

# Systempak (Analog/Single Case)

## Isolator Module

### Model J-SIP 50/55

#### Introduction

The Isolator Modules ( J-SIP50/55) is a signal conversion module housed in a single case and accepts a 1 to 5V DC or 4 to 20mA DC input and converts it into an isolated 1 to 5V DC or 4 to 20mA DC output signal. The Isolator Modules are available for one-output ( J-SIP50) or two-output (J-SIP55) model. The Isolator Module with integrated power supply also available.

Complete isolation is employed between the power, input, and output circuits.

#### Specification

Input signal :

1 to 5V DC or 4 to 20mA DC

Input bias current :

- 1 $\mu$ A or less (voltage)

Input impedance :

250 (current)

Output signal :

No.1 output; 1 to 5V DC or 4 to 20mA DC

No.2 output; 1 to 5V DC

Between No.1 and No.2 outputs is not isolated. (minus common)

Output impedance :

Voltage output; 250 or less

( No.1 and No.2 outputs)

Current output; 250k or more

( No.1 output)

Load :

0 to 600 ( current outputs)

Accuracy ( No.1 and No.2 outputs) :

$\pm 0.25\%$ FS

Common mode rejection ratio :

100dB (at 50Hz)

Power supply :

24V DC  $\begin{matrix} +15 \\ -10 \end{matrix}\%$

Transmitter power supply :

24V DC  $\pm 10\%$ , 25mA

( w/ current-limiting circuit 35mA)

Current consumption :

w/o transmitter power supply...

140mA max. (at 24V DC)

w/ transmitter power supply...

160mA max. (at 24V DC)

Ambient temperature :

- 5 to + 55

Ambient humidity:

0 to 90%RH



Mounting :

Panel, Wall, DIN rail mounting

Color of front mask :

Black

Weight :

450g

Operating influence :

Supply voltage effect ;

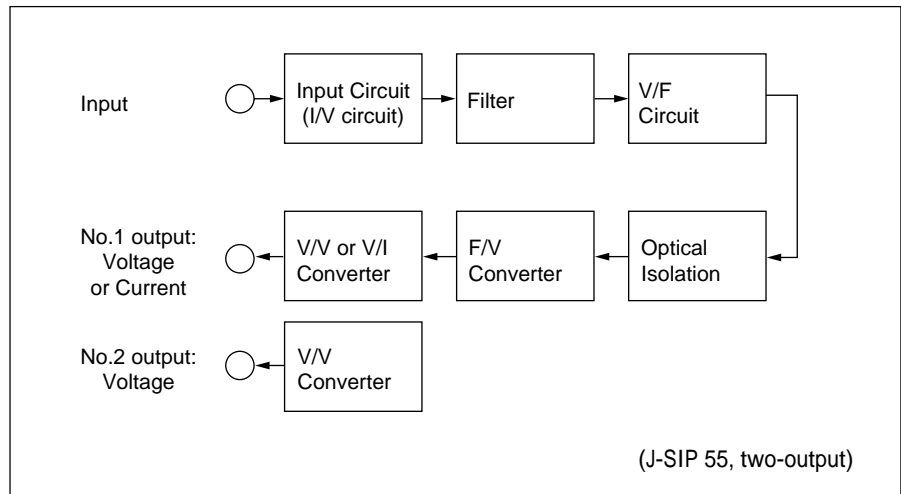
$\pm 0.1\%$ FS/24V DC  $\begin{matrix} +15 \\ -10 \end{matrix}\%$

Temperature effect ;

$\pm 0.2\%$ FS/  $\pm 10$

## Theory of Operation

An input is converted into an appropriate impedance by the Input circuit, and the Filter circuit removes any AC noise. The 1 to 5V DC (passing through the V/F and F/V converters) is isolated by the photocoupler and is V/V- or V/I-converted for voltage or current output.



