

FIOD 0016 Manual

The FIOD series products add digital capability to your PLC / SCADA.

FIOD 0016 model has 16 relay / transistor (PNP/NPN) outputs. The outputs are isolated from the host device. It has one (2 Wire RS485) communication port. The COM port is used to connect any modbus master device (PLC / SCADA / Operator Interface device). This module supports Modbus RTU (Slave) protocol.



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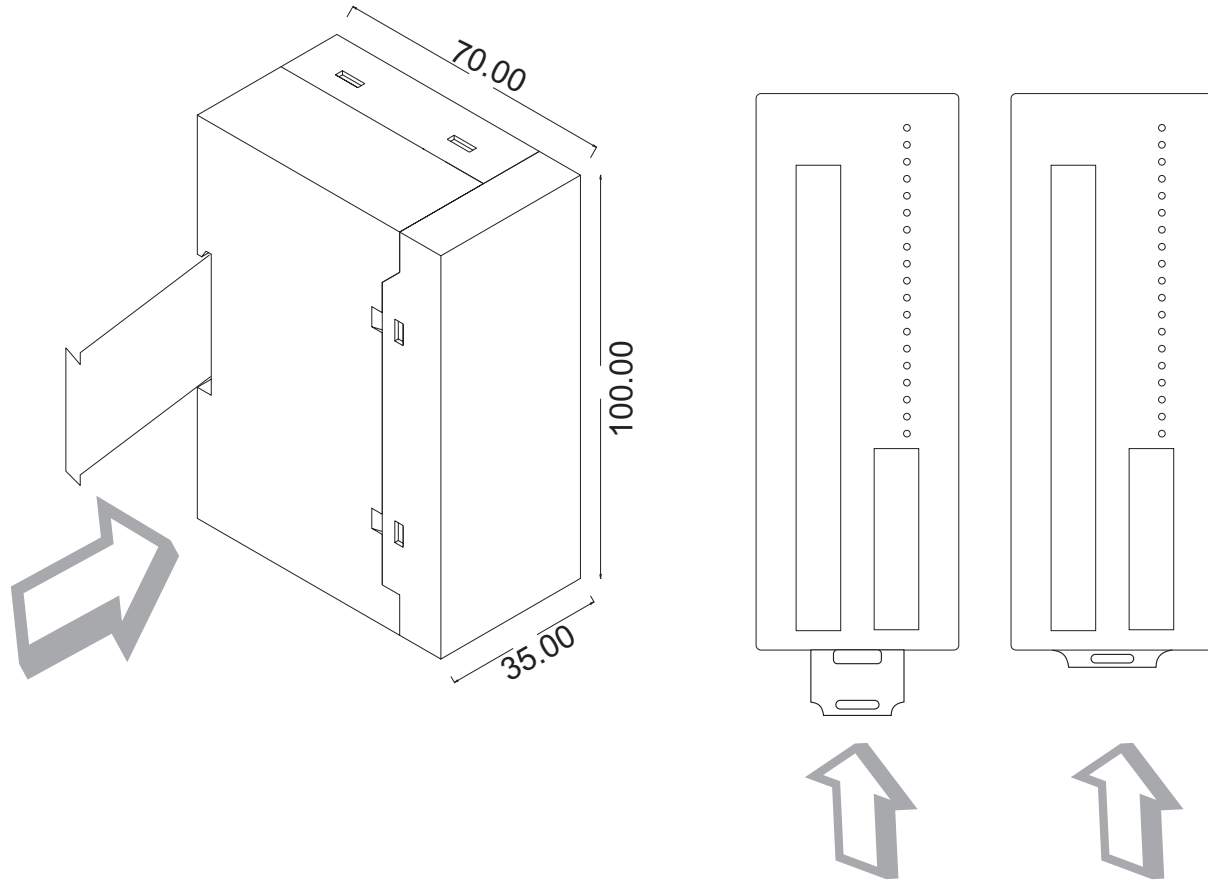
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Dimensional Details:

FIOD units are shipped with a separate DIN rail plate which can be attached to the unit, if desired. User can use the unit with or without the DIN rail plate. Following sketch shows dimensional details of FIOD with the DIN rail plate.



