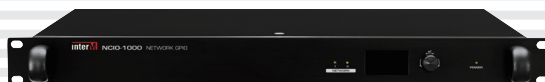


Operation Manual

Network GPIO
NCIO-1000



interM

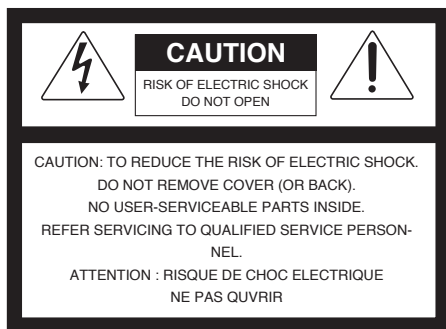
Welcome

A personal welcome to you from the management and employees of Inter-M

All of the co-workers here at Inter-M are dedicated to providing excellent products with inherently good value, and we are delighted you have purchased one of our products.

We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

Welcome to Inter-M, and thank you for becoming part of our worldwide extended family!



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Attentions: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.
Pour déconnecter complètement l'appareil du réseau d'alimentation, déconnecter le cordon d'alimentation de la prise murale.
La prise du réseau d'alimentation doit demeurer aisément accessible.

*WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

*Do not install this equipment in a confined space such as a book case or similar unit.

*Warning : To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.

*This apparatus shall be connected to a mains socket outlet with a protective earthing connection.

*To completely disconnect this apparatus from the AC mains, disconnect the power supply cord plug from the AC receptacle.

*The mains plug of the power supply cord shall remain readily accessible.

CAUTION

*These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

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.

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Unpacking

Although your NCIO-1000 is neither complicated nor difficult to operate, we recommend you take a few minutes to read this brief manual and familiarize yourself with the important information regarding product features, setup and operation.

As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

Installation

Environment

Never place this product in an environment which could alter its performance or reduce its service life. Such environments usually include high levels of heat, dust, moisture, and vibration.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Overview

NCIO-1000 provides device control functions through contacts, RS-232C, and RS-422 communication in a network system that provides an integrated transmission solution through an automatic network infrastructure. Multiple devices can be controlled through contact, RS-232C, RS-422 communication by linking complex and extensive systems (PA, SR, AV) with each other.

It provides integrated control software for control and provides an ideal solution for various spaces such as large-scale industrial complexes, hospitals, restaurants, and schools.

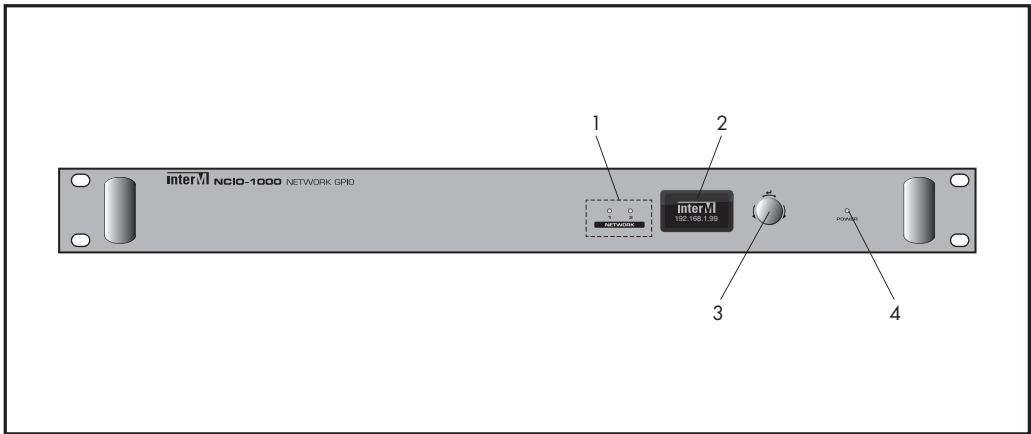
Features

- Universal network transmission interface
- Transmission and control of bidirectional contact data through network (IN/OUT, 16CH each)
- Check the device status on the web page through the network
- Transmission of bi-directional serial data through network (RS-232C, RS-422)
- UGA(Unit Management Alarm) INPUT 4CH
※ UGA: Firefighting contact INPUT for European-style buildings
- Supports 100/1000Mbps
- DHCP, STATIC IP support
- Combined with AC and DC power, it can be used even in an emergency

