General Specifications

Model NC220
Ai/CC-Link Converter

GS 77P01D01-01E

■ General

The Model NC220 Ai/CC-Link converter converts 16 inputs of 1 to 5 V DC analog signals from signal converter—Yokogawa M&C's JUXTA D Series or VJ Series—to digital signals (0 to 10000), and transmits them via the CC-Link to MELSEC (Mitsubishi Electric Corporation's sequencer).*

The NC220 is designed for either wall mounting or DIN-rail mounting.

**: Up to 16 JUXTA D series and VJ series converters can be used.*

■ Model and Suffix Codes

NC220-02-□□□

Model

Power Supply
2 : 100 to 240 V AC (–15%, +10%), 50/60 Hz

Profile and Type of connectable instrument
801 : Instrument with 16 analog inputs read-out configuration profile

User-defined optional feature:
The 1 to 5 V read-out scale can be user-defined within the range of –30000 to 30000 when ordering. No user definition results in the default range of 0 to 10000.

■ Hardware Specifications

Construction: 14-pin plug-in converter designed for wall or DIN-rail mounting
Material: ABS resin for casing
Weight: Approx. 380 g (including a 110 g socket)
Analog input side:
16 points of 1 to 5 V DC signal, connector
I/O on MELSEC side:
CC-Link front-panel connector
LED indicator: RDY, RUN, ERR, SD and RD
Power supply: 100 to 240 V AC (–15%, +10%), 50/60 Hz
Insulation resistance:
100 MΩ min. at 500 V DC between any two terminals among the NC220 input, CC-Link input terminals, power supply and grounding terminals
Withstand voltage:
2000 V AC for 1 minute between any two terminals among (the NC220 input or CC-Link input) terminals, power supply and grounding terminals; and 1000 V AC for 1minute between input and CC-Link terminals.
Power consumption:
Approx. 3.0 VA (100 V AC)
Approx. 5.3 VA (240 V AC)

■ Input Specifications

Accuracy: ±0.1% of span* (under standard operating conditions)
*: ±(2.5/scaling span) x 100% when scaling span is 2500 or less.
Read-out count: 0 to 10000 (The scale can be user-defined within the range of –30000 to 30000 when ordering.)
Input cycle: 320 ms

■ CC-Link Specifications

Baud rate setting:
156 k, 625 k, 2.5 M, 5 M or 10 Mbps set with Rotary switch
Remote station number setting:
1 to 61, set with Rotary switch (Number of occupied stations: 4)
Baud rate/distance:
The available overall distance of transmission differs depending on the baud rate, as shown below:
156 kbps: up to 1200 m
625 kbps: up to 600 m
2.5 Mbps: up to 200 m
5 Mbps: up to 150 m
10 Mbps: up to 100 m
Bias setting function:
Adds a bias setting to the measured value. By default, the setting equals 0.

■ Environmental Requirements

Normal operating conditions:
Ambient temperature range: 0 to 50°C
Temperature change: 10°C/h max.
Ambient humidity range: 5 to 90% RH (no condensation)
Altitude of installation: 2000 m max.
Transport/storage conditions:
Temperature range: –40 to 70°C
Ambient humidity range: 5 to 95% RH (no condensation)
Effect of ambient temperature change:
Voltage input: ±0.2% of span max. per 10°C
Effect of supply voltage fluctuation (within rated supply voltage range):
Voltage input: ±0.1% of span max. (within power supply voltage range)

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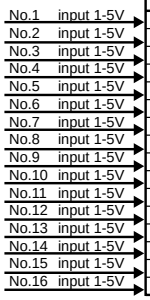
3rd Edition Sep. 2004 (KP)

I/O Configuration Profile

Number of stations occupied: 4

Remote Registers



Remote→Master			Master→Remote		
Address	Contents		Address	Contents	
RWr n+0	No.1	Measured data + Bias setting data	RWw m+0	No.1	Bias setting data
RWr n+1	No.2	Measured data + Bias setting data	RWw m+1	No.2	Bias setting data
RWr n+2	No.3	Measured data + Bias setting data	RWw m+2	No.3	Bias setting data
RWr n+3	No.4	Measured data + Bias setting data	RWw m+3	No.4	Bias setting data
RWr n+4	No.5	Measured data + Bias setting data	RWw m+4	No.5	Bias setting data
RWr n+5	No.6	Measured data + Bias setting data	RWw m+5	No.6	Bias setting data
RWr n+6	No.7	Measured data + Bias setting data	RWw m+6	No.7	Bias setting data
RWr n+7	No.8	Measured data + Bias setting data	RWw m+7	No.8	Bias setting data
RWr n+8	No.9	Measured data + Bias setting data	RWw m+8	No.9	Bias setting data
RWr n+9	No.10	Measured data + Bias setting data	RWw m+9	No.10	Bias setting data
RWr n+A	No.11	Measured data + Bias setting data	RWw m+A	No.11	Bias setting data
RWr n+B	No.12	Measured data + Bias setting data	RWw m+B	No.12	Bias setting data
RWr n+C	No.13	Measured data + Bias setting data	RWw m+C	No.13	Bias setting data
RWr n+D	No.14	Measured data + Bias setting data	RWw m+D	No.14	Bias setting data
RWr n+E	No.15	Measured data + Bias setting data	RWw m+E	No.15	Bias setting data
RWr n+F	No.16	Measured data + Bias setting data	RWw m+F	No.16	Bias setting data