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PLC Communication

The unit supports Modbus RTU (Slave) protocol. Dedicated modbus registers are used for tracking outputs. The data is received from the output register and accordingly the digital outputs are set / reset. The communication parameters and unit address are set by DIP switch.

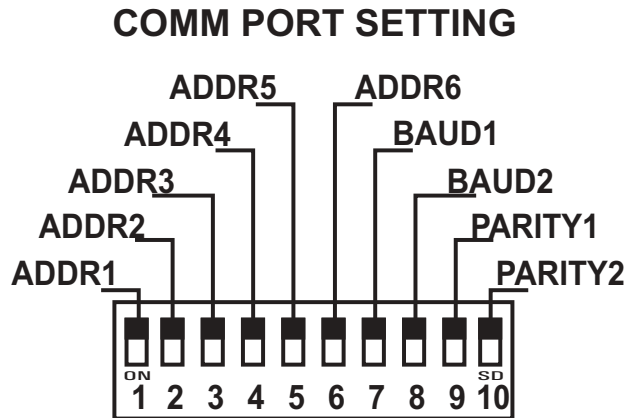
Specifications: -

- | | | | | |
|----|-----------------------|---|----------------------------------|---|
| 1. | Power Supply | : | 24 VDC +/- 10% | |
| 2. | Digital Outputs | : | For Relay output | : 230V AC; 2 Amp. / 30V DC; 2 Amp.
Coil Voltage: 24VDC |
| | | | For Transistor output (PNP/NPN): | 500 mA; Supply Voltage: 24VDC |
| 3. | Communication Port | : | 2 Wire RS-485 | |
| 4. | I/O Terminals | : | Pluggable terminals. | |
| 5. | Operating Temperature | : | 0°C to 60°C | |
| 6. | Storage Temperature | : | -20°C to 80°C | |
| 7. | Humidity | : | 10% to 90% (Non condensing) | |
| 8. | Mounting | : | DIN rail mounting | |
| 9. | Dimensions (DIN rail) | : | 70 X 100 X 35 mm | |

Communication Parameters And Modbus Tag Definition

Unit supports MODBUS driver for communication with Master device.

COM Port Setting:



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UNIT ID	ADDR6	ADDR5	ADDR4	ADDR3	ADDR2	ADDR1
1	0	0	0	0	0	0
2	0	0	0	0	0	1
.
.
.
64	1	1	1	1	1	1

BAUD RATE	BAUD2	BAUD1
9600	0	0
19200	0	1
57600	1	0
115200	1	1

PARITY	PARITY2	PARITY1
NONE	0	0
ODD	0	1
EVEN	1	0



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The following dedicated modbus registers are assigned to digital digital outputs.

Digital O/P	MODBUS Tag.	
	Output Register	Output Coil
O/P1 (Y0)	40065_0 (Bit 0)	1025
O/P2 (Y1)	40065_1 (Bit 1)	1026
O/P3 (Y2)	40065_2 (Bit 2)	1027
O/P4 (Y3)	40065_3 (Bit 3)	1028
O/P5 (Y4)	40065_4 (Bit 4)	1029
O/P6 (Y5)	40065_5 (Bit 5)	1030
O/P7 (Y6)	40065_6 (Bit 6)	1031
O/P8 (Y7)	40065_7 (Bit 7)	1032
O/P9 (Y8)	40065_8 (Bit 8)	1033
O/P10 (Y9)	40065_9 (Bit 9)	1034
O/P11 (Y10)	40065_10 (Bit 10)	1035
O/P12 (Y11)	40065_11 (Bit 11)	1036
O/P13 (Y12)	40065_12 (Bit 12)	1037
O/P14 (Y13)	40065_13 (Bit 13)	1038
O/P15 (Y14)	40065_14 (Bit 14)	1039
O/P16 (Y15)	40065_15 (Bit 15)	1040

Modbus Tag	Name of the tag	Type	Default	Valid Range	Description
40070	Communication Timeout for own frame	Retentive	0	(1 to 65535) times multiple of 100msec	Holds the communication timeout value. If unit doesn't receive it's own frame within this timeout period, it declares communication break.
40071	Communication timeout for ideal communication line	Retentive	0	(1 to 65535) times multiple of 100msec.	Holds the communication timeout value. If communication line is completely ideal (No frame from master for other slaves also) within this timeout period, unit declares communication break.
40072_bit0 OR Coil 01137	Selection bit	Retentive	0	1 or 0	If 1, timeout value from 40070 is selected If 0, timeout value from 40071 is selected

Note:

The default timeout is 10sec.