Contents and Accessories

1. AC power cord x 1EA
2. 4P(5.08mm) terminal block x 1EA
3. 4P(3.5mm) terminal block x 3EA
4. 16P terminal block x 4EA
5. Screws for rack mounting x 4EA
6. User Manual x 1EA

Front Panel



1. NETWORK STATUS LED

This LED indicates the operating status of networks 1, 2.

2. OLED DISPLAY

Network status information is displayed through the OLED Display.

- IP Address, Subnet mask, DNS Server, Mac Address

※ If there is no operation of the display control switch for 30 seconds, OLED turns off and turns on when operated.

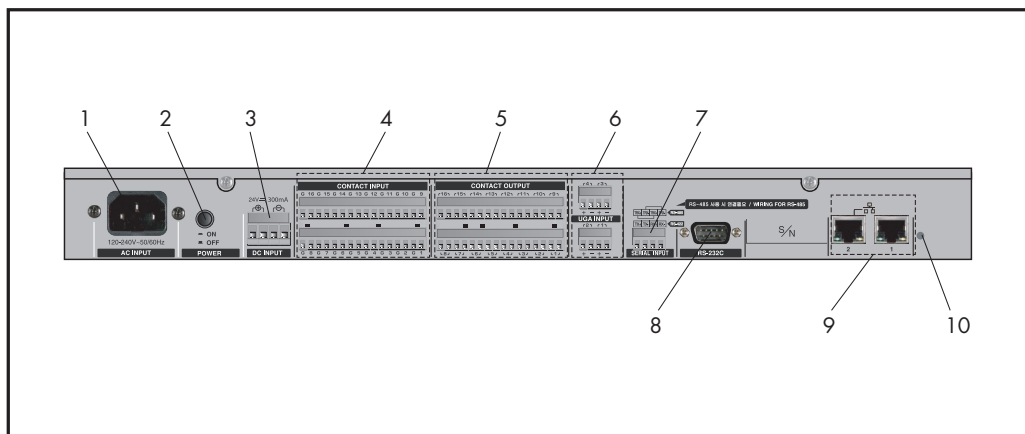
3. DISPLAY PANEL CONTROLLING SWITCH

By turning the display control switch, the user can check the desired information.

4. POWER LED

The green LED lights up when the instrument is powered on.

Rear Panel



1. AC INPUT TERMINAL

It is an AC power supply terminal. The power used is AC 120-240V, 50/60Hz. Do not excessively bend, pull, twist, heat, or cut the power cord. Doing so may damage the cord and cause fire or electric shock.

2. AC POWER SWITCH

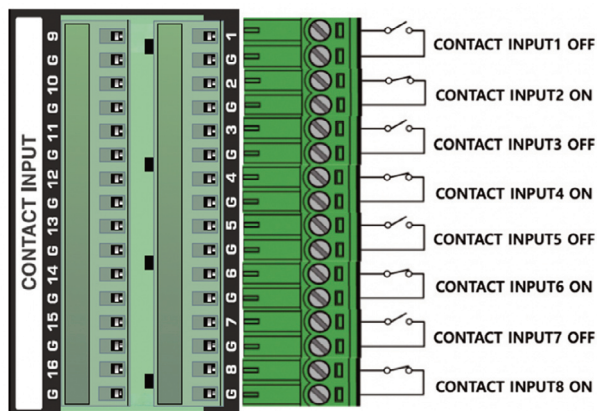
It switch turns the AC power of the device on and off.