CC-Link

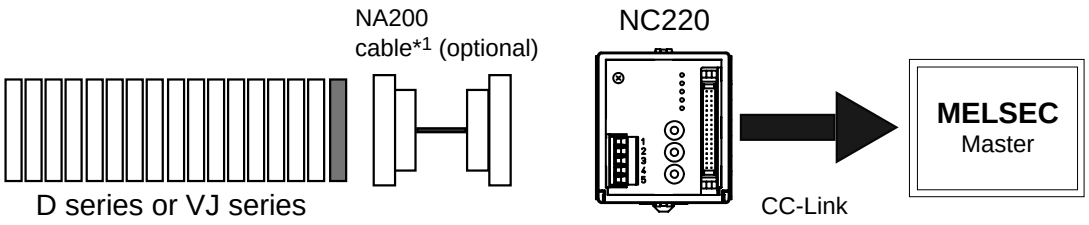
Station number setting:
1 to 61

Baud rate setting:
0: 156 kbps
1: 625 kbps
2: 2.5 Mbps
3: 5 Mbps
4: 10 Mbps

Remote Inputs/ Outputs

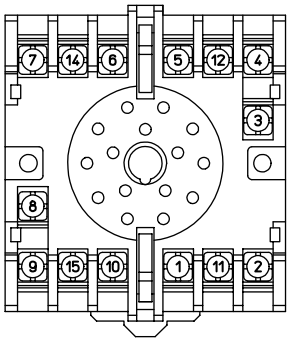
Remote→Master		Master→Remote	
Address	Contents	Address	Contents
RX n0		RY n0	
RX n1		RY n1	
RX n2		RY n2	
RX n3		RY n3	
RX n4		RY n4	
RX n5	No.1 : Positive over range	RY n5	
RX n6	No.1 : Negative over range	RY n6	
RX n7	No.1 : Burnout	RY n7	
RX n8		RY n8	
RX n9	No.2 : Positive over range	RY n9	
RX nA	No.2 : Negative over range	RY nA	
RX nB	No.2 : Burnout	RY nB	
RX nC		RY nC	
RX nD	No.3 : Positive over range	RY nD	
RX nE	No.3 : Negative over range	RX nE	
RX nF	No.3 : Burnout	RY nF	
RX (n+1)0		RY (n+1)0	
RX (n+1)1	No.4 : Positive over range	RY (n+1)1	
RX (n+1)2	No.4 : Negative over range	RY (n+1)2	
RX (n+1)3	No.4 : Burnout	RY (n+1)3	
RX (n+1)4		RY (n+1)4	
RX (n+1)5	No.5 : Positive over range	RY (n+1)5	
RX (n+1)6	No.5 : Negative over range	RY (n+1)6	
RX (n+1)7	No.5 : Burnout	RY (n+1)7	
RX (n+1)8		RY (n+1)8	
RX (n+1)9	No.6 : Positive over range	RY (n+1)9	
RX (n+1)A	No.6 : Negative over range	RY (n+1)A	
RX (n+1)B	No.6 : Burnout	RY (n+1)B	
RX (n+1)C		RY (n+1)C	
RX (n+1)D	No.7 : Positive over range	RY (n+1)D	
RX (n+1)E	No.7 : Negative over range	RY (n+1)E	
RX (n+1)F	No.7 : Burnout	RY (n+1)F	
RX (n+2)0		RY (n+2)0	
RX (n+2)1	No.8 : Positive over range	RY (n+2)1	
RX (n+2)2	No.8 : Negative over range	RY (n+2)2	
RX (n+2)3	No.8 : Burnout	RY (n+2)3	
RX (n+2)4		RY (n+2)4	
RX (n+2)5	No.9 : Positive over range	RY (n+2)5	
RX (n+2)6	No.9 : Negative over range	RY (n+2)6	
RX (n+2)7	No.9 : Burnout	RY (n+2)7	
RX (n+2)8		RY (n+2)8	
RX (n+2)9	No.10 : Positive over range	RY (n+2)9	
RX (n+2)A	No.10 : Negative over range	RY (n+2)A	
RX (n+2)B	No.10 : Burnout	RY (n+2)B	
RX (n+2)C		RY (n+2)C	
RX (n+2)D	No.11 : Positive over range	RY (n+2)D	
RX (n+2)E	No.11 : Negative over range	RY (n+2)E	
RX (n+2)F	No.11 : Burnout	RY (n+2)F	
RX (n+3)0		RY (n+3)0	
RX (n+3)1	No.12 : Positive over range	RY (n+3)1	
RX (n+3)2	No.12 : Negative over range	RY (n+3)2	
RX (n+3)3	No.12 : Burnout	RY (n+3)3	
RX (n+3)4		RY (n+3)4	
RX (n+3)5	No.13 : Positive over range	RY (n+3)5	
RX (n+3)6	No.13 : Negative over range	RY (n+3)6	
RX (n+3)7	No.13 : Burnout	RY (n+3)7	
RX (n+3)8		RY (n+3)8	
RX (n+3)9	No.14 : Positive over range	RY (n+3)9	
RX (n+3)A	No.14 : Negative over range	RY (n+3)A	
RX (n+3)B	No.14 : Burnout	RY (n+3)B	
RX (n+3)C		RY (n+3)C	
RX (n+3)D	No.15 : Positive over range	RY (n+3)D	
RX (n+3)E	No.15 : Negative over range	RY (n+3)E	
RX (n+3)F	No.15 : Burnout	RY (n+3)F	
RX (n+4)0		RY (n+4)0	
RX (n+4)1	No.16 : Positive over range	RY (n+4)1	
RX (n+4)2	No.16 : Negative over range	RY (n+4)2	
RX (n+4)3	No.16 : Burnout	RY (n+4)3	
RX (n+4)4		RY (n+4)4	
RX (n+5) :		RY (n+5) :	
RX (n+6) :		RY (n+6) :	
RX (n+7)B	Remote READY flag	RY (n+7)B	