In case of communication break with the host all the outputs are switched OFF after the timeout period is over.



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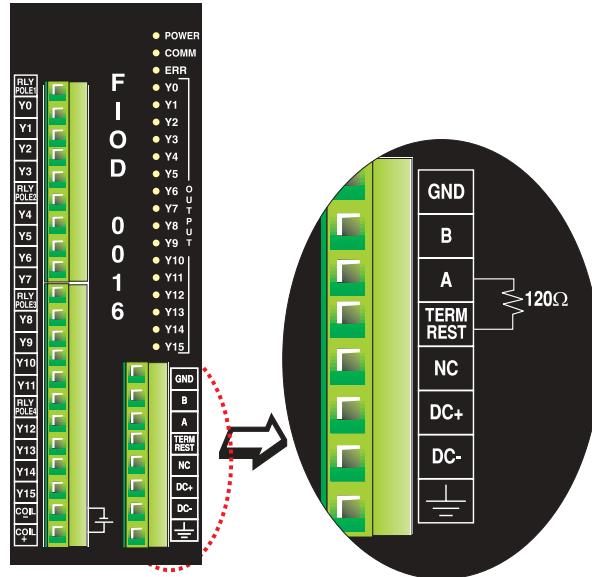
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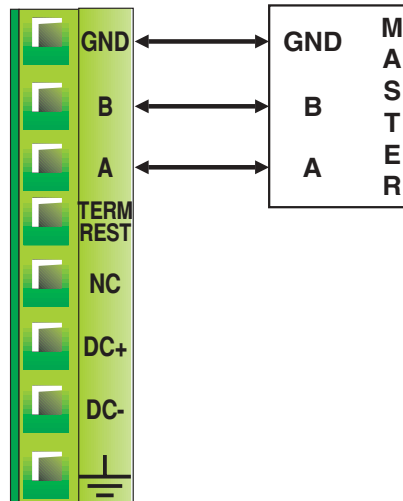
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Port Details (2 Wire RS485 Port): -



For using internal termination resistor (120 Ohm), short "B" and "TERM REST"



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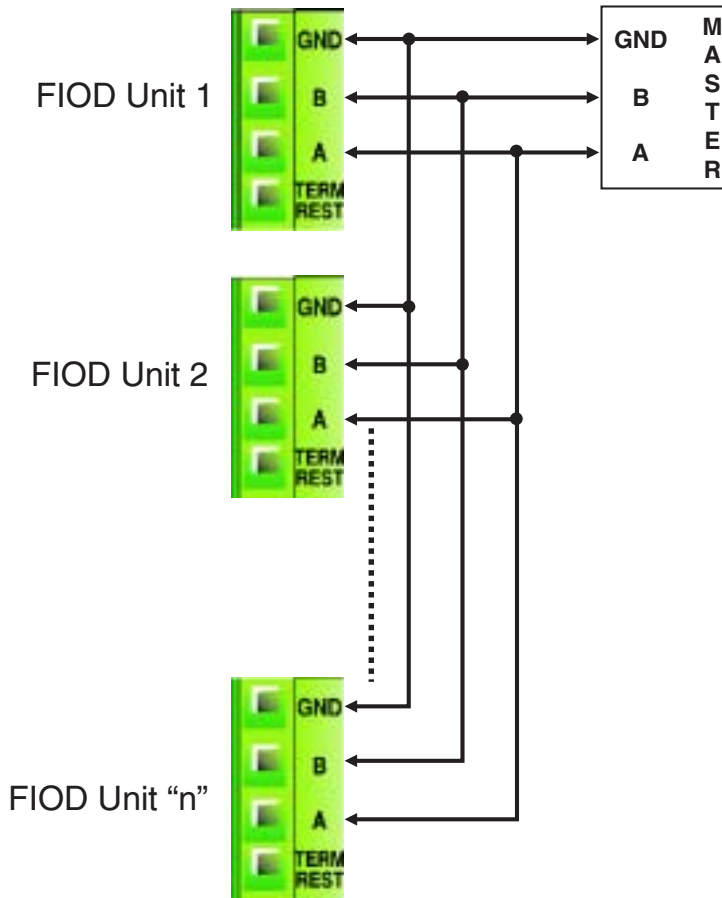
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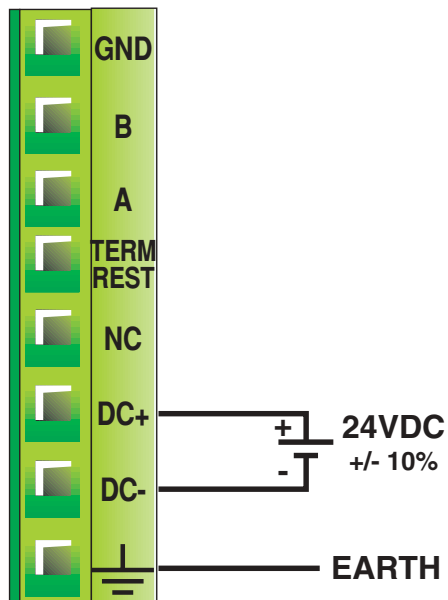
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Multidropping connection: -



