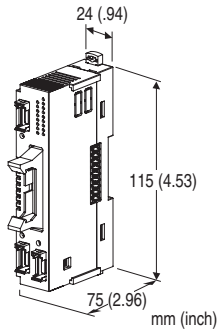
Remote I/O R8 Series

NPN TRANSISTOR OUTPUT MODULE, 16 points

(with shortcircuit protection, full and individual interlock)

Functions & Features

• 16 channels for discrete output, compact size remote I/O module
• 20 pin MIL connector
• With interlock input it is available to turn all or one (2 points) output off.



CE

MODEL: R8–DCM16ALK[1]

ORDERING INFORMATION

• Code number: R8-DCM16ALK[1]
Specify a code from below for [1].
(e.g. R8-DCM16ALK/Q)
• Specify the specification for option code /Q
(e.g. /C01)

[1] OPTIONS

blank: none
/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)
/C01: Silicone coating
/C02: Polyurethane coating

RELATED PRODUCTS

• PC configurator software (model: R8CFG)
Downloadable at M-System's web site.
A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.
Note: When using with Power/Network module (model: R8-NM1), firmware version Ver1.04 or later is supported.

GENERAL SPECIFICATIONS

Connection
•Input: 4-pin e-CON connector
PWB connector XN2D-1474-S002 (Omron)
Recommended cable connector XN2A-1470 (Omron)
Applicable wire size 0.08 mm^2 (AWG28) - 0.5 mm^2 (AWG20)
Outer sheath diameter: max. 1.5 dia
(The cable connector is not included in the package. Refer to the specifications of the product.)
•Output:20-pin MIL connector
PWB connector XG4A-2034 (Omron)
Recommended socket XG5N-201 (Omron)
Recommended contact XG5W-0231 (Omron)
Applicable wire size AWG22, number of conductor 17, diameter of conductor 0.16 mm
(The socket and contact are not included in the package. Refer to the specifications of the product.)
•Excitation supply, internal bus: Connected to internal bus connector
•Internal power: Supplied from internal bus connector
Isolation: I/O or exc. supply to internal bus or internal power
Module address:DIP switches
Terminating resistor: Built-in (DIP Switch, default: disable)
(The others switches depend on operating mode settings)
Indicator LEDs: Bi-color (red/green) LED; Refer to the instruction manual.
Discrete output status indicators: Green LED; Refer to the instruction manual.
Interlock status indicators: Red LED; Refer to the instruction manual.

INTERLOCK INPUT SPECIFICATION

Common: Negative common (PNP)
Number of input: 3 point
Rated input voltage: 24 V DC ±10 %; ripple 5 %p-p max.
ON voltage / current: ≥ 15 V DC (input – 0V) / ≥ 2.3 mA
OFF voltage / current: ≤ 5 V DC (input – 0V) / ≤ 1 mA
Input current: ≤ 4.5 mA per point at 24 V DC
Input resistance: Approx. 5.7 kΩ
ON delay: ≤ 2.0 msec.
OFF delay: ≤ 2.0 msec.
The output turns to OFF during interlock is input.

OUTPUT SPECIFICATIONS

Common: Negative common (NPN) per 16 points
Maximum outputs applicable at once: No limit (at 24 V DC)
Number of output: 16 points
Rated load voltage: 24 V DC ±10 %
Rated output current: 0.1 A per point, 1.6 A per common
Residual voltage: ≤ 0.5 V

Leakage current: ≤ 0.1 mA
ON delay: ≤ 0.5 msec.
OFF delay: ≤ 1.5 msec.
With shortcircuit protection
With overheat protection
(When driving an inductive load, connect a diode in parallel with the load.)