3. DC 24V POWER INPUT TERMINAL

It is an emergency spare battery (DC 24V) connection terminal. If an AC power failure occurs, the device operates with the connected spare battery. When DC 24V power is applied to the device, the device always operates regardless of the power switch.

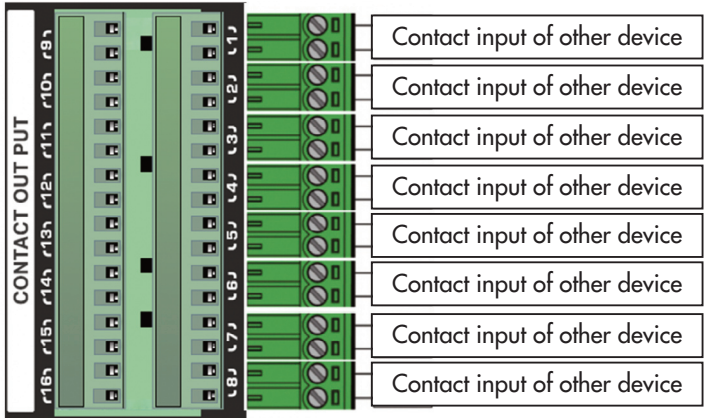
4. CONTACT INPUT TERMINAL

It is the terminal for inputting the contact point. Contact input of up to 16 channels can be received. When each channel becomes short with COM, a contact point is input.



5. CONTACT OUTPUT TERMINAL

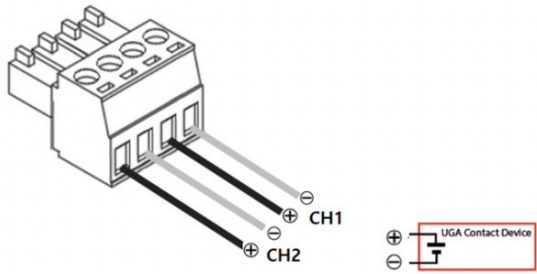
It is the terminal where the contact point is output. Contacts of up to 16 channels are output. It is normally open (open when product power is cut off and contact output is set to OFF), and short (shorted) when contact output is turned on.



6. UGA INPUT TERMINAL (1CH~4CH)

It is the WET contact input terminal. It can be used by connecting the supplied euro terminal block 4P. Depending on the voltage value measured across both ends of the UGA input, it operates based on the following criteria.

- Terminal wiring method



- State according to input voltage

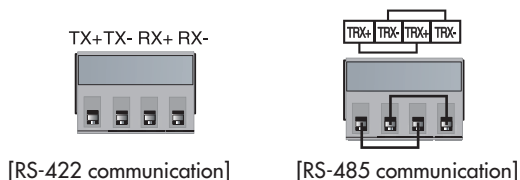
Input voltage range	Resistance range	Recommended voltage
$-2V < UGA\ IN < 2V$	Bad connection	0V
$2V < UGA\ IN < 22V$	stand-by	12V
$22V < UGA\ IN < 60V$	Contact point event occurrence	25V

- ※ For detailed wiring, please refer to the contact wiring method.
- ※ Because there is an error between voltage ranges, please use the recommended voltage.
- ※ Before connecting the contacts, be sure to check the polarity and be careful not to exceed the maximum of 60V.

7. RS-422/485 CONNECTION TERMINAL

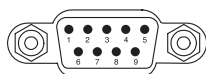
It is a connection terminal for RS-422/485 communication among R-type receivers.

※When using RS-485, make sure to connect TRX+/TRX+ and TRX-/TRX-.



8. RS-232C CONNECTION TERMINAL

It is a connection terminal for RS-232C communication among R-type receivers.



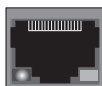
Pin	1	2	3	4	5	6-9
Functions	N.C	RX	TX	N.C	GND	N.C

9. NETWORK CONNECTION TERMINAL

It terminal is used to connect device to the network. Broadcasting can be controlled through integrated software.