## Model Number Table

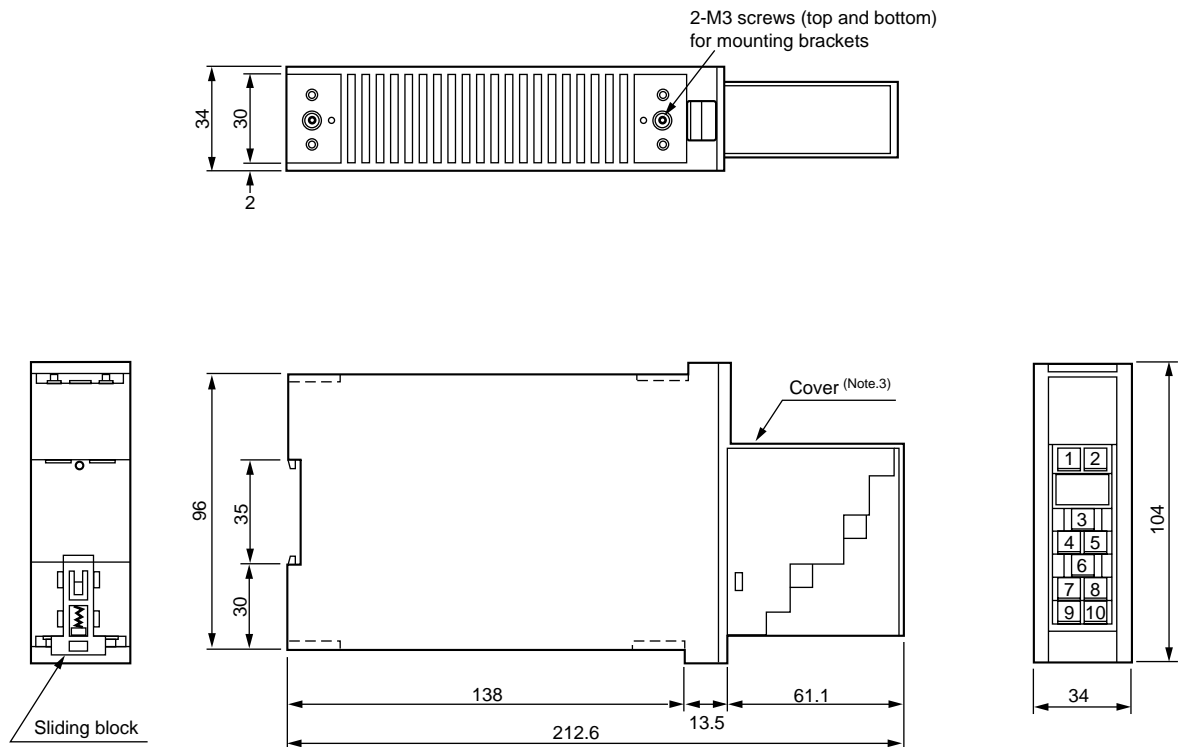
### One-output model:

Basic Model Number	Selections		Description
	I	II	
J-SIP 50			Isolator Module
	- 1		1 to 5V DC input
	- 2		4 to 20mA DC input
	- 3		4 to 20mA DC input (w/ transmitter 24V DC power supply)
		1	1 to 5V DC output
		2	4 to 20mA DC output

### Two-output model:

Basic Model Number	Selections		Description
	I	II	
J-SIP 55			Isolator Module
	- 1		1 to 5V DC input
	- 2		4 to 20mA DC input
	- 3		4 to 20mA DC input (w/ transmitter 24V DC power supply)
		1	No.1 output : 1 to 5V DC No.2 output : 1 to 5V DC
		2	No.1 output : 4 to 20mA DC No.2 output : 1 to 5V DC

## Dimensions and Wirings



**Table 1. Without transmitter power supply**

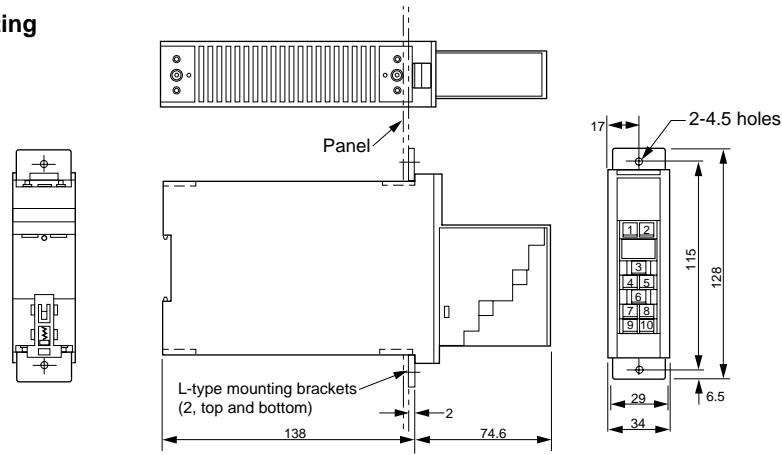
No.	Description
1	Input (-) <small>(Note.2)</small>
2	Input (+) <small>(Note.2)</small>
3	- -
4	No.1 output (+)
5	No.1 output (-)
6	No.2 output (+) <small>(Note.1)</small>
7	No.2 output (-) <small>(Note.1)</small>
8	24V (PS +)
9	GND
10	0V (PS -)