Communication Wiring Diagram

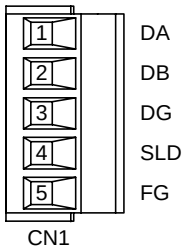


*1 See GS 77P01D31-01E.

Terminal Arrangement



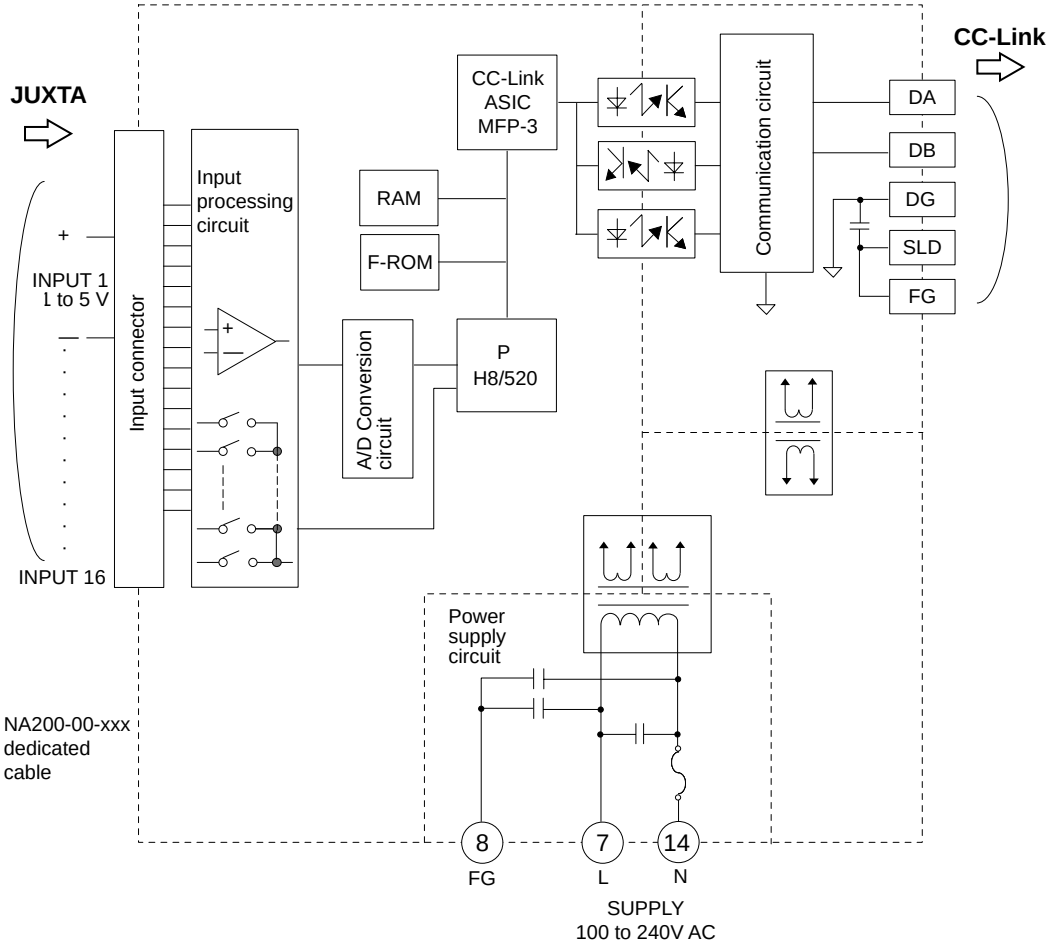
Terminal No.	Power Supply Signal Name
7	L
8	⏚
14	N
All other terminals are unusable.	