※ For the setting method, refer to the integrated software manual. Please download the manual from the website (www.inter-m.net).

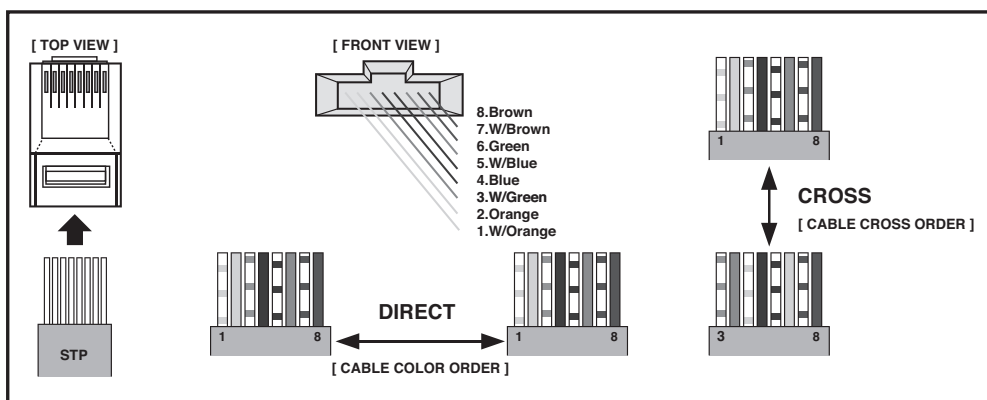
LINK
ACT



<100 Base-T>

<1G Base-T>

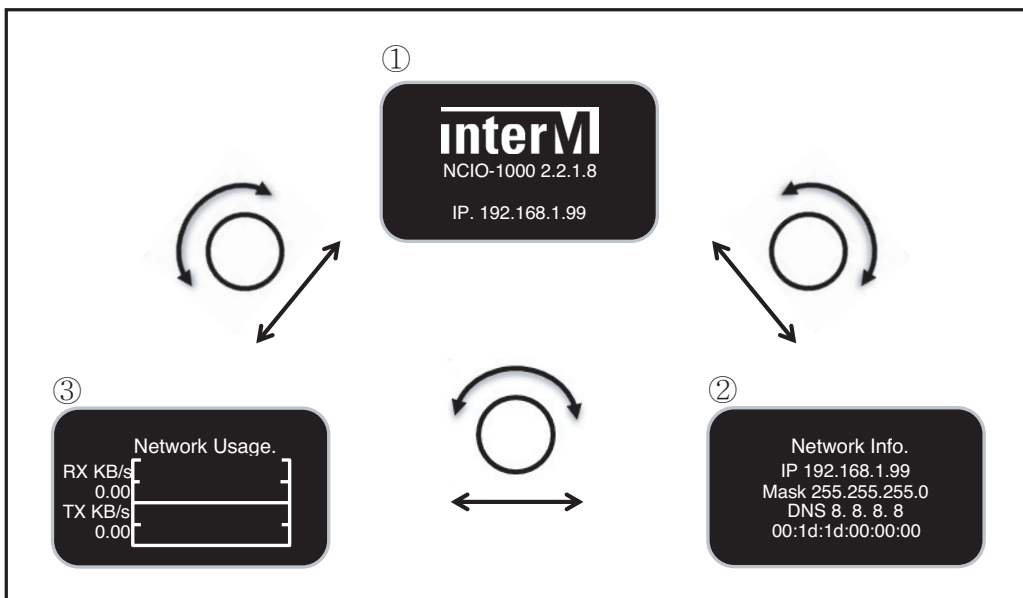
PIN NO	Function	PIN NO	Function
1	TXP	1	MX(0)+
2	TXN	2	MX(0)-
3	RXP	3	MX(1)+
4	NA	4	MX(2)+
5	NA	5	MX(2)-
6	RXN	6	MX(1)-
7	NA	7	MX(3)+
8	NA	8	MX(3)-



