

DCS Input/Output Relay Card Series

STANDARD RACK

(high load current type)

Functions & Features

- 16 points per rack
- Standard rack receives either input cards or output cards

MODEL: 38D2-B[1]-[2][3]

ORDERING INFORMATION

- Code number: 38D2-B[1]-[2][3]

Specify a code from below for each of [1] through [3].

(e.g. 38D2-B1-K/W)

[1] CONNECTOR

1: FCN type connector

2: FCN type connector (plus FCN connector to couple the nest with another)

Y1: Yokogawa KS2 cable use

Y2: Yokogawa KS9 cable use

K2: Azbil DCS DO use + coupling connector

[2] POWER INPUT

AC Power

K: 85 - 132 V AC

(Operational voltage range 85 - 132 V, 47 - 66 Hz)

DC Power

R: 24 V DC

(Operational voltage range 24 V $\pm$ 10 %, ripple 10 %p-p max.)

[3] OPTIONS

Mounting Bracket

blank: Rack mounting, standard

/W: Surface mounting

RELATED PRODUCTS

- Connector terminal block (model: CNT)
- Special cable with 40-pin connector (model: FCN)

GENERAL SPECIFICATIONS

Construction: Metal plates assembly

Coating: Zn-Cr (black), aluminized steel

Capacity: 16 positions

Connection

Power, alarm, voltage output: M3.5 screw terminals
(torque 0.8 N·m)

Screw terminal: Nickel-plated brass

Isolation: I/O connector to power to alarm output to voltage output to FG (For Azbil connector: I/O connector or power to alarm output to voltage output to FG)

Alarm output: Dry contact output provided when a fuse on the relay cards is blown.

INSTALLATION

Power consumption

•AC: Max. 15 VA

Voltage output: 125 V max. (100 V AC/24 V DC)

8 A max. for the total of relay cards

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: JIS or EIA standard rack or surface

Weight: 2.0 kg (4.8 lb) (AC power 2.2 kg (4.9 lb))

PERFORMANCE

Insulation resistance: $\geq$ 100 M Ω with 500 V DC

Dielectric strength

38D2-B1, B2, BY1, BY2: 500 V AC @ 1 minute

(I/O connector to power to alarm output)

(For Azbil DCS, I/O connector or power to alarm)

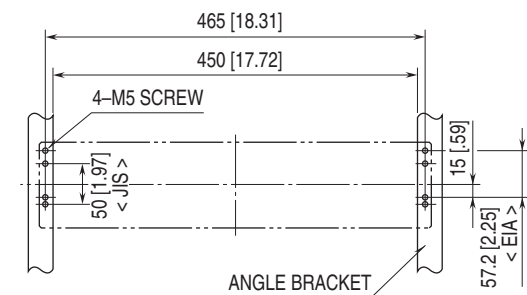
1500 V AC @ 1 minute (I/O connector or power or alarm output to voltage output)

500 V AC @ 1 minute (1000 V AC for 24 V DC power input)

(I/O connector or power or alarm output to FG)

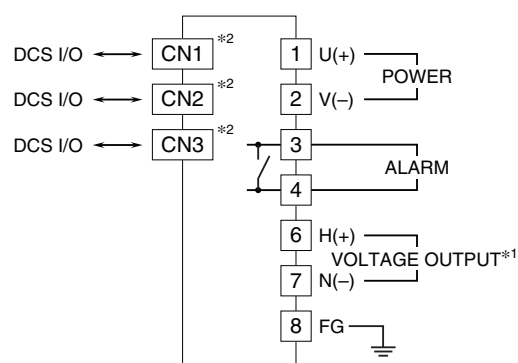
2000 V AC @ 1 minute (voltage output to FG)

MOUNTING REQUIREMENTS unit: mm [inch]



Observe appropriate wiring space under the rack.

