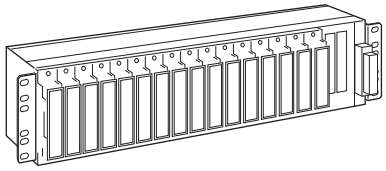
DCS Input/Output Relay Card Series

STANDARD RACK

Functions & Features

• The 38B series I/O Relay Cards easily and quickly standardize and facilitate installation of the DCS relay board. The standard Rack (Nest) model 38BXCS can accept at the maximum of 32 points
• 2 channels standard on each input or output card
• Test switch provided for checking the controller (DCS) operation
• Simple connection to the controller with connectors
• Input relay card is standard with two sets of a relay contact input and a re-transmitted output
• Output relay card is standard with two sets of two relay contact outputs



MODEL: 38BXCS–[1][2]

ORDERING INFORMATION

• Code number: 38BXCS-[1][2]
Specify a code from below for each of [1] and [2].
(e.g. 38BXCS-Y1/W)

[1] CONNECTOR

Y1: Yokogawa KS2 cable use
Y2: Yokogawa KS9 cable use
Y6: Yokogawa FA-M3/F3XD32-3N use
Y7: Yokogawa FA-M3/F3YD32-1A use
U1: Fujitsu FCN connector (16 points, 2 pcs.)
U2: Fujitsu FCN connector (32 points, 1 pc.)
K1: Azbil DCS DI connector
K2: Azbil DCS DO connector
K3: Azbil DCS J-DIM00 DI connector
H1: Hitachi DCS connector

[2] OPTIONS

Mounting Bracket
blank: Rack mounting, standard
/W: Surface mounting

RELATED PRODUCTS

• Blank filler plate (model: P-181)
• Connector terminal block (model: CNT)
• Special cable with 40-pin connector (model: FCN)

GENERAL SPECIFICATIONS

Construction: Metal plates assembly; power terminal cover provided
Coating: Colored Zn-Cr
Capacity: 16 positions
Connection: M4 screw terminals (torque 0.8 N·m)
Screw terminal: Nickel-plated brass
Isolation: I/O connector to power to FG

INSTALLATION

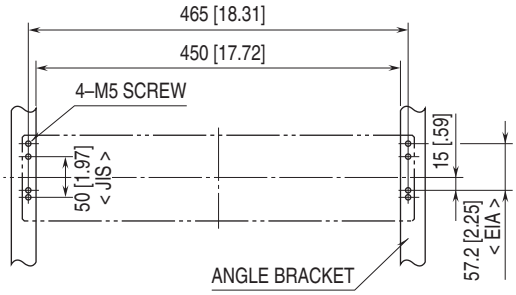
Power input
•DC: Operating voltage range 24 V DC ±10 %, 2.5 A minimum (ripple 10 % p-p max.)
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: JIS or EIA standard rack or surface
Weight: 1.7 kg (3.7 lb)

PERFORMANCE

Current capacity at I/O signal lines: 0.3 A max.
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength:
500 V AC @ 1 minute (I/O connector to power)
1000 V AC @ 1 minute (I/O connector or power to FG)

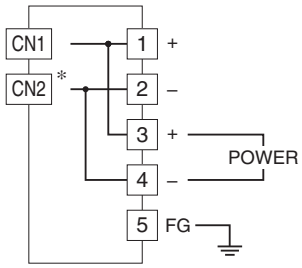
MG CO., LTD.
www.mgco.jp

MOUNTING REQUIREMENTS unit: mm [inch]



Observe appropriate wiring space over and under the rack.