10. RESET SWITCH

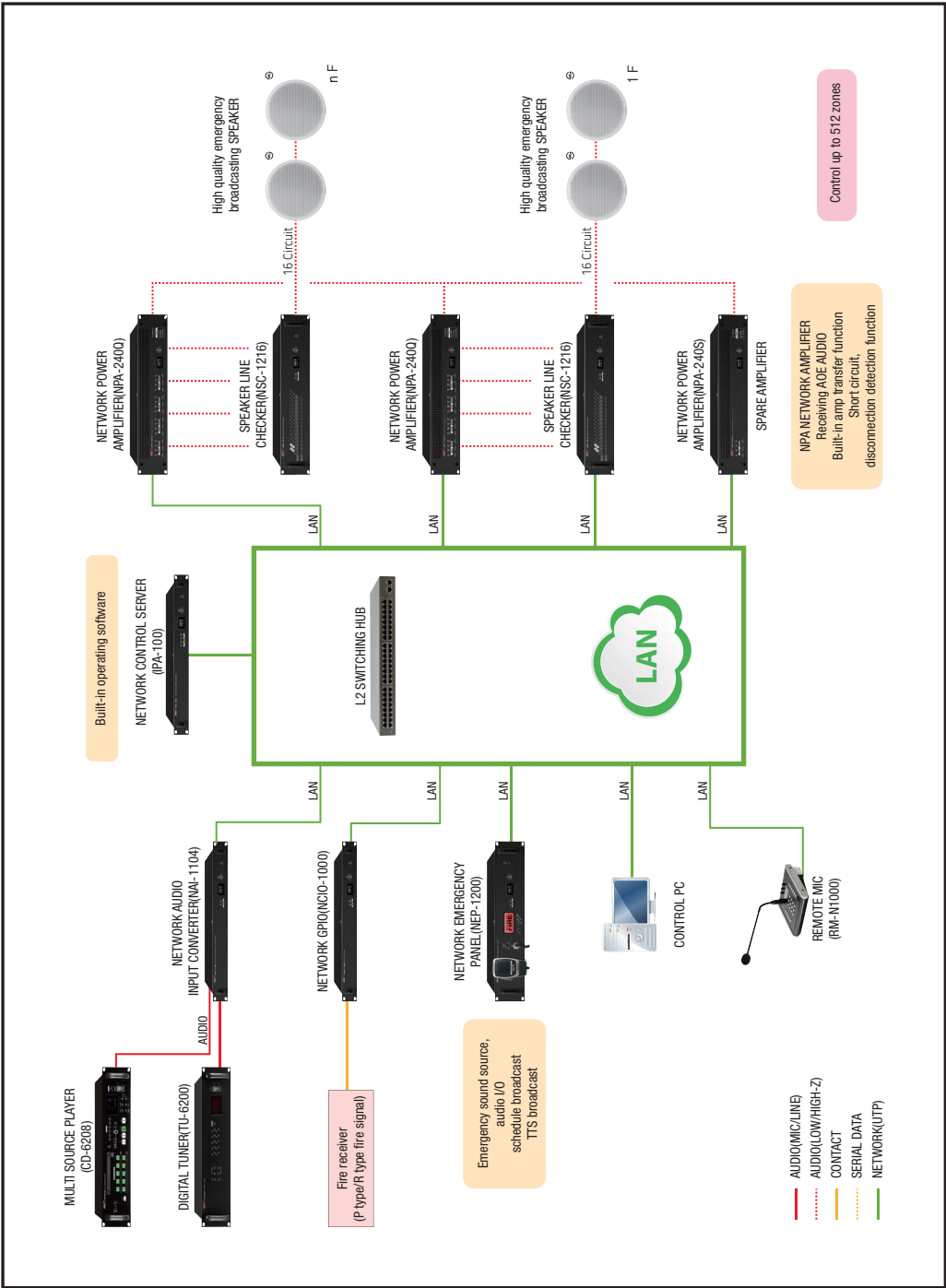
If the user press the switch for more than 10 seconds, the settings of the device will be reset to factory defaults.

