3onedata
Make network communication more reliable

IMF2100 Series
DIN-Rail Serial to Fiber MODEM
Quick Installation Guide

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【Package Checklist】

Please check whether the package and accessories are intact while using the device for the first time.

1. Serial to fiber MODEM
2. DIN-Rail mounting attachment
3. Warranty card
4 Certification

If any of these items are damaged or lost, please contact our company or dealers, we will solve it ASAP.

【Product Overview】

The series products are serial to fiber MODEMs which can transform RS-232/485/422 serial signal to optical signal. Models as follows:

Model I. IMF2100-1F-1DI(3IN1)-TB-2P(12-48VDC) (1 optical fiber interface + 1 RS-232/485/422 serial port with isolation + 2 12~48VDC power supplies)

Model II. IMF2100-2F-1DI(3IN1)-TB-2P(12-48VDC) (2 optical fiber interfaces + 1 RS-232/485/422 serial port with isolation + 2 12~48VDC power supplies)

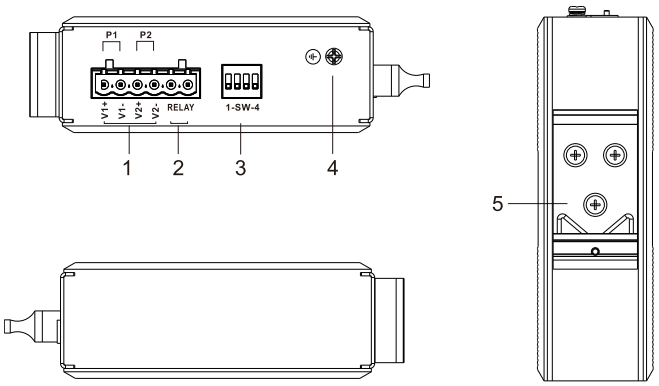
Model III. IMF2100-2F-1DI(3IN1)-TB-P(110-370VDC) (2 optical fiber interfaces + 1 RS-232/485/422 serial port with isolation + 1 110-370VDC power supply)

Model IV. IMF2100-1F-1DI(3IN1)-TB-P(85-265VAC) (1 optical fiber interface + 1 RS-232/485/422 serial port with isolation + 1 85-265VAC power supply)

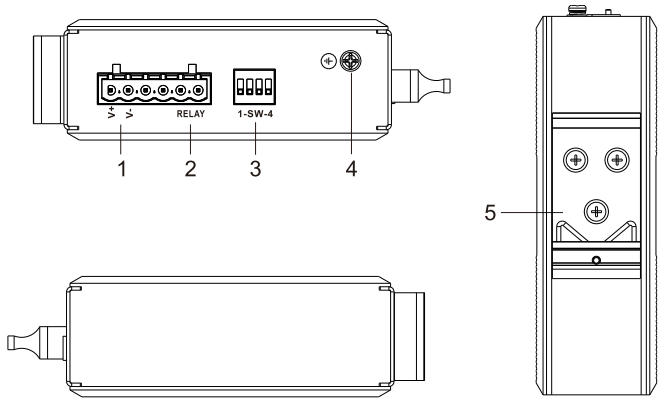
Model V. IMF2100-2F-1DI(3IN1)-TB-P(85-265VAC) (2 optical fiber interfaces + 1 RS-232/485/422 serial port with isolation + 1 85-265VAC power supply)