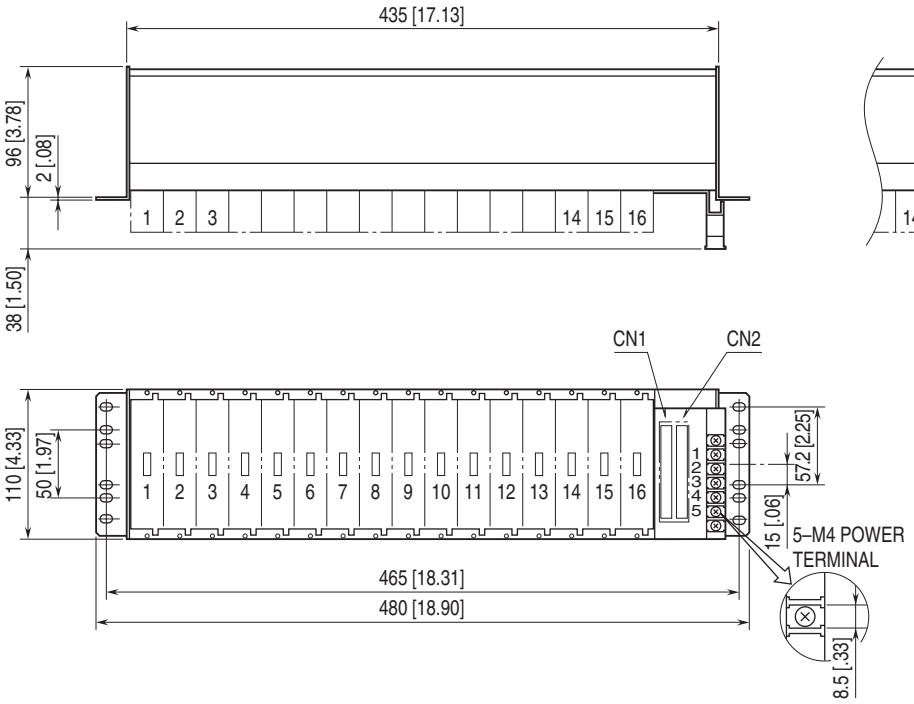
CONNECTION DIAGRAM



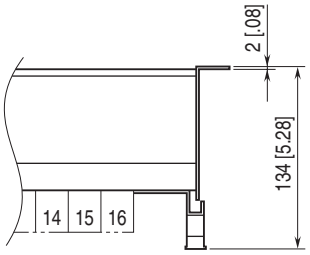
* CN2 is connectable with:
- Yokogawa KS2 cable use
- Fujitsu FCN connector (16 points, 2 pcs.)
- Azbil DCS DI connector
- Azbil DCS DO connector
- Hitachi DCS connector

EXTERNAL DIMENSIONS unit: mm [inch]

■ **RACK (standard)**



■ **SURFACE (option /W)**



MG CO., LTD.
www.mgco.jp

I/O CONNECTOR PIN ASSIGNMENT

■ Yokogawa KS2 cable use

•Location

I/O connector: PS-40PE-D4LT1-PN1

CN1, CN2: ST2, ST3 and ST4 use*

CN1								CN2							
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															
2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15	1	3	5	7	9	11	13	15
ST CARD I/O NO.								ST CARD I/O NO.							

*ST2/ST3/ST4, using KS2 cable, are discrete I/O cards for Yokogawa DCS.

ST2: contact input 16 points, contact output 16 points

ST3: contact input 16 points, 2 pcs. (32 points)

ST4: contact output 16 points, 2 pcs. (32 points)

■ Yokogawa KS9 cable use

•Location

I/O connector: PS-50PE-D4LT1-PN1

CN1: ST5, ST6 and ST7 use*

CN1															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
ST CARD I/O NO.															

*ST5/ST6/ST7, using KS9 cable, are discrete I/O cards for Yokogawa DCS.

ST5: contact input 32 points, contact output 32 points

ST6: contact input 32 points, 2 pcs. (64 points)

ST7: contact output 32 points, 2 pcs. (64 points)

■ Yokogawa FA-M3/F3XD32-3N use

•Location

CN1: OTAX N365P040AU
(Fujitsu FCN-365P040-AU...discontinued)

CN1 (32 points)															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD OUTPUT NO.*															

*Use the 38-Rack Input Relay Cards.