CONNECTION DIAGRAM

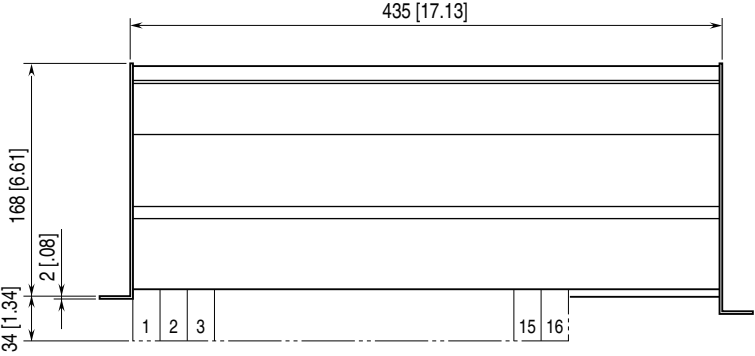


*1. Used only in combination with Output Relay Card (model: 38D2-5).
*2. Refer to the table below for CN1 – 3.

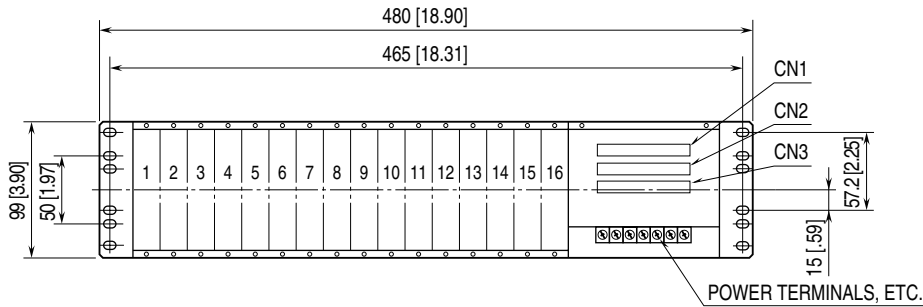
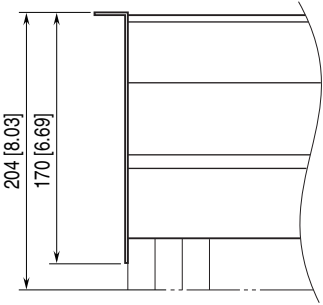
CONNECTOR	CN1	CN2	CN3
FCN connector	–	×	–
FCN connector (+ FCN)	–	×	×
Yokogawa KS2 cable use	×	–	–
Yokogawa KS9 cable use	×	–	×
Azbil DCS DO use + coupling connector	×	–	×

EXTERNAL DIMENSIONS unit: mm [inch]

■ RACK MOUNTING



■ SURFACE MOUNTING



MODEL CODE		38D2				
		-B1	-B2	-BY1	-BY2	-BK2
CN1	Yokogawa KS2 (16 chs.)			X		
	Yokogawa KS9 (32 chs.)				X	
	Azbil J-RSK					X
CN2	FCN (16/32 chs.)	X	X			
CN3	FCN (coupling nests)		X		X	X

Couple the 38D2-B1 with the 38D2-B2 or BY2 in order to handle 32-point I/O.

I/O CONNECTOR PIN ASSIGNMENT

■ FCN type connector

I/O connector CN2: OTAX N364P040AU
(Fujitsu FCN-364P040-AU...discontinued)

PIN NO	ASSIGNMENT	PIN NO	ASSIGNMENT
A 1	ch. 1 +	B 1	ch. 1 –
A 2	ch. 2 +	B 2	ch. 2 –
A 3	ch. 3 +	B 3	ch. 3 –
A 4	ch. 4 +	B 4	ch. 4 –
A 5	ch. 5 +	B 5	ch. 5 –
A 6	ch. 6 +	B 6	ch. 6 –
A 7	ch. 7 +	B 7	ch. 7 –
A 8	ch. 8 +	B 8	ch. 8 –
A 9	ch. 9 +	B 9	ch. 9 –
A10	ch. 10 +	B10	ch. 10 –
A11	ch. 11 +	B11	ch. 11 –
A12	ch. 12 +	B12	ch. 12 –
A13	ch. 13 +	B13	ch. 13 –
A14	ch. 14 +	B14	ch. 14 –
A15	ch. 15 +	B15	ch. 15 –
A16	ch. 16 +	B16	ch. 16 –
A17 – A20, B17 – B20: Unused			

■ FCN type connector (plus FCN connector to couple the nest with another)

I/O connector CN2: OTAX N364P040AU
(Fujitsu FCN-364P040-AU...discontinued)
I/O connector CN3: OTAX N364P040AU
(Fujitsu FCN-364P040-AU...discontinued)

