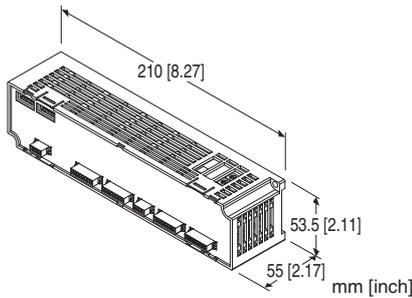# MODEL: R7K4GC-DAC32C

Remote I/O R7K4G Series

CC-Link I/O MODULE

(NPN/PNP discrete input, NPN transistor output, 16 points each, tension clamp terminal)

Functions & Features
• Remote I/O module to input/output digital I/O signal to field bus (CC-Link)

$C \epsilon$

210 [8.27]

53.5 [2.11]

55 [2.17]

mm [inch]

MODEL: R7K4GC-DAC32C-C-R

ORDERING INFORMATION
• Code number: R7K4GC-DAC32C-C-R

I/O TYPE
DAC32C: NPN/PNP discrete input & NPN transistor output, 16 points each

TERMINAL BLOCK
C: Tension clamp terminal for power
Tension clamp terminal for communication
Tension clamp terminal for I/O

POWER INPUT
DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

RELATED PRODUCTS
• CSP+ file
The CSP+ file are downloadable at our web site.
CSP+ file is also downloadable at CC-Link Partner Association's web site.

GENERAL SPECIFICATIONS
Connection: Tension clamp terminal
Housing material: Flame-resistant resin (gray)
Isolation: Input or output or exc. supply to CC-Link to power supply to FE1

Discrete I/O status indicator LED: Green LED turns on with I/O ON

CC-Link COMMUNICATION
Transmission: CC-Link Ver.1.10
Network cable: CC-Link cable designated by Mitsubishi Electric
Station Type: Remote I/O device
Data allocation: 1
Station number: 1 - 64 (rotary switch, default:00)
Baud rate setting: 156 kbps (default), 625 kbps, 2.5 Mbps, 5 Mbps, 10 Mbps (DIP switch)
Terminating resistor: Built-in (DIP Switch, default: disable)
Status indicator LEDs: PWR, RUN, ERR, SD, RD
For details, refer to the users manual.

INPUT SPECIFICATIONS
Common: Positive or negative common (NPN/PNP) per 16 points
Number of inputs: 16
Maximum inputs applicable at once: No limit (at 24 V DC)
Rated input voltage: 24 V DC ±10 %; ripple 5 %p-p max.
ON voltage / current: ≥ 15 V DC (input to COM) / ≥ 3.5 mA
OFF voltage / current: ≤ 5 V DC (input to COM) / ≤ 1 mA
Input current: ≤ 5.5 mA per point (at 24 V DC)
Input resistance: Approx. 4.4 kΩ
ON delay: ≤ 0.2 msec.
OFF delay: ≤ 0.5 msec.

OUTPUT SPECIFICATIONS
Common: Negative common (NPN) per 16 points
Number of output: 16 points
Maximum outputs applicable at once: No limit (at 24 V DC)
Rated load voltage: 24 V DC ±10 %, ripple 5 %p-p max.
Rated output current: 0.1 A per point, 1.6 A per common
Residual voltage: ≤ 1.2 V
Leakage current: ≤ 0.1 mA
ON delay: ≤ 0.2 msec.
OFF delay: ≤ 0.5 msec.
Overload current protection function: Limits the current value when overcurrent is detected
Overheat protection function: Turns OFF the outputs when overheat is detected
(When driving an inductive load, connect a diode in parallel with the load.)

INSTALLATION
Current consumption
•DC at 24 V DC: ≤ 55 mA

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Operating temperature: -10 to +55°C (14 to 131°F)
Storage temperature: -20 to +65°C (-4 to +149°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Atmosphere: No corrosive gas or heavy dust
Mounting: Surface or DIN rail (35 mm rail)
Weight: 150 g (0.33 lb)

PERFORMANCE

Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute
(input or output or exc. supply to CC-Link to power supply to FE1)