Note: Where "n" is up to 32. Connecting repeater can increase it to 64

Power Supply Connection: -



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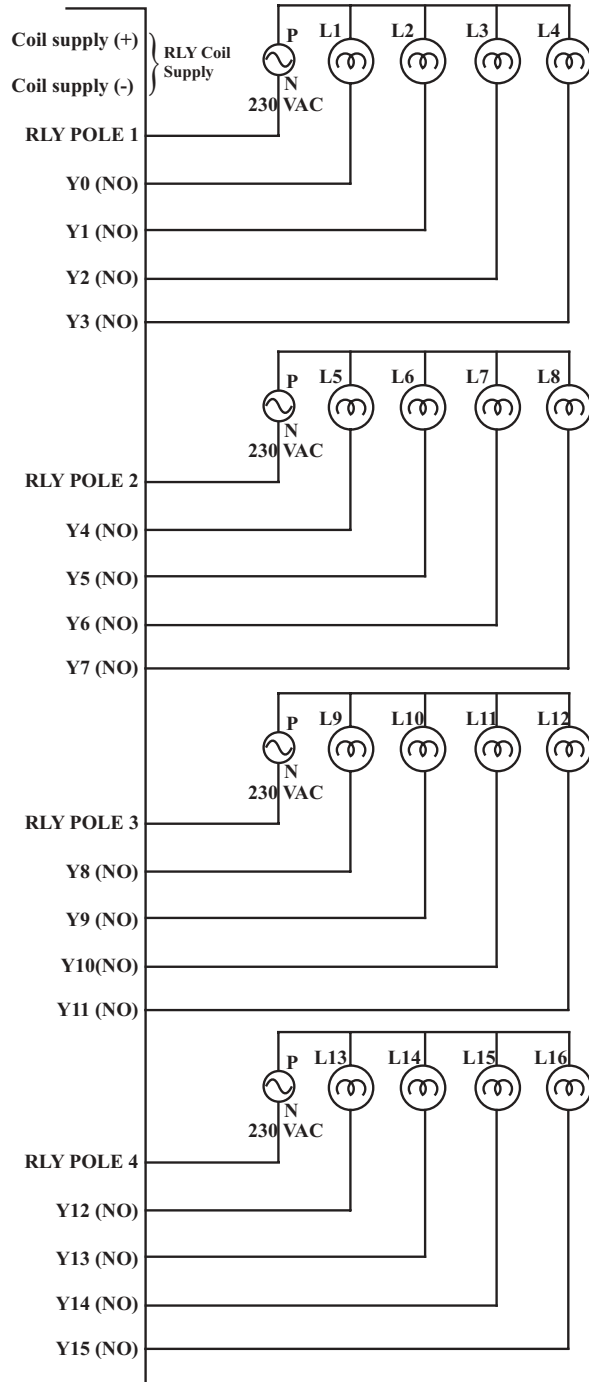
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Wiring Diagram: -

Relay type Digital outputs should be wired as shown below

For FIOD-0016-R-B



*L1 to L16 are A.C. Load.