•Connector Pin Assignments (CN1)

LOCATION No.	CH. No.	PIN No. +	LOCATION No.	CH. No.	PIN No. +
No. 1	ch. 1	A1	No. 9	ch.17	B1
	ch. 2	A2		ch.18	B2
No. 2	ch. 3	A3	No.10	ch.19	B3
	ch. 4	A4		ch.20	B4
No. 3	ch. 5	A5	No.11	ch.21	B5
	ch. 6	A6		ch.22	B6
No. 4	ch. 7	A7	No.12	ch.23	B7
	ch. 8	A8		ch.24	B8
No. 5	ch. 9	A10	No.13	ch.25	B10
	ch.10	A11		ch.26	B11
No. 6	ch.11	A12	No.14	ch.27	B12
	ch.12	A13		ch.28	B13
No. 7	ch.13	A14	No.15	ch.29	B14
	ch.14	A15		ch.30	B15
No. 8	ch.15	A16	No.16	ch.31	B16
	ch.16	A17		ch.32	B17
ch.1 through ch.32					
Negative common A9, A18, B9, B18					

MG CO., LTD.
www.mgco.jp

■ Yokogawa FA-M3/F3YD32-1A use

•Location

CN1: OTAX N365P040AU
(Fujitsu FCN-365P040-AU...discontinued)

CN1 (32 points)															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD INPUT NO.*															

*Use the 38-Rack Output Relay Cards.

•Connector Pin Assignments (CN1)

LOCATION No.	CH. No.	PIN No. +	LOCATION No.	CH. No.	PIN No. +
No. 1	ch. 1	A1	No. 9	ch.17	B1
	ch. 2	A2		ch.18	B2
No. 2	ch. 3	A3	No.10	ch.19	B3
	ch. 4	A4		ch.20	B4
No. 3	ch. 5	A5	No.11	ch.21	B5
	ch. 6	A6		ch.22	B6
No. 4	ch. 7	A7	No.12	ch.23	B7
	ch. 8	A8		ch.24	B8
No. 5	ch. 9	A11	No.13	ch.25	B11
	ch.10	A12		ch.26	B12
No. 6	ch.11	A13	No.14	ch.27	B13
	ch.12	A14		ch.28	B14
No. 7	ch.13	A15	No.15	ch.29	B15
	ch.14	A16		ch.30	B16
No. 8	ch.15	A17	No.16	ch.31	B17
	ch.16	A18		ch.32	B18

ch.1 through ch.32
Negative common A9, A19, B9, B19

■ Fujitsu FCN connector

(16 points, 2 pcs.)

•Location

CN1, CN2: OTAX N365P040AU
(Fujitsu FCN-365P040-AU...discontinued)

CN1 (16 points)								CN2 (16 points)							
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															

•Connector Pin Assignments (CN1, CN2)

CN1				CN2			
LOCATION No.	CH. No.	PIN No. +	PIN No. –	LOCATION No.	CH. No.	PIN No. +	PIN No. –
No. 1	ch. 1	A1	B1	No. 9	ch.17	A1	B1
	ch. 2	A2	B2		ch.18	A2	B2
No. 2	ch. 3	A3	B3	No.10	ch.19	A3	B3
	ch. 4	A4	B4		ch.20	A4	B4
No. 3	ch. 5	A5	B5	No.11	ch.21	A5	B5
	ch. 6	A6	B6		ch.22	A6	B6
No. 4	ch. 7	A7	B7	No.12	ch.23	A7	B7
	ch. 8	A8	B8		ch.24	A8	B8
No. 5	ch. 9	A9	B9	No.13	ch.25	A9	B9
	ch.10	A10	B10		ch.26	A10	B10
No. 6	ch.11	A11	B11	No.14	ch.27	A11	B11
	ch.12	A12	B12		ch.28	A12	B12
No. 7	ch.13	A13	B13	No.15	ch.29	A13	B13
	ch.14	A14	B14		ch.30	A14	B14
No. 8	ch.15	A15	B15	No.16	ch.31	A15	B15
	ch.16	A16	B16		ch.32	A16	B16
Unused		A17 – A20 B17 – B20		Unused		A17 – A20 B17 – B20	

MG CO., LTD.
www.mgco.jp

■ Fujitsu FCN connector

(32 points, 1 pc.)