STANDARDS & APPROVALS

EU conformity:
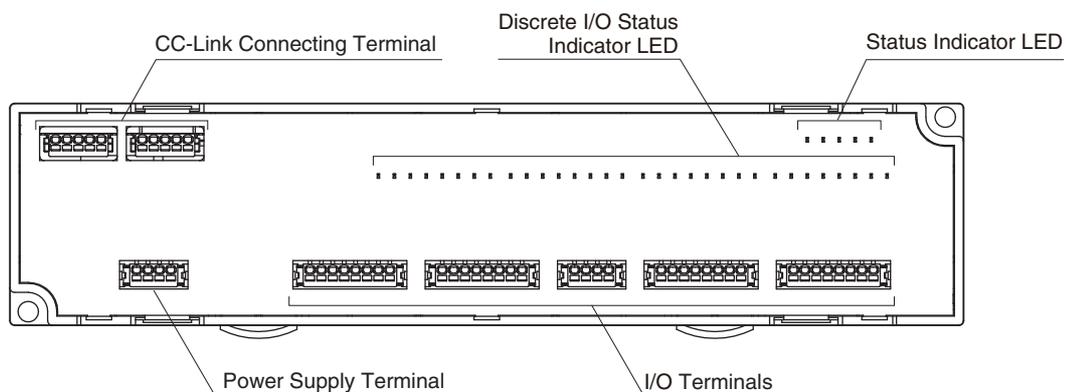EMC Directive
  EMI EN 61000-6-4
  EMS EN 61000-6-2
RoHS Directive

EXTERNAL VIEW

■ **TOP VIEW**

Terminator DIP SW

Operating Mode
Setting DIP SW

Station Address
Setting Rotary SW

■ **FRONT VIEW**

CC-Link Connecting Terminal

Discrete I/O Status
Indicator LED

Status Indicator LED

Power Supply Terminal

I/O Terminals
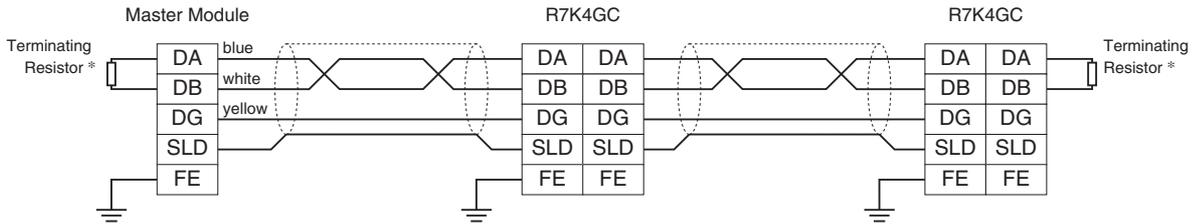
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MODEL: R7K4GC-DAC32C
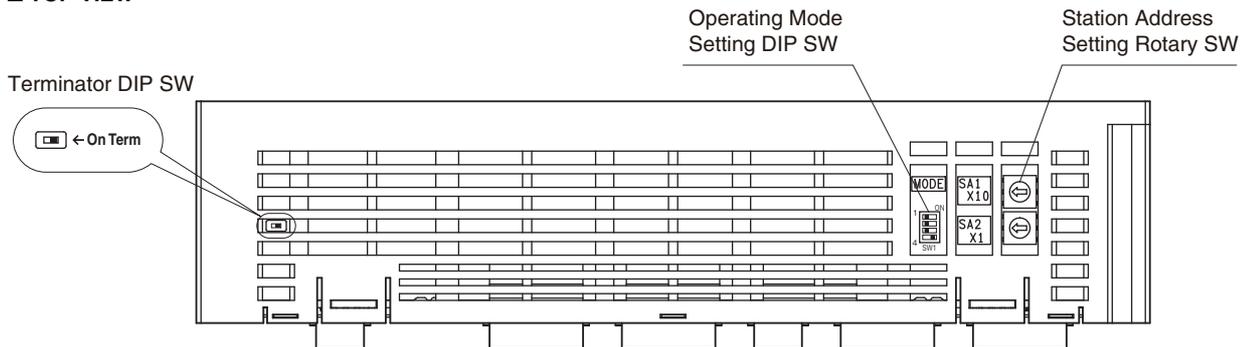
CONNECTION DIAGRAMS

■ **MASTER CONNECTION**

* Turn on the terminator DIP switch to activate the internal terminating resistor.

