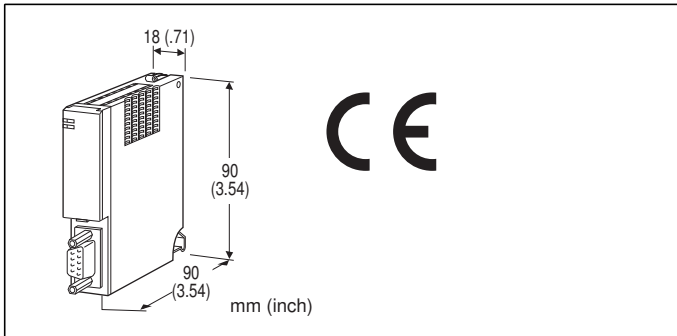


Remote I/O R5 Series

PROFIBUS-DP INTERFACE MODULE

(for 32-point analog signals)



MODEL: R5-NP2

ORDERING INFORMATION

- Code number: R5-NP2

RELATED PRODUCTS

- PC configurator software (model: R5CON)
- GSD (General Station Description) file

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.

GENERAL SPECIFICATIONS

Connection

Network: 9-pin D-sub connector, female
(Lock screw No. 4-40 UNC)

Internal bus: Via the Installation Base
(model: R5-BSx)

Power supply: Via the base (model: R5-BSx)

Isolation: PROFIBUS to internal bus or internal power

RUN indicator: Bi-color (green/red) LED (refer to the instruction manual)

ERR indicator: Bi-color (green/red) LED (refer to the instruction manual)

Data allocation: Fixed to Mode 2

PROFIBUS COMMUNICATION

Interface: PROFIBUS-DP, slave (RS-485 isolation)

Max. baud rate: 12 Mbps

Transmission cable: Approved for PROFIBUS-DP

Station address setting: Rotary switch; 00 - 7D

(The station address is programmed to 7D if a larger number is set on the switches.)

- Special Clear Mode (Fail Safe Mode) is not supported. However, when the R5-NP2 is initialized (when the power is turned on), the output of connected output modules is cleared by value "0": the discrete outputs are turned off; the analog outputs are reset to 0 %.

INSTALLATION

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: Installation Base (model: R5-BSx)

Weight: 100 g (3.53 oz)

PERFORMANCE

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 2000 V AC @1 minute (PROFIBUS to internal bus or internal power)

STANDARDS & APPROVALS

CE conformity:

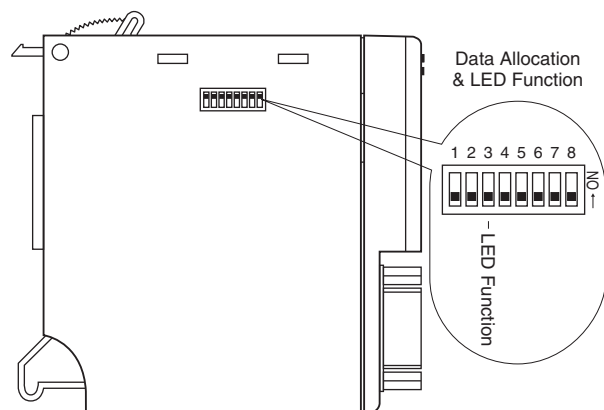
EMC Directive (2004/108/EC)

