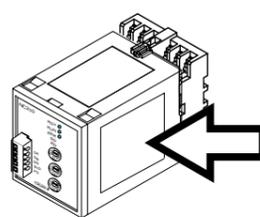


Thank you for purchasing the NC210 RS485/CC-Link Converter. For the correct use of this product, read through this manual before use.
Before use NC210, also read the relative user's manuals (main manuals and communication manuals) of the products that are connected to NC210 -digital indicating controller (UT/UP series), signal converters (VJ series) and power monitor (PR201/UT005).
This instruction manual should be kept in safety place.

■ Checking Product Specifications and Contents of Packing

(1) Model Number and Suffix Code Check

Check that the model number and suffix code shown on the nameplate attached on the right side of the product are as ordered.



Model	NC210-02-□□□
Power supply	2: 100 to 240V AC to (-15,+10%) 50/60Hz
Profile and Type of connectable instrument	
001: UT3*0/4*0/5*0/750 (PV, OUT);	8 units max.
002: UT3*0/4*0/5*0/750 (PV, SP);	8 units max.
003: UT3*0/4*0/5*0/750 (PV, OUT, SP);	5 units max.
061: UP550/UP750 (PV, OUT, PTN, SEGNO, TIME);	one unit
101: JUXTA VJ series (OUT);	16 units max.
201: PR201, UZ005 (integrated power, instantaneous power);	4 units max.

F01.EPS

(2) Contents of the Packing Check

Check that the packing contains the following items.

- NC210 main unit : one
- User's Manual (this book : IM 77P01C01-01E) :one, manual for profile common (IM 77P01C01-02E) : one, and each one of specific Profile procedure manual respectively

1. CAUTIONARY NOTES FOR SAFE USE OF THE PRODUCT

The following safety symbol is indicated on the product and the manual to ensure safe use.

⚠ CAUTION

If this symbol is indicated on the product, the operator should refer to the explanation given in the user's manual in order to avoid personnel injury or death to either themselves or other personnel, and/or damage to the instrument. The manual describes the special care that the operator should exercise to avoid or other dangers that may result in injury or loss of life.

The following symbol marks are used only in this manual.

⚠ IMPORTANT

Indicates that operating the hardware or software in particular manner may damage it or result in system failure.

👉 NOTE

Draws attention to information that is essential for understanding the operations and/or features of the product.

2. GENERAL

The Model NC210 RS485/CC-Link Converter connects Yokogawa Electric Corporation's Green Series Digital Indicating Controllers, VJ Series Signal Converters, and PR201/UZ005 Power Monitor with RS485 option to MELSEC (Mitsubishi Electric Corporation's sequencer) and so on. Used as a CC-Line remote device station, and referring remote register and remote I/O, it allows process data and operating status information - such as digital indicating controller process variable (PV) inputs and alarm statuses - to be read via CC-Link, and also allows PLC to read setpoint (SP) values and signal converter communications outputs etc.

3. PREPARATION BEFORE OPERATION

Prepare following items before operation.

1. NC210 (required number)
2. Exclusive cables for connection between NC210 and CC-Link (required number)
As for details about CC-Link exclusive cables, refer to the manual that master unit specifies.
3. Shielded wires for connection between NC210 and each instruments (refer to the followings)
4. Power line (refer to the followings)

Parts name	Specifications
Power line/grounding wire	600 V vinyl isolated wire JIS3307 0.9 to 2.0 mm ²
RS485 signal line wire	3-twisted pair cables (0.24 mm ² or large)

4. CHECK AND SETTING OF COMMUNICATION

The communication parameters should be set as follows, in order to connect between NC210 and instruments such as digital indicating controller (UT/UP series), signal converters (VJ series) and power monitor (PR201/UT005). About those setting methods, refer to the user's manuals of each instrument respectively.