TERMINAL ASSIGNMENTS

■ **POWER SUPPLY TERMINAL ASSIGNMENT**

Unit side connector: PTSM0,5/4-2,5-V SMD R44 (Phoenix Contact)
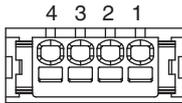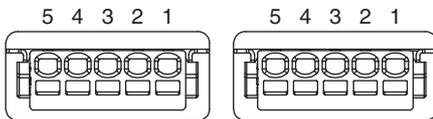**Applicable wire size:** 0.25 - 0.34 mm²
Stripped length: 6 mm
Recommended solderless terminal
AI0,25-6BU 0.25 mm² (Phoenix Contact)
AI0,25-6YE 0.25 mm² (Phoenix Contact)
AI0,34-6TQ 0.34 mm² (Phoenix Contact)

NO.	ID	FUNCTION
1	FE1	Grounding
2	–	Unused
3	24V	Power supply +
4	0V	Power supply –

■ **CC-LINK TERMINAL ASSIGNMENT**

Unit side connector: PTSM0,5/5-2,5-H SMD (Phoenix Contact)
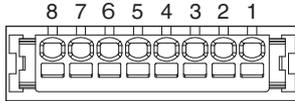**Applicable wire size:** 0.25 - 0.34 mm²
Stripped length: 6 mm
Recommended solderless terminal
AI0,25-6BU 0.25 mm² (Phoenix Contact)
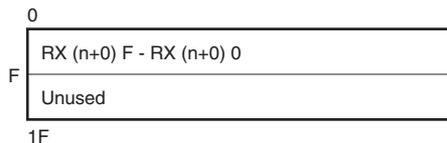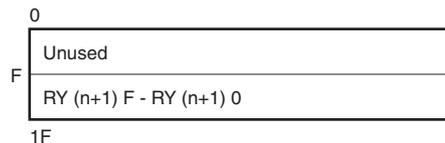AI0,25-6YE 0.25 mm² (Phoenix Contact)
AI0,34-6TQ 0.34 mm² (Phoenix Contact)

NO.	ID	FUNCTION
1	DA	DA
2	DG	DG
3	DB	DB
4	SLD	Shield
5	FE	Functional earth

■ I/O TERMINAL ASSIGNMENT

Unit side connector: PTSM0,5/8-2,5-V SMD R44 (Phoenix Contact)
Applicable wire size: 0.25 - 0.34mm^2
Stripped length: 6mm
Recommended solderless terminal
AI0,25-6BU 0.25mm^2 (Phoenix Contact)
AI0,25-6YE 0.25mm^2 (Phoenix Contact)
AI0,34-6TQ 0.34mm^2 (Phoenix Contact)

8 7 6 5 4 3 2 1

NO.	ID	FUNCTION	NO.	ID	FUNCTION	NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	X7	Input 7	1	X15	Input 15	1	Y7	Output 7	1	Y15	Output 15
2	X6	Input 6	2	X14	Input 14	2	Y6	Output 6	2	Y14	Output 14
3	X5	Input 5	3	X13	Input 13	3	Y5	Output 5	3	Y13	Output 13
4	X4	Input 4	4	X12	Input 12	4	Y4	Output 4	4	Y12	Output 12
5	X3	Input 3	5	X11	Input 11	5	Y3	Output 3	5	Y11	Output 11
6	X2	Input 2	6	X10	Input 10	6	Y2	Output 2	6	Y10	Output 10
7	X1	Input 1	7	X9	Input 9	7	Y1	Output 1	7	Y9	Output 9
8	X0	Input 0	8	X8	Input 8	8	Y0	Output 0	8	Y8	Output 8

Unit side connector: PTSM0,5/4-2,5-V SMD R44 (Phoenix Contact)
Applicable wire size: 0.25 - 0.34 mm^2
Stripped length: 6 mm
Recommended solderless terminal
AI0,25-6BU 0.25 mm^2 (Phoenix Contact)
AI0,25-6YE 0.25 mm^2 (Phoenix Contact)
AI0,34-6TQ 0.34 mm^2 (Phoenix Contact)

4 3 2 1
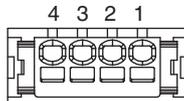
NO.	ID	FUNCTION
1	V+	Exc. supply +
2	V–	Exc. supply –
3	COM	Common
4	COM	Common

DATA ALLOCATION

Interval timed Response (X)

0	
	RX (n+0) F - RX (n+0) 0
F	Unused
1F	

Refresh Data (Y)