Operation

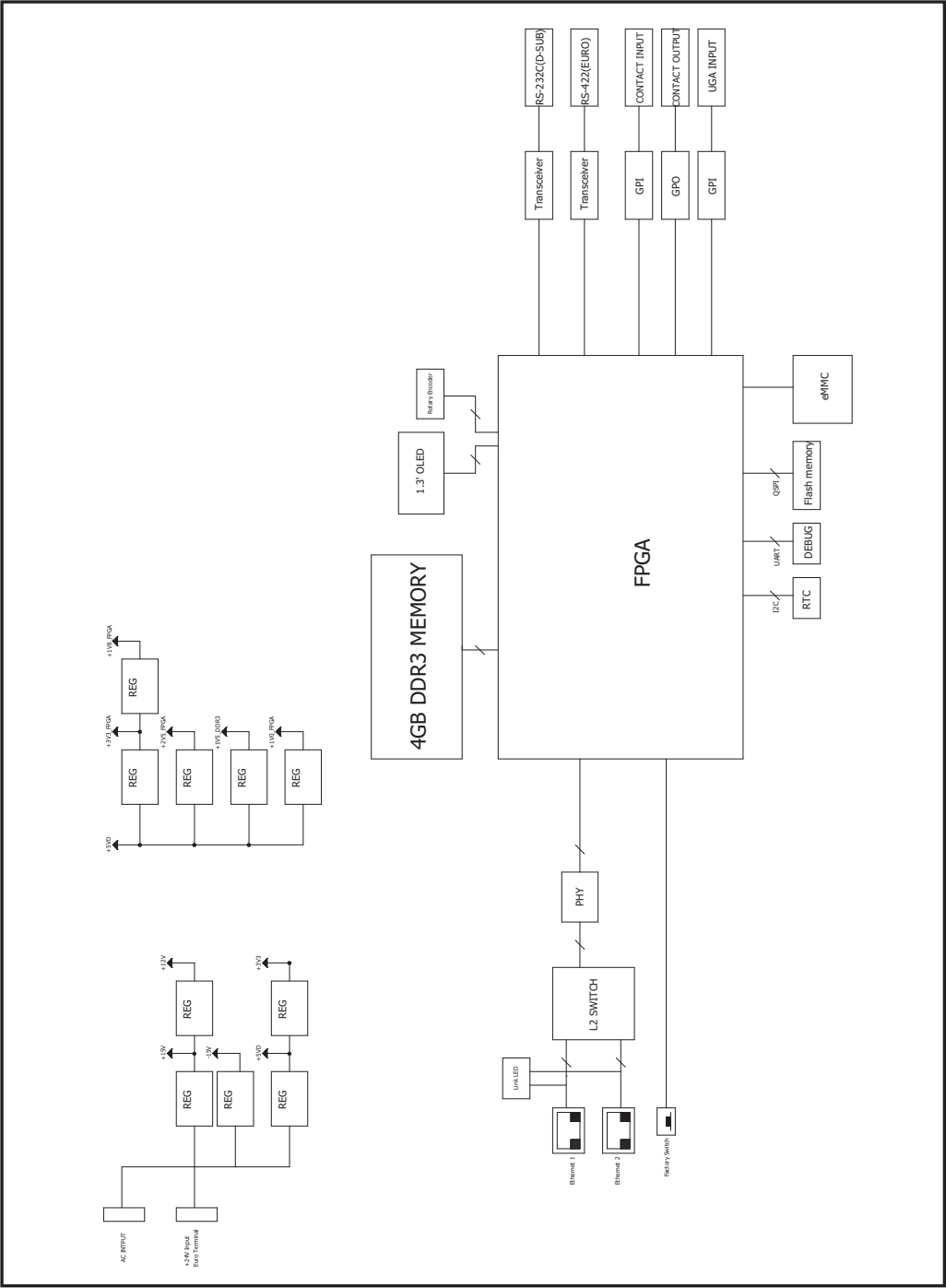


- ① It is the standby screen of the device. The model name (NCIO-1000), software version, and network IP are displayed.
- ② In the standby screen, if the user turn the control switch on the front panel to the right, network-related details (IP Address, Subnet mask, DNS Server, Mac Address) are displayed. If the user turn the front display control switch to the left on the network-related detailed information screen, the standby screen (model name (NCIO-1000), software version, network IP) is displayed.
- ③ If the user turn the display window control switch to the right on the network-related detailed information screen, the network status (RX/tX data rate) is displayed. If the user turn the display control switch to the left on the network status display screen, network-related details (IP Address, Subnet mask, DNS Server, Mac Address) are displayed.
- ④ Turn the display window control switch to the right on the network status display screen to display the standby screen (model name (NCIO-1000), software version, network IP).

