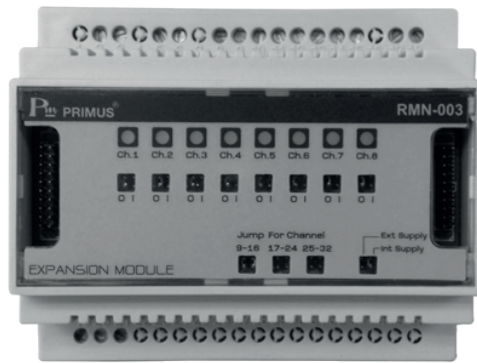


RMN-002



RMN-003

TECHNICAL SPECIFICATION

RMN-002 DIGITAL MASTER I/O MODULE

Power Supply	220V ~ ±10% 50-60Hz
Power Consumption	3 VA
External Supply I/O Voltage	12-30V
Setting	3x Spinning button
Relay Contact	5A/250VAC or 5A/30VDC
Operative Temperature	0 to 50 C
Storage Temperature	-20 to 70 C
Humidity	20 to 85 %RH
Enclosure	PC-ABS (UL 94V-0)
Installation	Din Rail Mounting
Dimension	W=150, L=90, H=62
Weight	215 g.
Insulation Resistance	>100M ohm (EN61010-1)
Installation Category	CAT II
Attitude	Not suitable for use above 2000m.
Terminal size	For Cable from ø 0.2 to 2.5 mm (AWG 22 to 14)

RMN-003 DIGITAL EXPANSION I/O MODULE

Power Supply	220V ~ ±10% 50-60Hz
Power Consumption	3 VA
External Supply I/O Voltage	12-30V
Operative Temperature	0 to 50 C
Storage Temperature	-20 to 70 C
Humidity	20 to 85 %RH
Enclosure	PC-ABS (UL 94V-0)
Installation	Din Rail Mounting
Dimension	W=150, L=90, H=62
Weight	215 g.
Insulation Resistance	>100M ohm (EN61010-1)
Installation Category	CAT II
Attitude	Not suitable for use above 2000m.
Terminal size	For Cable from ø 0.2 to 2.5 mm (AWG 22 to 14)

DESCRIPTION

- RMN-002 is a device that connects Digital Input / Output from external 8 Channel to 2wire system.
- Master I / O Module RMN-002 can extend I / O up to 32 Channel by using together Digital Expansion I / O Module, number of 3 Module
- The selected I / O Channel is Output. You can select to use a 12 VDC power supply inside or use an external supply 12 - 30 Vdc. In each channel of RMN-002, you can select to make an input or output. Each unit can be independently separated. The channel, which is the Input, will write data to Bus and Output.
- I / O Each channel has a separate display of working status.
- For RMN-002, results will be displayed with LED Power Supply (Green), Run (Yellow), Line (Yellow), and Alarm (Red).
- For the RMN-002 with 1 Relay Alarm works when there is a communication signal error

RMN-003 DIGITAL EXPANSION I/O MODULE

- RMN-003 is a joint device with RMN-002 to expand Digital Input / Output, increasing the number to 32 Channel per 1 Master Module. Within RMN-003, one model consists of 8 Channel Digital Input / Output.
- RMN-003 consists of 8 Digital Input / Output Channel
- I / O Each channel has a separate display of working status.
- The selected I / O Channel is Output. You can choose to use a 12VDC power supply inside or use an external supply 12 - 30 Vdc.

OPERATION

Digital Master I / O Module RMN-002 is a device that serves to connect between Digital Input / Output from outside with 2 wire remote control system built-in. This module has Input / Output. 8 digital channels and when connected with Digital Expansion I / O Module can be expanded to 32 channels

On the Master I / O module, there are 3 sets of Rotary Switch, Phase, Frame and Box, used to set the position used in the communication within the 2 wire system. In addition, LEDs display the status of Supply, Run, Alarm, and input / output status of each channel

LED display (for RMN-002)

- LED POWER (Green) will be on when supplying power to the Master I / O Module
- LED RUN (Yellow) LED will be attached when the module receives a frame with numbers. Phase, Frame and Box match the setting on the Rotary Switch
- LED Line (Yellow) LED will be on when the module is connected to the 2 wire system and the module receives 2 wire signals
- LED Alarm (Red) LED will be on when the 2 wire signal that the module receives is faulty
- LED IO Status LED will be on when the I / O position is working

Alarm Relay operation

Is a relay with a NO, NC contact. Relay will run when the module finds a fault signal and stops when the module reads the signal normally