0	
	Unused
F	RY (n+1) F - RY (n+1) 0
1F	

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I/O DATA DESCRIPTIONS

■ **DISCRETE I/O**

15															0

Input 0 (Output 0)   0: OFF / 1: ON
Input 1 (Output 1)   0: OFF / 1: ON
Input 2 (Output 2)   0: OFF / 1: ON
Input 3 (Output 3)   0: OFF / 1: ON
:
Input 15 (Output 15)   0: OFF / 1: ON
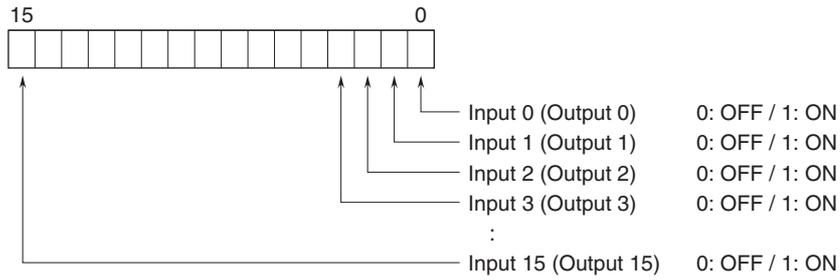
EXTERNAL DIMENSIONS unit: mm [inch]

210 [8.27]

50 [1.97]

3.5 [.14]

5 [.2]

55 [2.17]

50 [1.97]

DIN RAIL
35mm wide

(4 [.16])
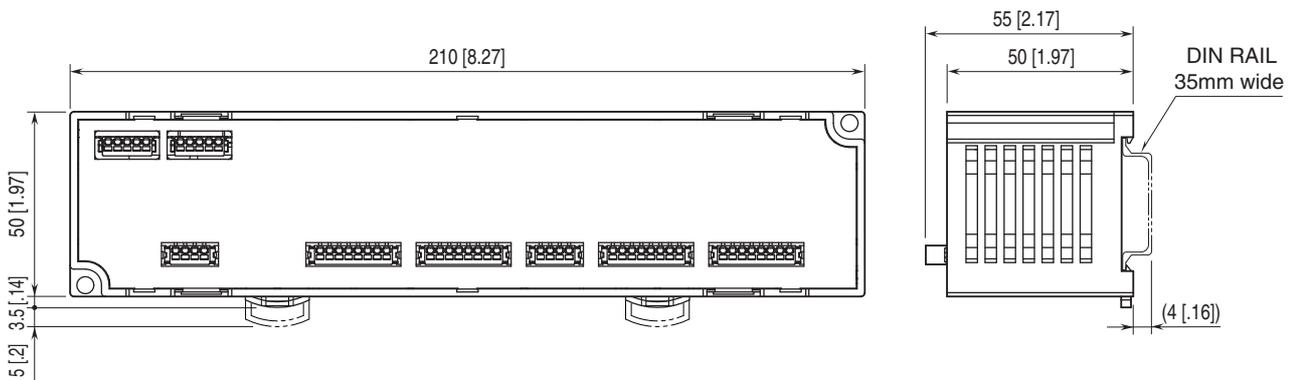
MOUNTING REQUIREMENTS   unit: mm [inch]

201 [7.91]

2-M4
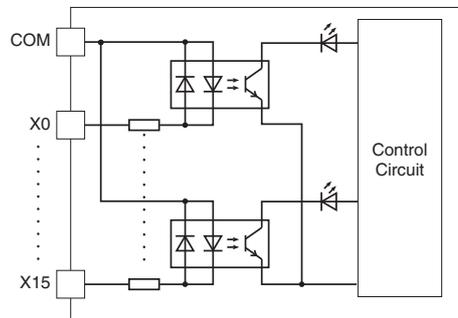
43 [1.69]

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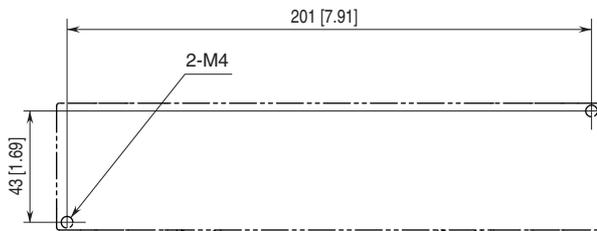
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

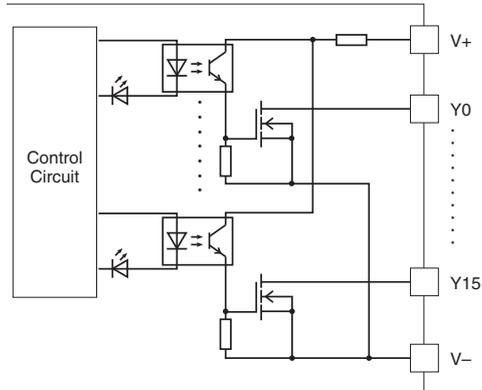Note: In order to improve EMC performance, bond the FE1 terminal to ground.