•Location

CN1: OTAX N365P040AU
(Fujitsu FCN-365P040-AU...discontinued)

CN1 (32 points)															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															

•Connector Pin Assignments (CN1)

LOCATION No.	CH. No.	PIN No. +	LOCATION No.	CH. No.	PIN No. +
No. 1	ch. 1	A1	No. 9	ch.17	B1
	ch. 2	A2		ch.18	B2
No. 2	ch. 3	A3	No.10	ch.19	B3
	ch. 4	A4		ch.20	B4
No. 3	ch. 5	A5	No.11	ch.21	B5
	ch. 6	A6		ch.22	B6
No. 4	ch. 7	A7	No.12	ch.23	B7
	ch. 8	A8		ch.24	B8
No. 5	ch. 9	A9	No.13	ch.25	B9
	ch.10	A10		ch.26	B10
No. 6	ch.11	A11	No.14	ch.27	B11
	ch.12	A12		ch.28	B12
No. 7	ch.13	A13	No.15	ch.29	B13
	ch.14	A14		ch.30	B14
No. 8	ch.15	A15	No.16	ch.31	B15
	ch.16	A16		ch.32	B16
ch.1 – ch.16		com. negative A17 – A20	ch.17 – ch.32		com. negative B17 – B20

■ Azbil DCS DI connector

•Location

Output connector: 57LE-40500-7300

32-point DI card

CN1 (32 points)															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO. (DCS INPUT NO.)															

16-point DI card

CN1 (16 points)								CN2 (16 points)							
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															
2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15	1	3	5	7	9	11	13	15
INPUT NO.								INPUT NO.							

■ Azbil DCS DO connector

•Location

Input connector: 57LE-40500-7300

32-point DO card

CN1 (32 points)															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO. (DCS OUTPUT NO.)															

16-point DO card

CN1 (16 points)								CN2 (16 points)							
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															
2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15	1	3	5	7	9	11	13	15
OUTPUT NO.								OUTPUT NO.							

■ Azbil DCS J-DIM00 DI connector

•Location

Output connector: 57LE-40500-7300

CN1 (16 points)															
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO. (DCS INPUT NO.)															

•Connector Pin Assignments (CN1)

LOCATION No.	CH. No.	PIN No. +	LOCATION No.	CH. No.	PIN No. +
No. 1	ch. 1	3	No. 9	ch.17	11
	ch. 2	4		ch.18	12
No. 2	ch. 3	5	No.10	ch.19	13
	ch. 4	6		ch.20	14
No. 3	ch. 5	7	No.11	ch.21	15
	ch. 6	8		ch.22	16
No. 4	ch. 7	9	No.12	ch.23	17
	ch. 8	10		ch.24	18
No. 5	ch. 9	27	No.13	ch.25	19
	ch.10	26		ch.26	20
No. 6	ch.11	29	No.14	ch.27	21
	ch.12	28		ch.28	22
No. 7	ch.13	31	No.15	ch.29	23
	ch.14	30		ch.30	24
No. 8	ch.15	33	No.16	ch.31	25
	ch.16	32		ch.32	50
EXSNS		1, 38, 41 42, 45, 48	EXCOM		2, 34, 35 36, 37, 39 40, 43, 44 46, 47, 49

MG CO., LTD.
www.mgco.jp

■Hitachi DCS connector

•Location

CN1, CN2: DN10-36S (Hirose)

CN1								CN2							
38-RACK CARD LOCATION NO.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31
38-RACK CARD CHANNEL NO.															

•CN1 Connector Pin Assignment

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

•CN2 Connector Pin Assignment

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

⚠ Specifications are subject to change without notice.

MG CO., LTD.
www.mgco.jp