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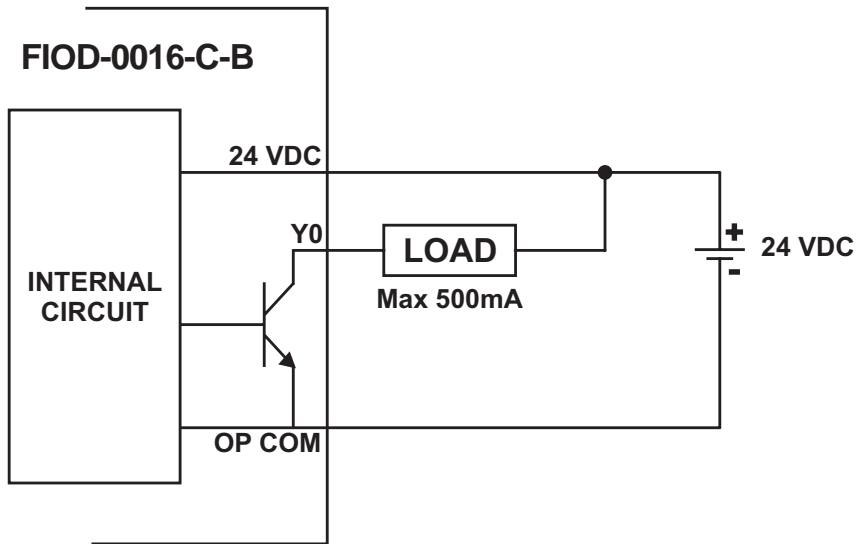
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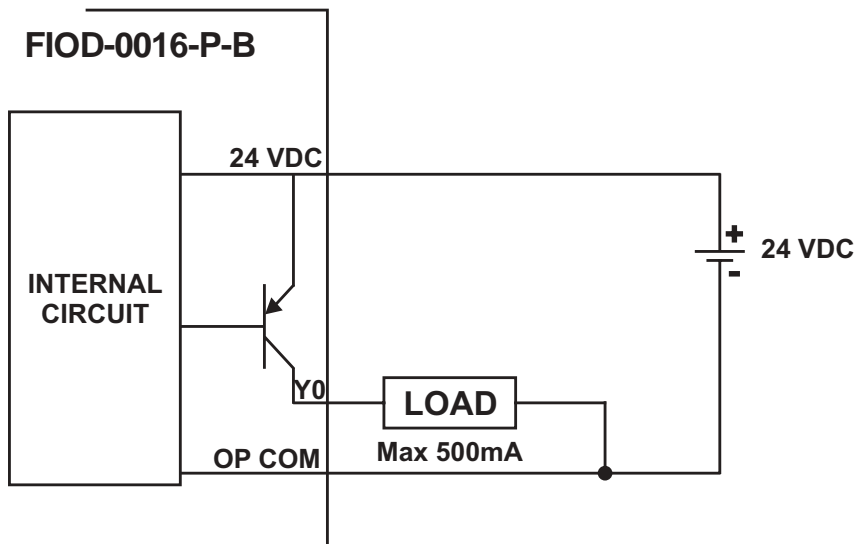
Wiring Diagram: -

Transistor type Digital outputs should be wired as shown below

For FIOD-0016-C-B



For FIOD-0016-P-B



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Notes:

MANUAL REVISION

If you contact us in reference to this manual, please include the following document number

Name : User Manual For FIOD0016
Part Number : URML401
Document : UMAN\FIOD-0016\1106
Revision : 3

Revision Number	Document Number	Date	Description
Rev 1	UMAN\FIOD-0016\1106	22-11-2006	Panel dimensions and port details are added.
Rev 2	UMAN\FIOD-0016\1106	27-11-2006	Power supply, multidropping wiring added.
Rev 3	UMAN\FIOD-0016\1106	05-01-2007	Communication timeout register is added.



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