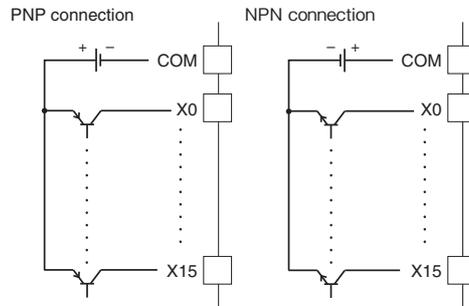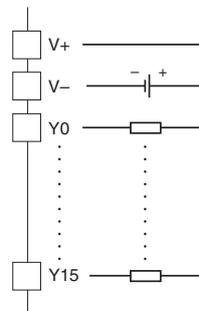Caution: FE1 terminal is NOT a protective conductor terminal.
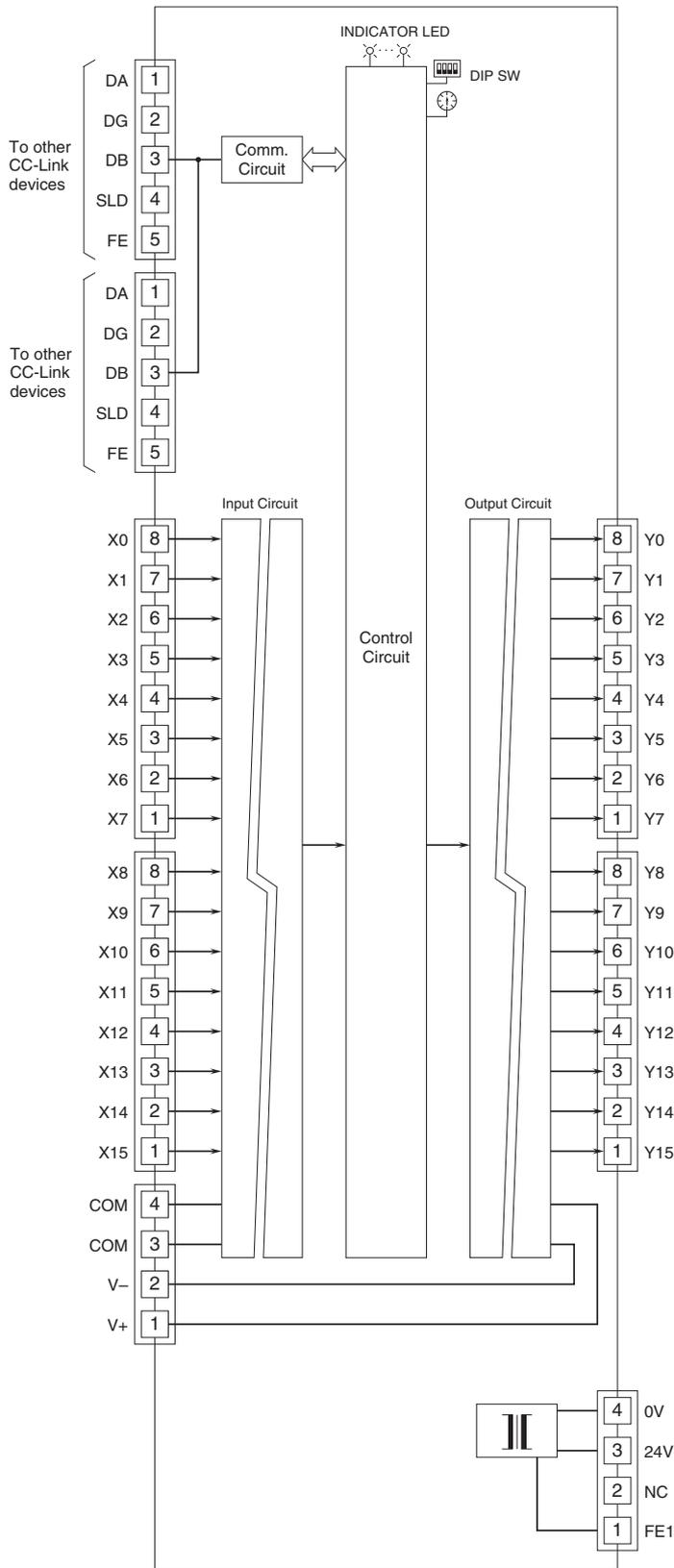
■ Input Circuit

■ Output Circuit

■ Input Connection Examples

PNP connection NPN connection

■ Output Connection Examples

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⚠ Specifications are subject to change without notice.