【Panel Design】

➢ **Top view, bottom view and rear view**

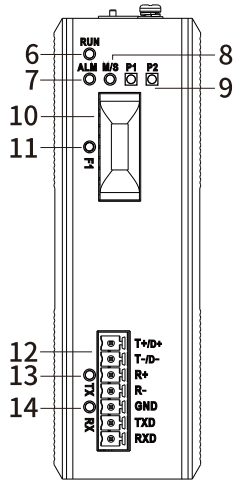


Model I, Model II

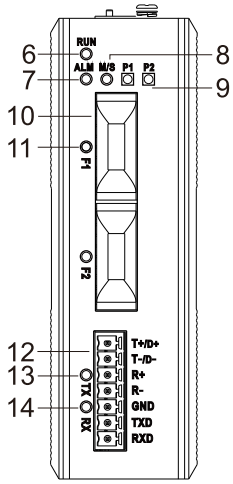


Model III, Model IV, Model V

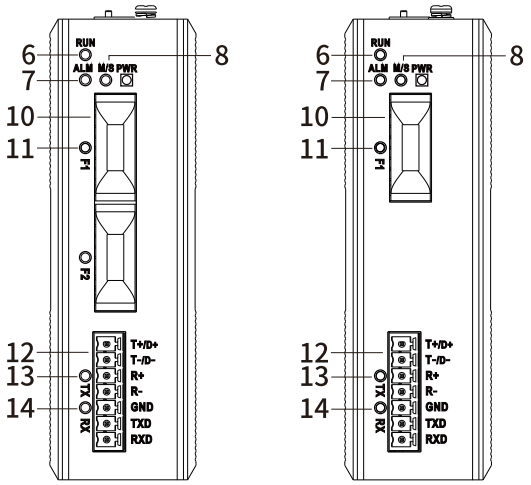
➢ **Front View**



Model I,

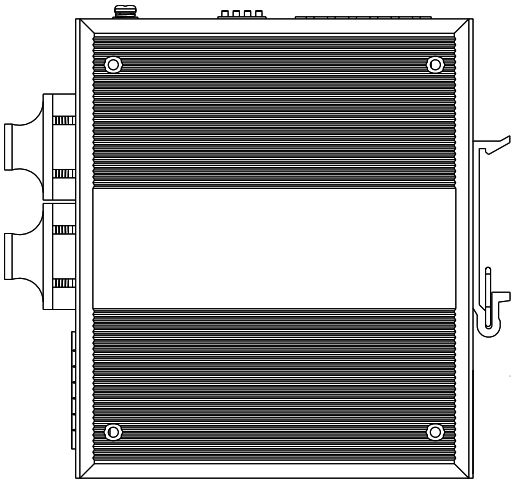


Model II



Model III, Model V　　Model IV

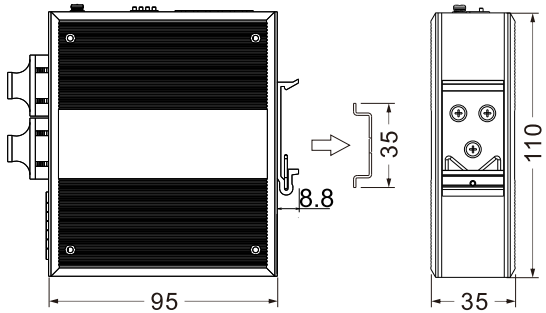
➢ **Side view**



1. Terminal blocks for power supply input
2. Relay output terminal
3. DIP switch
4. Grounding screw
5. DIN-Rail mounting kit
6. Running indicator
7. Alarm indicator
8. Master/Slave ring network indicator
9. Power indicator
10. Fiber interface
11. Optical fiber interface indicator
12. RS-232/485/422 serial port
13. Serial port data sending indicator
14. Serial port data receiving indicator

【Mounting Dimension】

Unit: mm

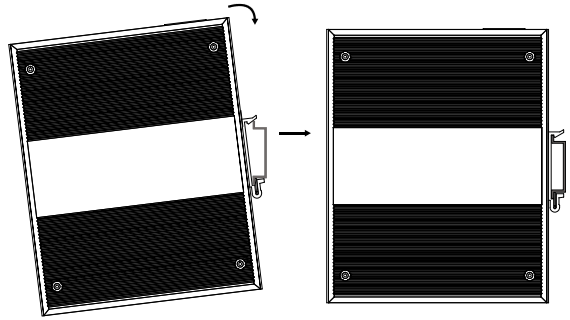


Notice Before Mounting:

- Don't place or install the device in area near water or moist, keep the relative humidity of the device surrounding between 5%~95% without condensation.
- Before power on, first confirm the supported power supply specification to avoid over-voltage damaging the device.
- The device surface temperature is high after running; please don't directly contact to avoid scalding.

【DIN-Rail Mounting】

The product adopts 35mm standard DIN-Rail mounting which is suitable for most industrial scenes, mounting steps as follows:



Step 1　Check whether the DIN-Rail mounting kit that comes with the device is installed firmly.

Step 2　Insert the top of DIN-Rail mounting kit (one side with spring support) into DIN-Rail, and then insert the bottom into DIN-Rail.

Tips:
Insert a little to the top, press downward and then insert to the bottom.

Step 3　Check and confirm the product is firmly installed on DIN-Rail, then mounting ends.

【Disassembling DIN-Rail】

Step 1　Power off device.

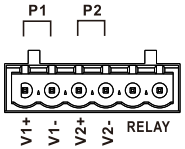
Step 2　After pressing the device downward slightly, first shift out the bottom of DIN-Rail mounting kit, and then shift out the top of DIN-Rail, disassembling ends.

【Power Supply Connection】

The top panel of this series devices provides 6-pin 5.08mm pitch terminal blocks. This series provides 5 products and adopts different power supply ranges. Please notice the corresponding power supply type of the device in case it damages the device.

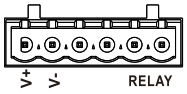
➢ **12~48VDC power supply input**

The Model I and Model II devices provide dual power supply. The terminal blocks are V1+, V1-, V2+ and V2- and power supply has built-in 2.0A overcurrent protection and supports



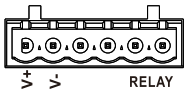
non-polarity. When the power supply is reversely connected or any one of the dual power supply fails, the device can still work normally.