INSTALLATION

Max. current consumption: 160 mA
Operating temperature: -10 to +55°C (14 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Atmosphere: No corrosive gas or heavy dust
Mounting: DIN rail
Weight: 110 g (0.24 lb)

PERFORMANCE

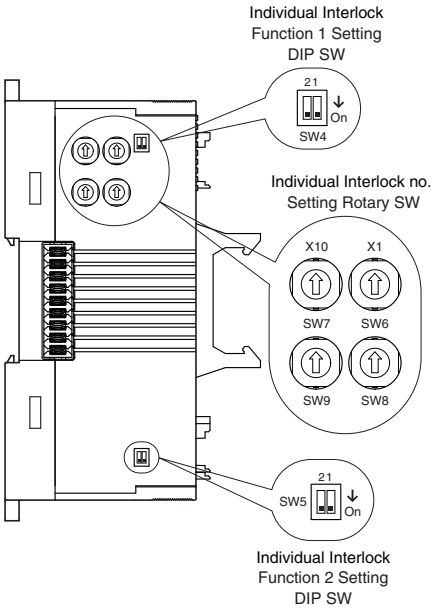
Data allocation: 1
Module addresses in use: 1
Power output (input connector): Rated curent 50 mA DC per channel
Power output (output connector): Rated curent 3 A DC
(rated current 3 A for internal fuse (slow blow fuse i^2t (A^2sec) max. 5.04)
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500V AC @1 minute
(I/O or exc. supply to internal bus or internal power to ground)

STANDARDS & APPROVALS

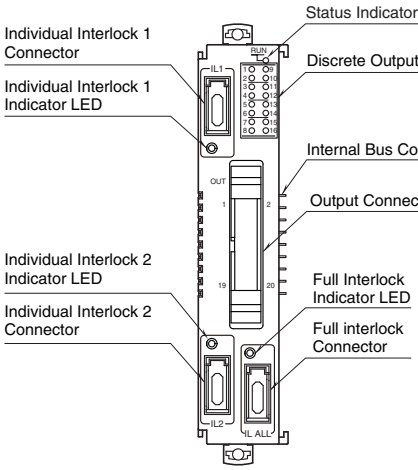
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive
EN 50581

EXTERNAL VIEW

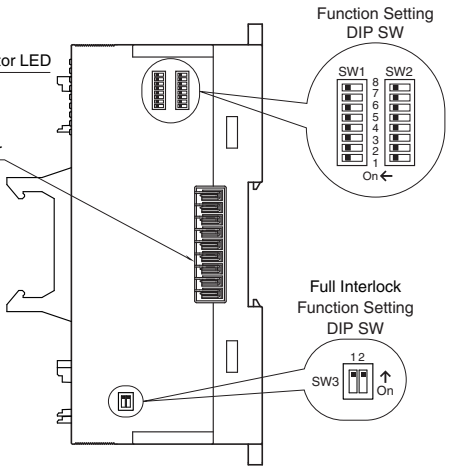
■ **LEFT SIDE VIEW**



■ **FRONT VIEW**



■ **RIGTH SIDE VIEW**



OPERATING MODE SETTING

(*) Factory setting

■ MODULE ADDRESS

Module address can be set with SW1-1 through 1-4 for the tens, and SW1-5 through 1-8 for the ones place digit.
Address is selected between 0 to 31. (Factory setting: 0)

MODULE ADDRESS	SW1			
	1 5	2 6	3 7	4 8
0	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	ON
2	OFF	OFF	ON	OFF
3	OFF	OFF	ON	ON
4	OFF	ON	OFF	OFF
5	OFF	ON	OFF	ON
6	OFF	ON	ON	OFF
7	OFF	ON	ON	ON
8	ON	OFF	OFF	OFF
9	ON	OFF	OFF	ON

■ INTERLOCK COMMUNICATION LOGIC REVERSAL

Setting internal communication bus logic.

Interlock Communication Logic Reversal	SW2-1
Interlock function setting off: 1 Interlock function setting on: normal = 1, interlock = 0	ON
Interlock function setting off: 0 (*) Interlock function setting on: normal = 0, interlock = 1	OFF

Caution: 1 and 0 values are validated as logic through internal communication bus logic.

■ OUTPUT AT THE LOSS OF COMMUNICATION

Setting for all output.