CONFIGURATION

Master I / O Module with 3 rotary switches, used for positioning Phase, Frame, Box. In using the Module Which read and writedata must be paired with data sent together, must set the Phase, Frame, Box to match the mode of communication can be

set in 2 modes: Hi - Priority Mode and Low - Priority Mode

1. Hi-Priority Mode or Multiplex Mode

Can be done by setting Rotary switch position Phase to 0, Frame and Box can be set as desired. In this mode, there can be a maximum of 256 I / O digital channels and Input / Output of I / O Module will write or read every phase at the Frame and Box positions. Makes the response speed more than 8 times as low-priority mode, but the number of Digital I / O is 8 times lower than the Low-Priority Mode as well. Because Frame and Box of every Phase are used to send the same data set. Figure 1 shows 2 - wire data transmission by tab display data transmission in Hi-Priority Mode

2. Lo-Priority Mode or Normal Mode

Can be done by setting the Rotary switch position Phase to 1 - 8. Frame and Box can be set as desired. In this mode, the maximum number of Digital I / O can be reached at 2048 channels.

Input / Output of I / O Module will write or read starting from bits 1 - 4 (first 4 bits) at the position of Phase, Frame and Box specified on the module. Then will send 4 bits of data next to The next Phase position, which the Frame and Box remain the same as defined on the Module. Do this until all the information must be sent or read. In the case that the Master I / O Module has 32 I / O expansion modules with Expansion I / O Module, the Master I / O Module must be used to send data in 8 phases. Therefore, the data can be sent to 32 bits.

The response speed is 8 times lower than the Hi - Priority Mode because the module must have read or write data starting from the specified Phase only.

From Figure 1 display 2 - wire data transmission by tab is the transmission of Low-Priority Mode by set to start at Phase = 1, Frame = 1 and Box = 1. Tab is the transmission of Low-Priority Mode As well but is set to start at Phase = 2, Frame = 1 and Box = 2

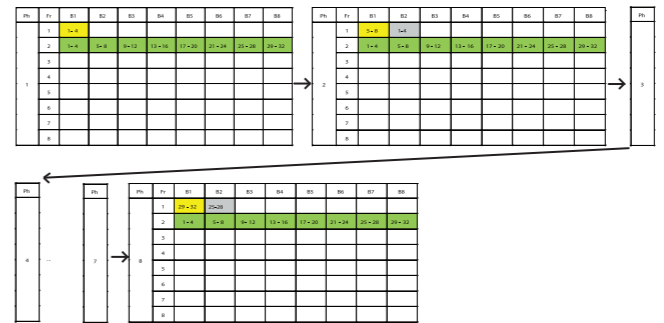


Figure 1 tab data transmission in Hi-Priority Mode, tab and data transmission in Low-Priority Mode

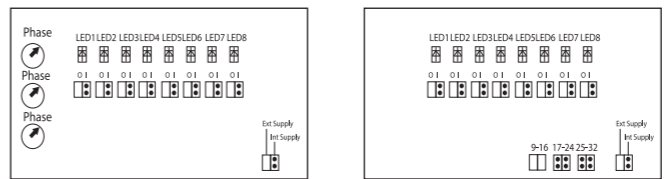
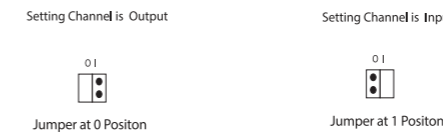


Figure 2 shows the position of the jumper which means the position of the jumper, the image means no jumper

3. Jumper settings to determine I / O operations

Module jumper setting can be done by opening the plastic sheet that is closed. If you want the I / O to be an output, put the Jumper in the position of the symbol. O address must be plastic sheet and if you want The channel I / O is an Input.

Enter the Jumper corresponding to the symbol position I must be the plastic sheet.



4. Setting Jumper to use External Supply for Output Digital

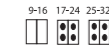
Module jumper setting can be done by opening the plastic sheet that is closed. If you want to use the Internal Supply, put the Jumper at the position that matches the Int Supply symbol and if you want to use External supply to put the Jumper at the position that corresponds to the Ext. Supply symbol and then pay the required voltage to Terminal 2-3. There will be a pressure that can receive no more than 30 VDC.



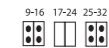
5. Setting Jumper to use the Expansion Module

The order of bits in the Expansion Module can be determined by Jumper if the Expansion Module is positioned at bits 9-16, bits 17-24 and bits 25-32 with the Jumper at the desired position.

For example, set the I / O of the module to be in Bit 9-16



For example, set the I / O of the module to be in Bit 17-24.



For example, set the I / O of the module to be in Bit 25-32.



6. Example of setting the output address at the same position but controlled by one input

By setting the address of Master Module3 (Output) to Phase = 1, Frame = 1, Box = 1 and setting the address of Master Module1, 2 (Input), Number 2 Module to Phase = 1, Frame = 1, Box = 1

When the input of the Master Module1 or 2 is working, the Output Master Module 3 will work (ON) and the Output Master Module 3 will stop (OFF) when the Input Master Module 1 and 2 stop working.