➢ **110~370VDC power supply input**



The power terminal blocks of Model III device are V+, V-. The power supply supports 2.0A overcurrent protection and non-polarity. The device can still work normally after reverse connection.

➢ **85~265VAC power supply input**



The power terminal blocks of Model IV and Model V device are V+, V-. The power supply has 2.0A built-in overcurrent protection.

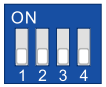
Notice:

- Power ON operation: First insert the power supply terminal block into the device power supply interface, and then plug the power supply plug and power on.
- Power OFF operation: First, remove the power plug, then remove the wiring section of terminal block. Please pay attention to the above operation sequence.
- Note that the shell grounding screw is grounded.

【Relay Connection】

The upper panel of this series device provides 6-pin 5.08mm pitch terminal blocks for power input and relay output, of which the right 2 PIN5 and PIN6 are relay terminals. Relay terminals are a set of normally closed contacts of the device alarm relay. They are closed circuit in the state of normal non alarm or when the device is powered off, open when any alarm information occurs. When the optical fiber of the device disconnects or one of the dual power supply fails, the relay sends an alarm. The relay can externally connect to alarm lights or alarm buzzer or other switching value collecting device in order to timely notify operators when the alarm occurs.

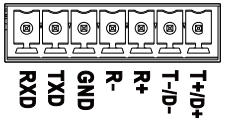
【DIP Switch Settings】



This series devices provide a 4-bit DIP switch for function setting. The device needs to be powered on again to change the state of DIP switch. The definitions of DIP switch are as follows:

DIP	ON Status	OFF Status
1	Master ring network device	Slave ring network device
2	Enable RS-485 terminal resistance 120 Ω	Disable RS-485 terminal resistance 120 Ω
3	Enable power supply failure alarm	Disable power supply failure alarm
4	Enable disconnection alarm for optical fiber interface	Disable disconnection alarm for optical fiber interface

【Serial Port Connection】



This series of devices provide 1 RS-232/485/422 serial port, and the interface type is 7-pin 3.81mm pitch spring terminal blocks. Support RS-232, RS-485 and RS-422. Note that the three serial ports cannot be used at the same time. The corresponding pin definitions of the three serial ports are shown in the table below:

PIN	1	2	3	4	5	6	7
RS-232	—	—	—	—	GND	TXD	RXD
RS-485	D+	D-	—	—	GND	—	—
RS-422	T+	T-	R+	R-	GND	—	—

【Checking LED Indicator】

The series of devices provide LED indicators to monitor its operating status, which has simplified the overall troubleshooting process. The function of each LED is described in the table below:

LED	Indicate	Description
M/S	ON	The device is the master device of the ring network
	OFF	The device is the slave device of the ring network
ALM	ON	The optical fiber interface of the device disconnects or the dual power supply device has power supply failure
	OFF	The alarm function is not enabled or no alarm information
RUN	OFF/ON	System operation is abnormal or not powered on
	Blinking	The system is running normally
P1/P2	ON	The device P1/P2 is powered on normally
	OFF	The device P1/P2 is not powered on or the device is abnormal
LINK (1-2)	Blinking	The fiber port has established a connection or exists data activity
	OFF	The fiber port has no connection
RX	Blinking	The serial port is receiving data
	OFF	No data is receiving at the serial port
TX	Blinking	The serial port is transmitting data.
	OFF	No data is sending at the serial port

【Specification】

Standard	
Standard	EIA RS-232C, RS-485, RS-422
Interface	
Fiber port	Support 2 100Base-FX fiber port, optional SC/FC/ST interfaces, optional single mode/multi-mode
Serial port	Support 1 RS-232/485/422

	serial port and adopt 7-pin 3.81mm pitch spring terminal blocks
Relay	Support 1 relay alarm output and adopt 6-pin 5.08mm pitch terminal blocks (the relay occupies 2 pins), the current load capacity is 1A@30VDC or 0.3A@125VAC
Indicator	Master/slave indicator, alarm indicator, running indicator, power supply indicator, fiber port connection indicator, serial port data receiving indicator, serial port data sending indicator
Power Supply	
Input power supply	12~48VDC dual power supply, 110~370VDC or 85~265VAC (optional)
Access terminal block	6-pin 5.08mm pitch terminal blocks (2 pins for single power supply or 4 pins for dual power supply), support built-in 2.0A overcurrent protection, and DC power supply supports non polarity
Power Consumption	
No-load	≤3.0W@24VDC
Full-load	≤3.4W@24VDC
Working Environment	
Working temperature	-40~75℃
Storage temperature	Storage temperature: -40~60℃
Working humidity	5%～95% (no condensation)
Protection grade	IP40