PIN NO	ASSIGNMENT (B2)	PIN NO	ASSIGNMENT (B1)
A 1	ch. 1 +	B 1	ch. 1 +
A 2	ch. 2 +	B 2	ch. 2 +
A 3	ch. 3 +	B 3	ch. 3 +
A 4	ch. 4 +	B 4	ch. 4 +
A 5	ch. 5 +	B 5	ch. 5 +
A 6	ch. 6 +	B 6	ch. 6 +
A 7	ch. 7 +	B 7	ch. 7 +
A 8	ch. 8 +	B 8	ch. 8 +
A 9	ch. 9 +	B 9	ch. 9 +
A10	ch. 10 +	B10	ch. 10 +
A11	ch. 11 +	B11	ch. 11 +
A12	ch. 12 +	B12	ch. 12 +
A13	ch. 13 +	B13	ch. 13 +
A14	ch. 14 +	B14	ch. 14 +
A15	ch. 15 +	B15	ch. 15 +
A16	ch. 16 +	B16	ch. 16 +

A17 – A20 are common negative for the 38D2-B2.

B17 – B20 are common negative for the 38D2-B1.

■ Yokogawa KS2 cable use

• I/O Location

I/O connector CN1: PS-40PE-D4T1-PN1
(ST2, ST3, ST4* use)

38D2-BY1 Location															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ST Card I/O No.															

* ST2, ST3 and ST4 (for Yokogawa KS2 cable) are the contact I/O cards used for Yokogawa DCS.

ST2: 16-point contact inputs / 16-point contact outputs

ST3: 16-point contact inputs × 2 (32 points)

ST4: 16-point contact outputs × 2 (32 points)

• Connector Pin Assignment

PIN NO.	ASSIGNMENT	PIN NO.	ASSIGNMENT
40	ch. 1 +	39	ch. 1 –
38	ch. 2 +	37	ch. 2 –
36	ch. 3 +	35	ch. 3 –
34	ch. 4 +	33	ch. 4 –
32	ch. 5 +	31	ch. 5 –
30	ch. 6 +	29	ch. 6 –
28	ch. 7 +	27	ch. 7 –
26	ch. 8 +	25	ch. 8 –
24	ch. 9 +	23	ch. 9 –
22	ch. 10 +	21	ch. 10 –
20	ch. 11 +	19	ch. 11 –
18	ch. 12 +	17	ch. 12 –
16	ch. 13 +	15	ch. 13 –
14	ch. 14 +	13	ch. 14 –
12	ch. 15 +	11	ch. 15 –
10	ch. 16 +	9	ch. 16 –

■ Yokogawa KS9 cable use

• I/O Location

I/O connector CN1: PS-50PE-D4T1-PN1
(ST5, ST6, ST7* use)

I/O connector CN3: OTAX N364P040AU
(Fujitsu FCN-364P040-AU...discontinued)
(used to couple with the 38D2-B1)

38D2-BY2 Location															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ST Card I/O No.															
38D2-B1 Location															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
ST Card I/O No.															

* ST5, ST6 and ST7 (for Yokogawa KS9 cable) are the contact I/O cards used for Yokogawa DCS.

ST5: 32-point contact inputs / 32-point contact outputs

ST6: 32-point contact inputs × 2 (64 points)

ST7: 32-point contact outputs × 2 (64 points)

• Connector Pin Assignment

PIN NO.	ASSIGNMENT (BY2)	PIN NO.	ASSIGNMENT (B1)
46	ch. 1 +	26	ch. 17 +
45	ch. 2 +	25	ch. 18 +
44	ch. 3 +	24	ch. 19 +
43	ch. 4 +	23	ch. 20 +
42	ch. 5 +	22	ch. 21 +
41	ch. 6 +	21	ch. 22 +
40	ch. 7 +	20	ch. 23 +
39	ch. 8 +	19	ch. 24 +
38	ch. 9 +	18	ch. 25 +
37	ch. 10 +	17	ch. 26 +
36	ch. 11 +	16	ch. 27 +
35	ch. 12 +	15	ch. 28 +
34	ch. 13 +	14	ch. 29 +
33	ch. 14 +	13	ch. 30 +
32	ch. 15 +	12	ch. 31 +
31	ch. 16 +	11	ch. 32 +

47 – 50 are common negative for the 38D2-BY2.