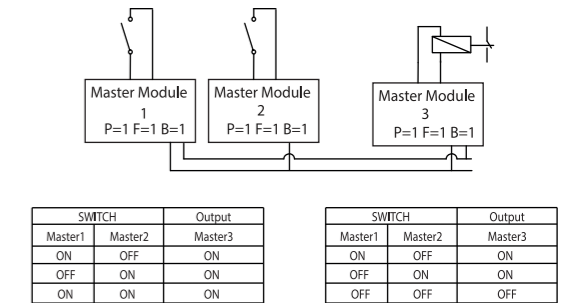


Figure 3 shows an example diagram of the installation of Input 1, the same Module Output command, and the table shows the relationship of the switch input and the output operation.

7. Example of setting the address input at the same position for controlling the output of 2 sets

By setting the address of Master Module 1 (receiving Input Switch) to P = 1, F = 1, B = 1 and setting the address of Master Module 2, 3 (Output) to P = 1, F = 1, B = 1 As well, causes when Module 1's input is working, Output of Module 2, 3 will also work.

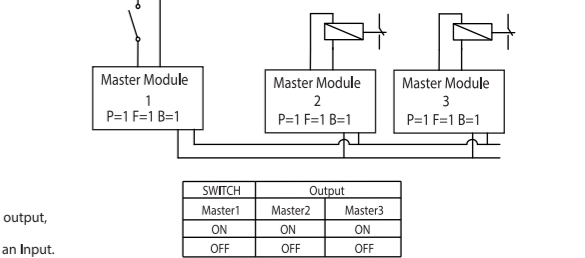
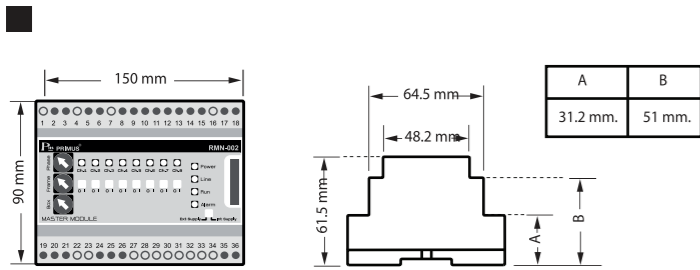
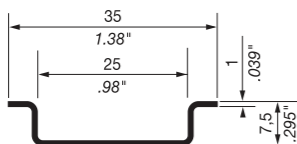


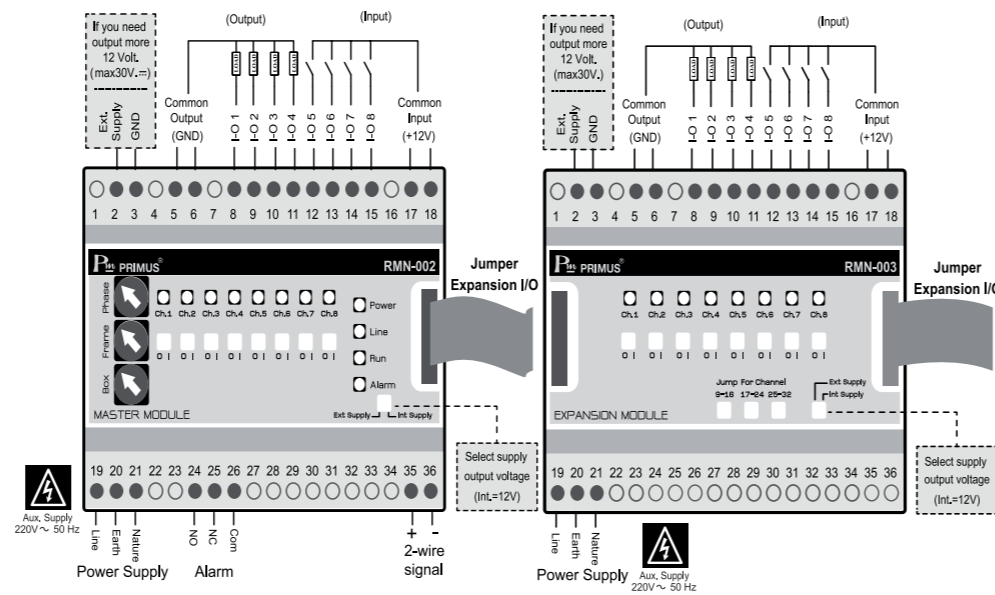
Figure 4 shows the diagram of the example of the Input Type 1 Module, Output Module, number of Module 2



CUTTING PANEL



WIRING DIAGRAM



- Terminals: MAX.250V m CAT II
- Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.
- Never modify the unit to prevent damage or incident such as malfunction and fire etc.

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