EMI EN 61000-6-4: 2007

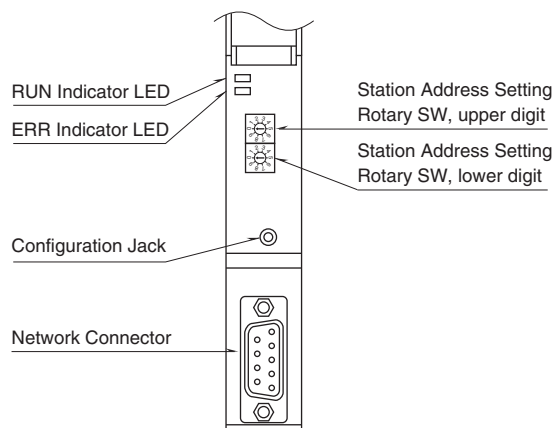
EMS EN 61000-6-2: 2005

EXTERNAL VIEW

■ SIDE VIEW



■ FRONT VIEW



■ PROFIBUS INTERFACE



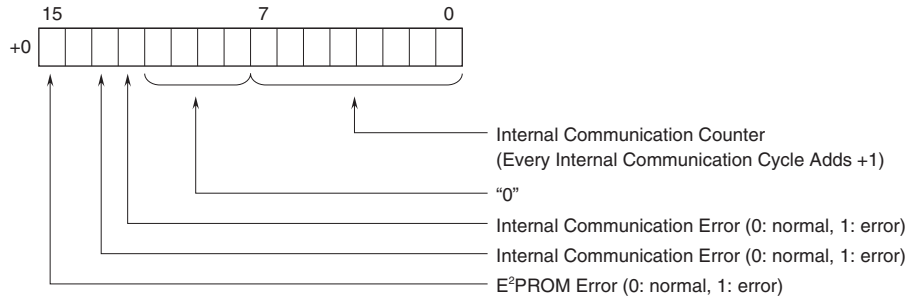
PIN No.	SIGNAL	SIGNIFICANCE
1	NC	Not used
2	NC	Not used
3	B_line	Network, B-line
4	RTS	RTS signal
5	GND	0V
6	P5V	5V
7	NC	Not used
8	A_line	Network, A-line
9	NC	Not used

TRANSMISSION DATA DESCRIPTIONS

■ STATUS FLAG

(Usable by defining "R5-IO-MODULE-STATUS" at a non-assigned module slot when defining I/O module configurations)

FLG: Communication status data. When the module is unmounted, the module type is not correct, or when communication errors occur frequently, the corresponding bit turns to "1."

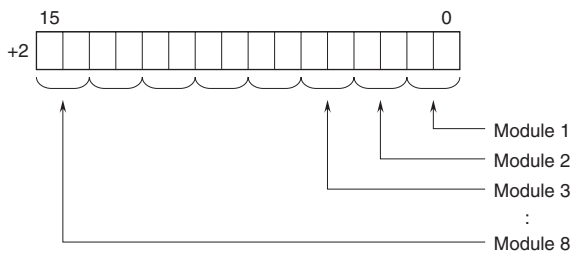


ERR1, ERR2: Analog input modules check high/low limits and ADC. When there is an error in one or more channels, the bit corresponding to the channels turns to "1." The bit corresponding to unmounted channels turns to "1."

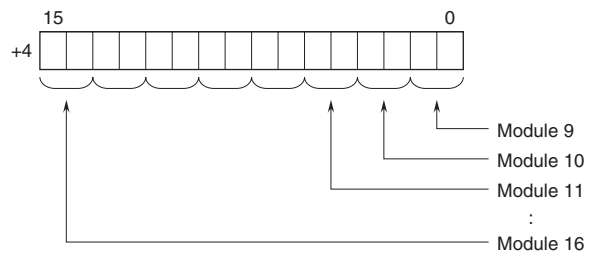
DC current output modules check output wire breakdown to alert as an error. The bit corresponding to the channels turns to "1."

Among the two bits assigned for each module, the least significant bit is used for channel 1 of a two-channel analog module or for a discrete module.

• ERR1



• ERR2



I/O DATA DESCRIPTIONS

■ ANALOG DATA

0 to 100% of the selected I/O range is converted into 0 to 10000 (binary).

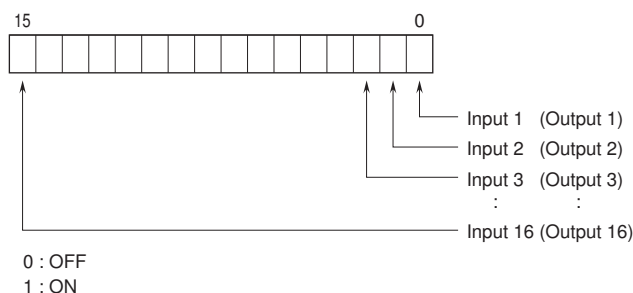
With °C temperature unit, raw data is multiplied by 10. For example, 25.5°C is converted into 255.