Name of parameters	Range of setting
Selection of protocol	Communication personal computer link (with sum-check)
Communication speed	9600 bps
Parity	None parity
Stop bit	1 bit
Data length	8
Address	Refer to the manual for profile common

5. NAMES AND FUNCTIONS OF FRONT-PANEL

<1> Operating condition indicator LED (RDY)

light on : normal
light off : abnormal

<2> Operating condition indicator LED (RUN)

light on : normal communication
light off : communication interrupted(time out)

<3> Operating condition indicator LED (ERR)

light on : communication data error
light off : normal communication

<4> Operating condition indicator LED (SD)

light on : data send

<5> Operating condition indicator LED (SD)

light on : data receive

<6> Remote device station number setting switch

Setting of remote device station number within from 01 to 61(01: when shipping)

⚠ IMPORTANT

One NC210 converter occupies 4 stations. Therefore keep attention to the number that is assigned to the CC-Link unit (master unit). For detail refer to the manuals that master unit specify

<7> Communication speed setting switch

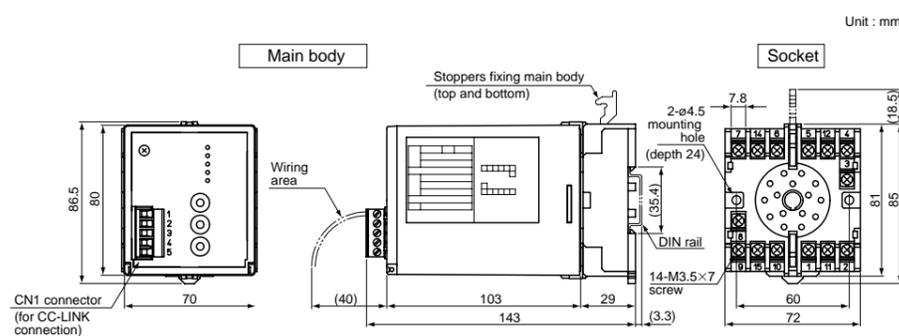
Setting of switch	Communication speed	Overall communication Maximum length
0	156 bps	1200 m
1	625 bps	600 m
2	2.5 Mbps	200 m
3	5 Mbps	150 m
4	10 Mbps	100 m

T05-01.EPS

<8> Communication connector (CN1)

Connector for the connection of dedicated CC-Link cable

6. DIMENSIONS



F06-01.EPS

7. MOUNTING METHODS

● Wall mounting

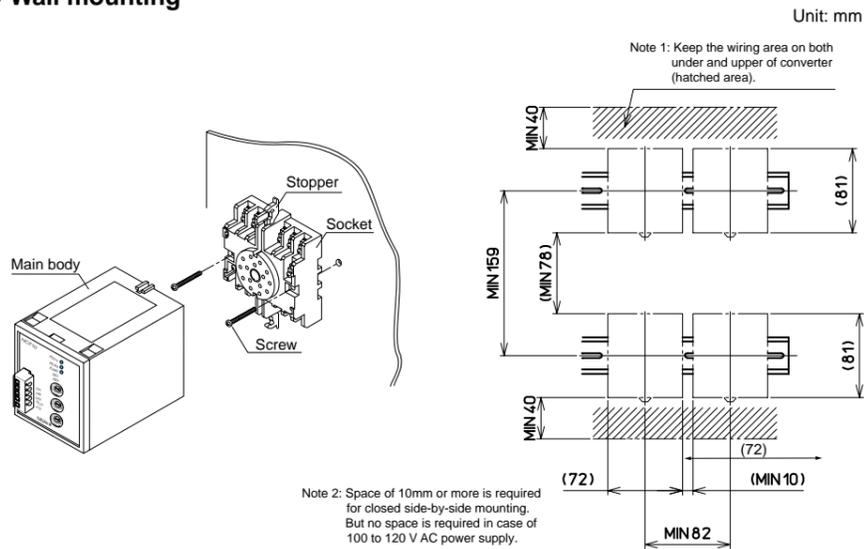


Fig.7-1 Wall mounting

Unlock the stoppers (top and bottom), and pull out the main body from the socket. Then fix the socket on wall with two M4 screws. Insert the main body to socket and fix the body with stoppers (top and bottom).

● DIN rail mounting

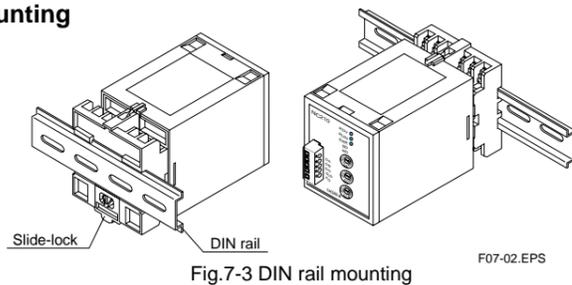


Fig.7-3 DIN rail mounting

Insert DIN rail into the upper portion of the DIN rail groove at rear of the socket of the converter and fix the converter to the DIN rail with slide-lock at the lower of the converter.