Applications



Block Diagram

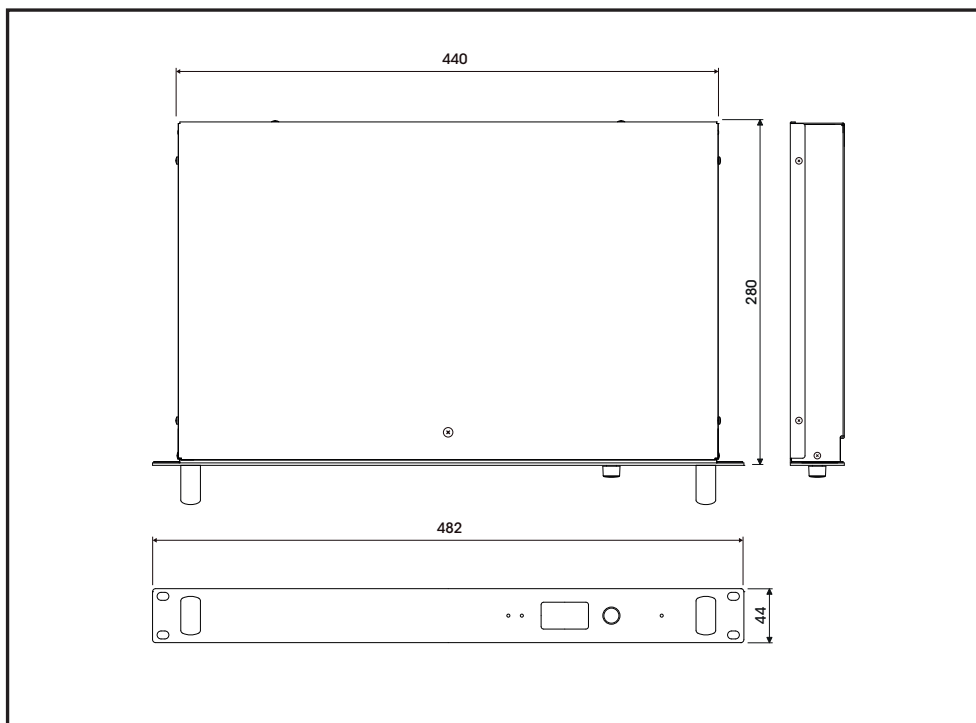


Specifications

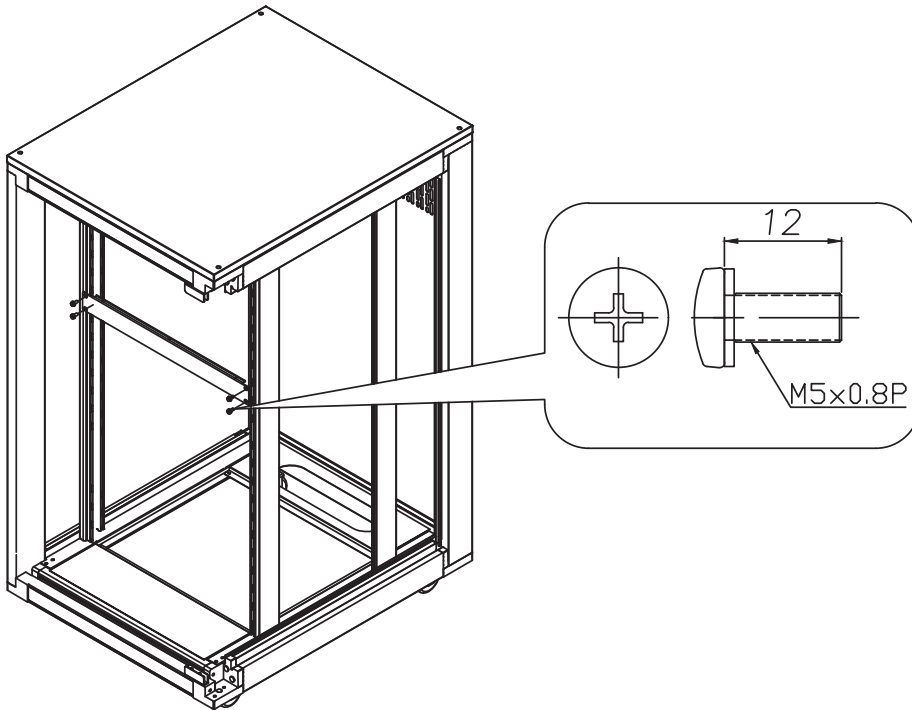
	NCIO-1000
Contact Input/Output	DRY CONTACT INPUT : 1CH~16CH DRY CONTACT OUTPUT : 1CH~16CH UGA INPUT : 1CH~4CH
Serial communications	RS-232C, RS-422(485)
Network communications	100/1000 Base-T (RJ-45)
Operating Temperature	-10℃~40℃
Operating Voltage	120-240V, 50/60Hz, DC 24V, 500mA
Power Consumption	Max 15W
Weight (SET)	3kg
Dimensions (SET)	482(W) x 44(H) x 280(D)mm

* Design and specification are subject to be changed for the improvement of product quality without pre notice.

※ DIMENSIONS



Instructions for use of screws



This product can be used on a table or fixed to a rack.

However, be sure to observe the installation precautions below when using it in a rack.

1. Place the product in an empty area of the rack.
2. Using the included mounting screws, tighten the 4 mounting holes so that there are no voids and fix them.
3. Please proceed with the wiring for the operation of the product, and apply the power last.
4. Disassemble in the reverse order of the above procedure.
5. In case of fixing by not using the included screws or screws of the same size, or using insufficient number of screws the manufacturer is not responsible for any safety accidents caused by this.

Accessories included for fixing the product

- Specification: SCREW M5x0.8P, L=12
- Quantity: 4pcs

Service

Procedures

Take steps to insure the problem is not related to operator error or other products within the system. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic

A Schematic is available by contacting your warranty provider.

Parts List

A Parts List is available by contacting your warranty provider.

Variations and Options

Variations

Products supplied through legitimate sources are compatible with local AC power requirements.

Options

No optional items are available for this product.

Warranty

Warranty terms and conditions vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact Inter-M directly or the authorized Inter-M Distributor for your specific country or region.



Inter-M, Ltd. (Korea) began operations in 1983.

Since then, Inter-M has grown to become one of the largest manufacturers of professional audio and commercial sound electronics equipment in the world.

Inter-M has gained worldwide recognition for its own branded products, as well as private label manufacturing of electronics sold under other names (OEM).

The company is no longer just a Korean company, but rather a global company that is truly international in scope, with factories and offices in Korea and China, and sales and marketing operations located in Japan, Europe, and the U.S.A.

With more than 850 employees around the globe, Inter-M is well-poised for further growth and expansion.

Inter-M Corporation

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