With °F temperature unit, the integer section of raw data is directly converted into the data. For example, 135.4°F is converted into 135.

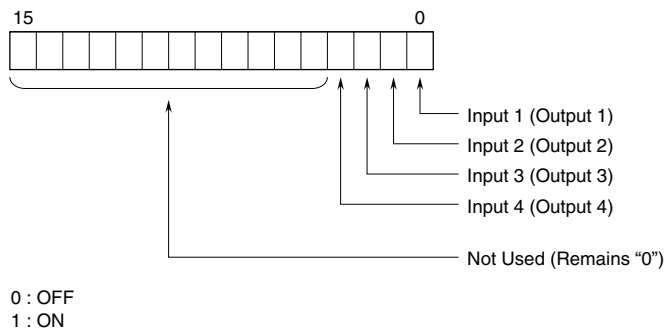
Negative values are represented in 2's complements.



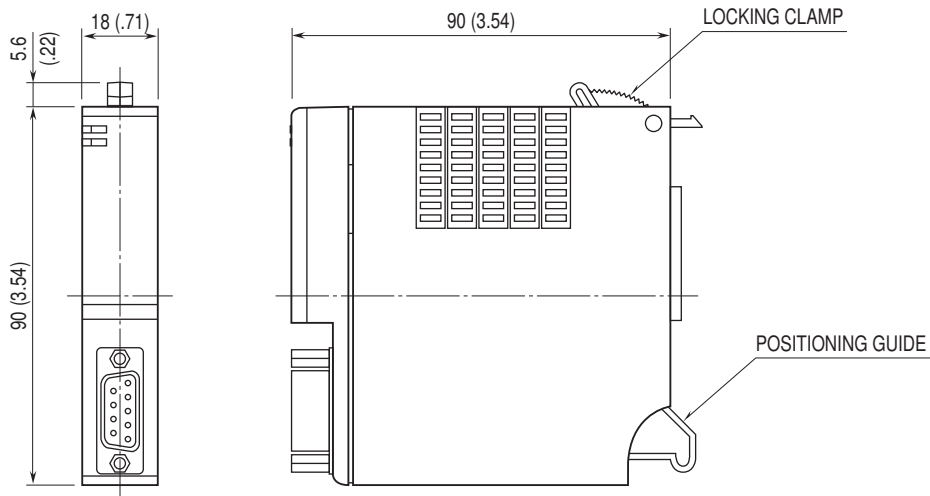
■ 16-POINT DISCRETE DATA



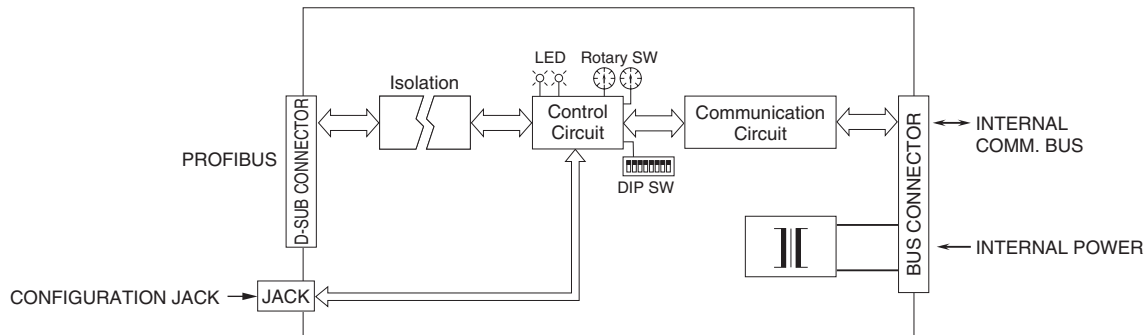
4-POINT DISCRETE DATA



DIMENSIONS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.