27 – 30 are common negative for the 38D2-B1.

■ Azbil DCS DO use + coupling connector

• I/O Location

Output connector CN1: 57GE-40500-751 (J-RSK cable use)

Output connector CN3: OTAX N364P040AU
(Fujitsu FCN-364P040-AU...discontinued)
(used to couple with the 38D2-B1)

38D2-BK2 Location															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DCS Output No.															
38D2-B1 Location															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
DCS Output No.															

• Connector Pin Assignment

PIN NO.	ASSIGNMENT (BK2)	PIN NO.	ASSIGNMENT (B1)
3	ch. 1 +	11	ch. 17 +
4	ch. 2 +	12	ch. 18 +
5	ch. 3 +	13	ch. 19 +
6	ch. 4 +	14	ch. 20 +
7	ch. 5 +	15	ch. 21 +
8	ch. 6 +	16	ch. 22 +
9	ch. 7 +	17	ch. 23 +
10	ch. 8 +	18	ch. 24 +
27	ch. 9 +	19	ch. 25 +
26	ch. 10 +	20	ch. 26 +
29	ch. 11 +	21	ch. 27 +
28	ch. 12 +	22	ch. 28 +
31	ch. 13 +	23	ch. 29 +
30	ch. 14 +	24	ch. 30 +
33	ch. 15 +	25	ch. 31 +
32	ch. 16 +	50	ch. 32 +

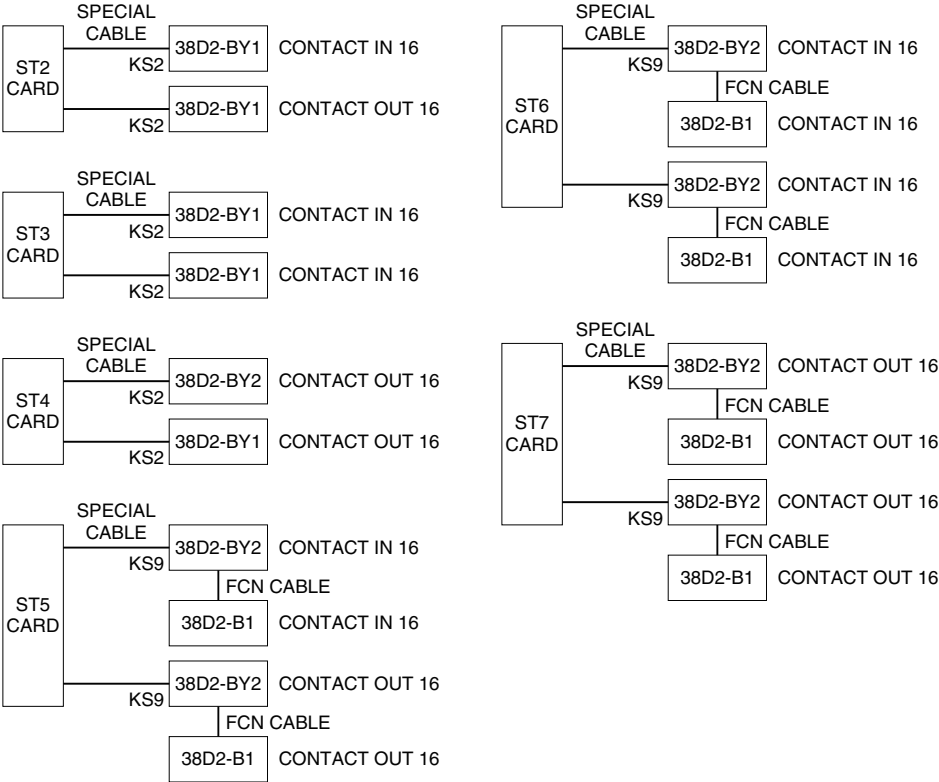
2, 34 – 39, 41 are common negative for the 38D2-BK2.

40, 42 – 47, 49 are common negative for the 38D2-B1.

1, 48: Power input (+)

2, 34 – 39, 41, 40, 42 – 47, 49: Power input (–)

■ WITH MULTI-POINT STATUS I/O CARDS



Specifications are subject to change without notice.