OUTPUT AT THE LOSS OF COMMUNICATION	SW2-5
Output Hold (*) (last data correctly rerceived is hold	OFF
Stop output (Output fixed at OFF)	ON

■ TERMINATOR DIP SW

TERMINATOR SW	SW2-6
Without (*)	OFF
With	ON

■ CONFIGURATION MODE

CONFIGURATION MODE	SW2-8
DIP switch setting (*)	OFF
PC	ON

Caution: SW2-2 through 2-4 and 2-7 are unused; be sure to turn OFF unused channels.

■ FULL INTERLOCK FUNCTION

It is available to apply full interlock function to all outputs (Do1 through Do16)

Full Interlock Function	SW3-1
OFF	OFF
ON (*) (all outputs OFF if input OFF)	ON

Caution: SW3-2 is unused; be sure to turn OFF unused channels.

■ INDIVIDUAL INTERLOCK

At output, it is available to apply interlock function to 2 points arbitrary.

• Individual interlock function 1

INDIVIDUAL INTERLOCK 1	SW4
	1
SW6, 7 OFF	OFF
SW6, 7 ON (*) (Input OFF with output OFF)	ON

• Individual interlock function 1, channel

INDIVIDUAL INTERLOCK 1 CHANNEL	SW6	SW7
	Ones	Tens
ON	01 through 16	
OFF	00, 17 through 99	

• Individual interlock function 2

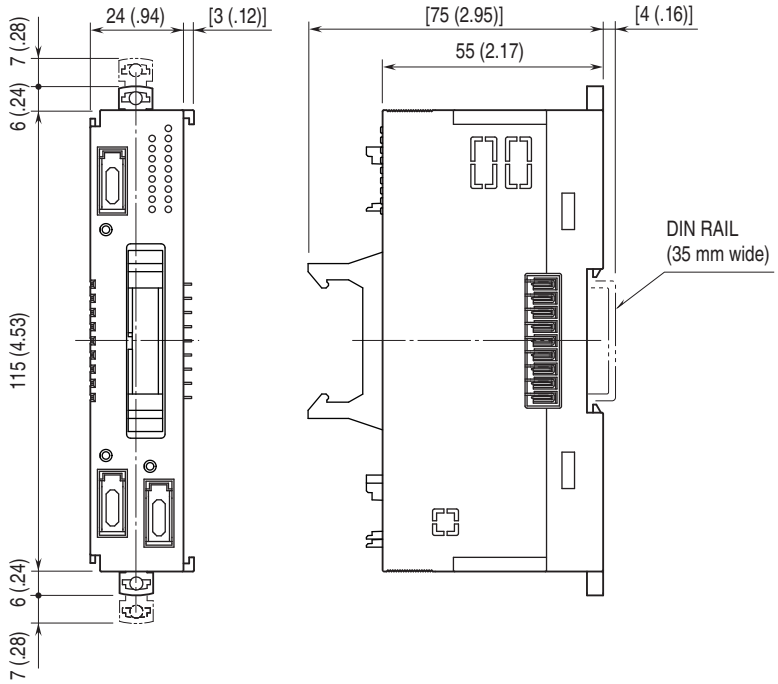
INDIVIDUAL INTERLOCK 2	SW5
	1
SW8, 9 OFF	OFF
SW8, 9 ON (*) (Input OFF with output OFF)	ON

