be applied if the customer agrees not to require special quality under the condition of limited use.
3) The application instances recorded in the catalog, etc. are for reference only, therefore, please confirm the functions and safety of the machines and devices before using them.

9.4 Specification changes

The product specifications and accessories described in the Company's website, catalog, user manual, and user manual may be changed as necessary due to improvement or other reasons. Please consult your supplier for the actual specifications of our products.