**Table 2. With transmitter power supply**

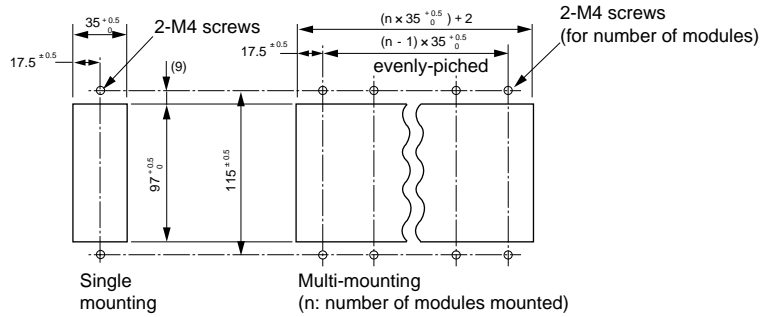
No.	Description
1	- - <small>(Note.2)</small>
2	Transmitter Input (-) <small>(Note.2)</small>
3	Transmitter Input (+)
4	No.1 output (+)
5	No.1 output (-)
6	No.2 output (+) <small>(Note.1)</small>
7	No.2 output (-) <small>(Note.1)</small>
8	24V (PS +)
9	GND
10	0V (PS -)

- Note : 1) Only available for two-output model.  
 2) 250 Ω resistor is added for current input.  
 3) Do not remove the cover during operation.  
 4) Terminal screws : M3.5  
 5) Use the terminal clamp with insulation sheath.  
 6) The model with Transmitter power supply, will be able to use as the model without power supply by means of same connection per table 1.

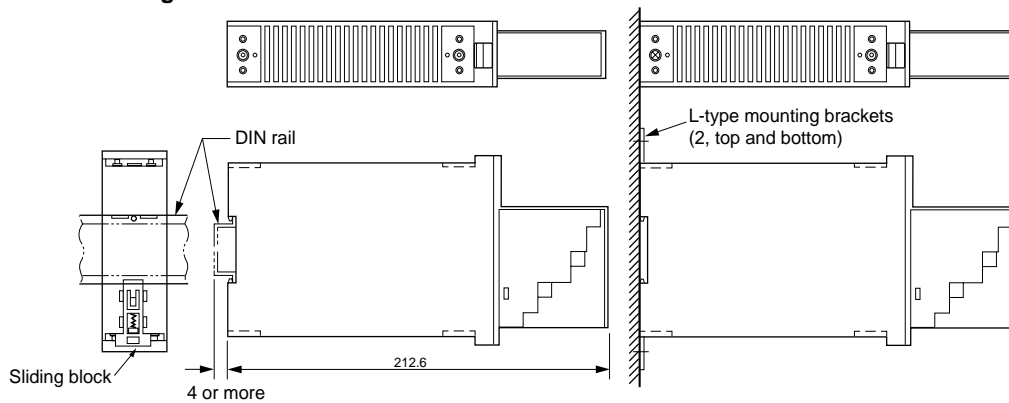
### Panel-mounting



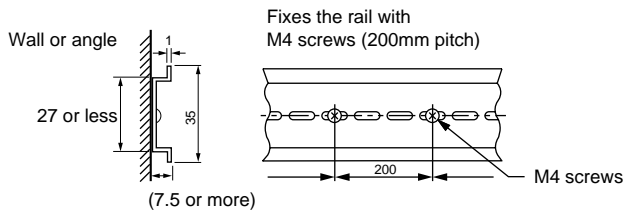
### Panel-cutout



### DIN rail mounting



### DIN rail mounting



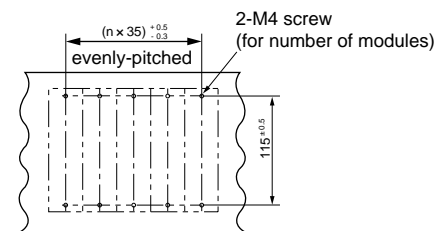
Recommended DIN rail and end fittings

Rail : DAS-4 [Toyo Giken made]

End fittings : ATO-29 [Toyo Giken made]

### Wall-mounting

(n: number of modules mounted)



Specifications are subject to change without notice.

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