• Individual interlock function 2, channel

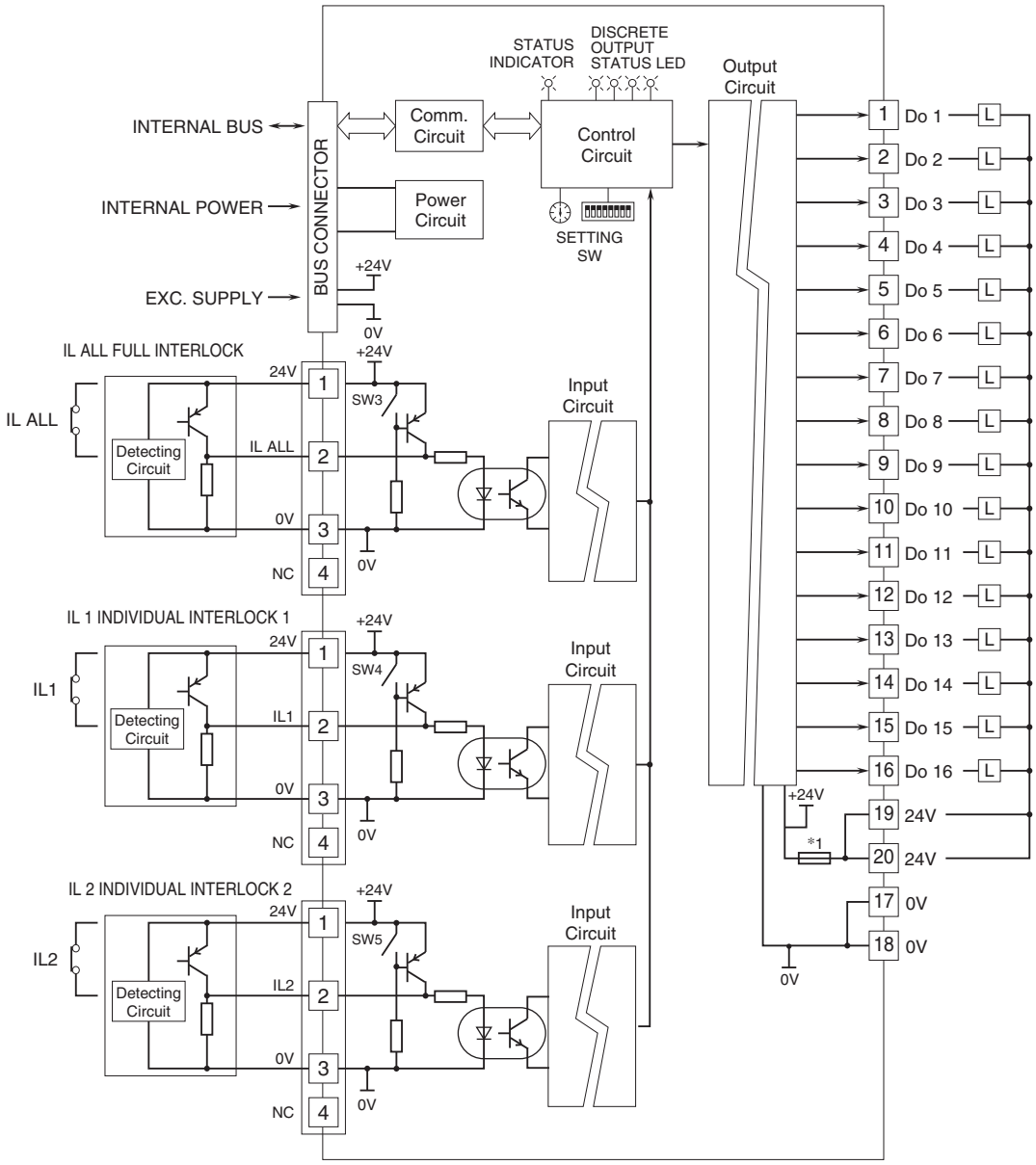
INDIVIDUAL INTERLOCK 2 CHANNEL	SW8	SW9
	Ones	Tens
ON	01 through 16	
OFF	00, 17 through 99	

Caution: SW4-2 and 5-2 are unused; be sure to turn OFF unused channels.

DIMENSIONS unit: mm (inch)

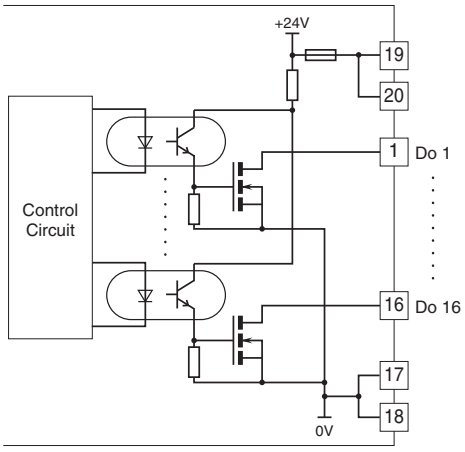


SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1. Fuse is not replazable.

■ **OUTPUT CIRCUIT**



⚠ Specifications are subject to change without notice.