8. INSTALLATION LOCATION

- (1) Avoid installation in such environments as follows.
 - The place to be exposed to the corrosive gas -such as sulfide gas - or sea breeze
 - The place where the visible dust exist
 - The place to be exposed to the direct sunlight
- (2) If there is a possibility that lightning could induce a high surge voltage on the power and signal lines, provide dedicated lightning arrestors for each sides on the lines between the field instrument and indoor instrument in order to protect the product.

9.EXTERNAL WIRING

⚠ CAUTION

Before carrying out wiring, turn off the power to the converter and check that the cables to be connected are not alive with the tester or the like because there is a possibility of electric shock.

Wiring must be carried out by persons who have basic electrical knowledge and practical experience.

Wires are connected to the terminals of the NC210 converter's socket. M3.5 screw terminals are provided for the connection of external signals. Flexible twisted wires and good contact of durable round crimp-on terminals are recommended for use.

⚠ IMPORTANT

- After wiring, check the model and specifications of the NC210 converter's body to be inserted to the socket for no-miss matching. If incorrect unit is inserted, we can't guarantee the operation.
- It may be damage for instrument if the power line is miss wiring.
- Power line and communication lines must be separated from noise occurrences. If so, we may not be guarantee.
- N.C. terminals should not be connected for other inter-connection terminals.

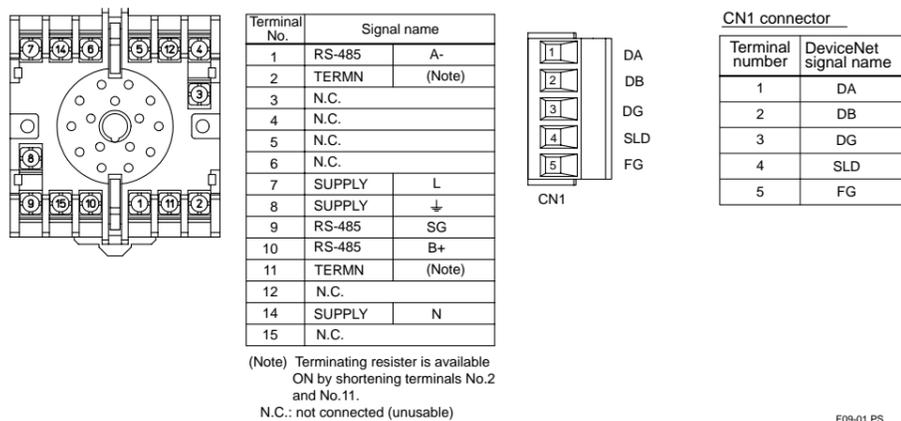


Fig.9-1 Terminal arrangement

10. TROUBLE SHOOTING

The followings explain basic trouble shooting methods for the NC210 usage. Refer to the respective user's manuals for the SEQUENCE CPU and the master unit.

● ERR lamp light on and off

Check Items	Recovery method
Is the station number or communication speed changed while normal operation?	Recover to the normal operation station number and communication speed.

● ERR lamp light on

Check Items	Recovery method
Is the station number or communication speed changed while power off?	Recover to the normal operation station number and communication speed.

● RUN lamp light off

Refer to the item of trouble shooting in user's manual for CC-Link master unit

● RDY lamp light on and off

It is under trouble.

● RDY lamp light off

Check Items	Recovery method
Is the power on?	Check the power line and the power supply. If there are good, it is under trouble.

● In case of that the digital data cannot read out or write in.

Check Items	Recovery method
Is the RUN lamp off?	Refer to the item of trouble shooting in user's manual for CC-Link master unit
Does the ERR lamp light on and off, or light off?	Check the contents of trouble by user's manual of the sequence CPU.
Does the RUN lamp of sequence CPU light on and off, or light off?	Check the contents of trouble by user's manual of the sequence CPU.
Does the RUN lamp of master unit light off?	Refer to the item of trouble shooting in user's manual for CC-Link master unit
Do the RD or SD lamps of master unit light on?	Refer to the item of trouble shooting in user's manual for CC-Link master unit

T10-01.EPS

11. MAINTENANCE

The NC210 main body can be removed from the socket under operating in case of exchange or maintenance of the converter. However before removing the main body of converter, remove the CC-Link communication cable.

⚠ CAUTION

After remove CC-Link connector from the main body, carry out the maintenance of the converter. There is a possibility of electric shock, so be careful not to touch the terminals of the socket when the NC210 main body is removed from the socket under operating condition.