CN1 Terminal Assignments

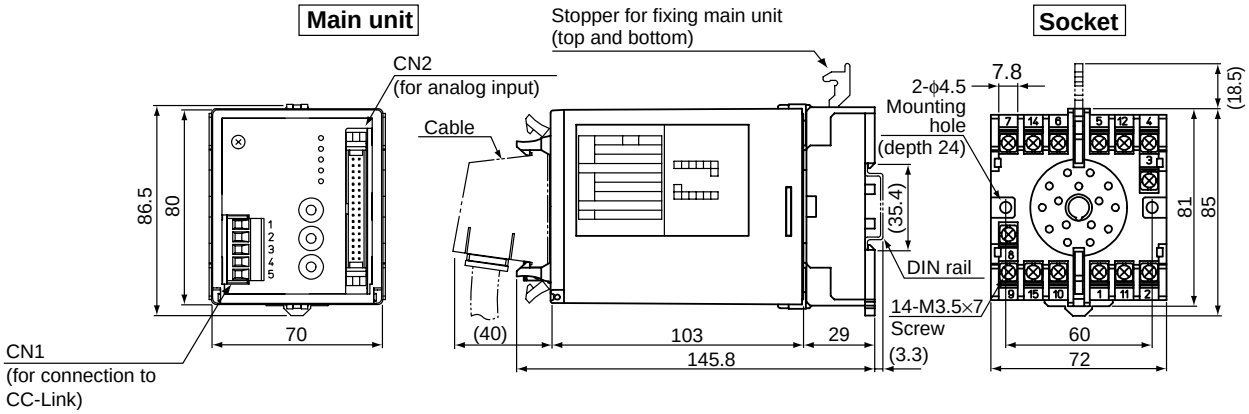
Terminal No.	CC-Link Signal Name
1	DA
2	DB
3	DG
4	SLD
5	FG

Block Diagram



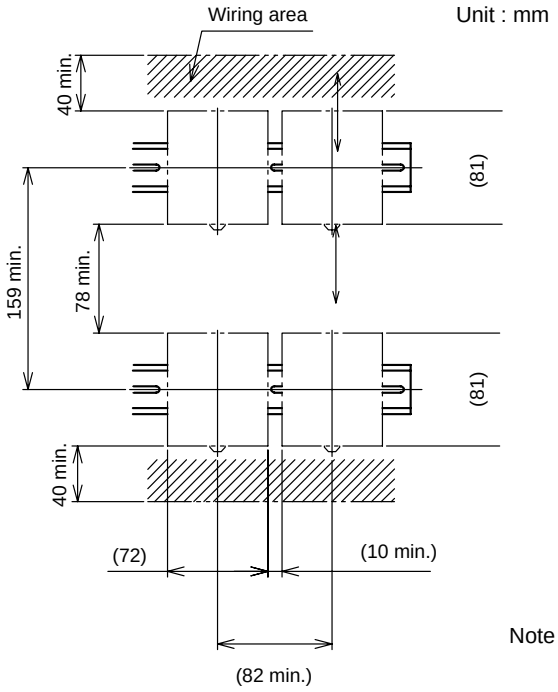
Dimensions

Unit : mm



Note 1: CN1 for connection to CC-Link
CN2 for connection to analog input

< Mounting Dimensions >



Note 2: A minimum spacing of 10 mm is required between NC220 converters for close, side-by-side mounting. No spacing is required, however, if the converters are rated for a 100 to 120 V AC supply voltage range.