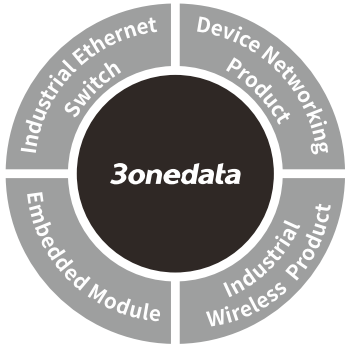
3onedata
Make network communication more reliable

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. Power line (only for AC device)
4. Certification
5. Warranty card

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. The models are as follows:

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

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

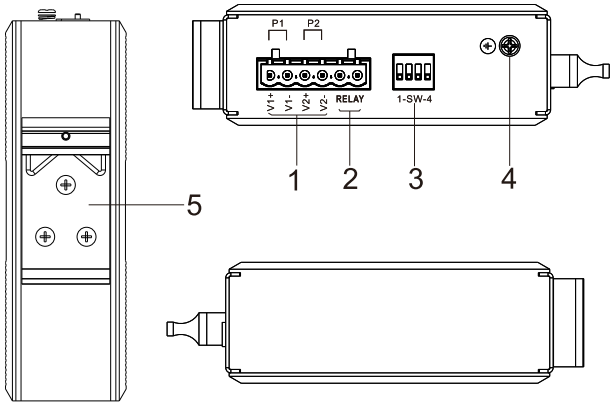
Model IV. IMF2100-2F-1DI(3IN1)-TB-P(110-370VDC) (2 fiber interfaces + 1 RS-232/485/422 serial port with isolation + 1 110-370VDC power supply)

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

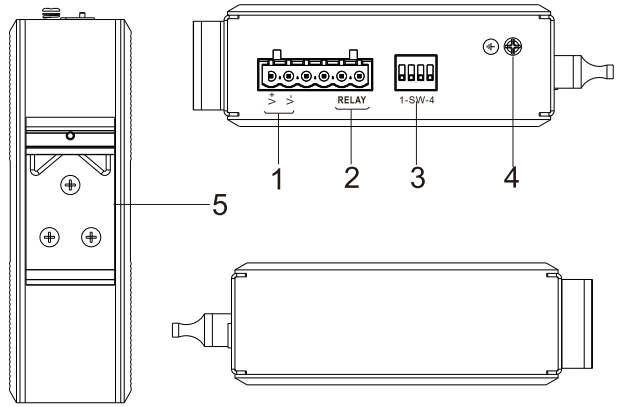
Model VI. IMF2100-2F-1DI(3IN1)-TB-P(85-265VAC) (2 fiber interfaces + 1 RS-232/485/422 serial port with isolation + 1 85-265VAC power supply)

【Panel Design】

➢ **Rear view, top view, and bottom view**

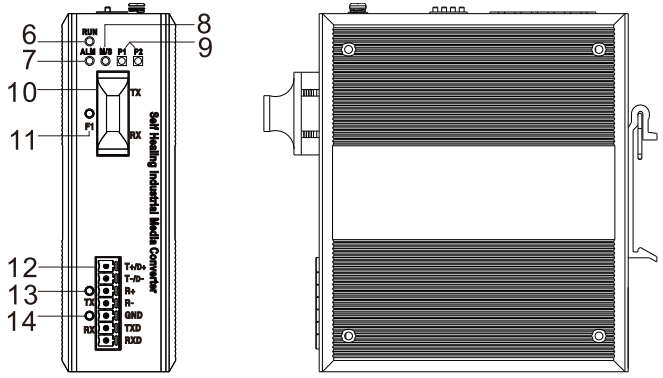


Model I, II

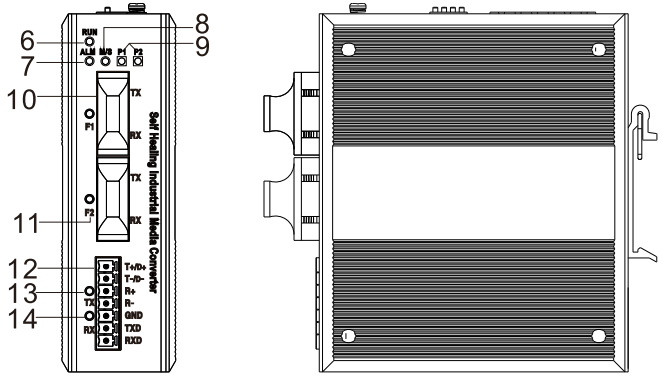


Model III-VI

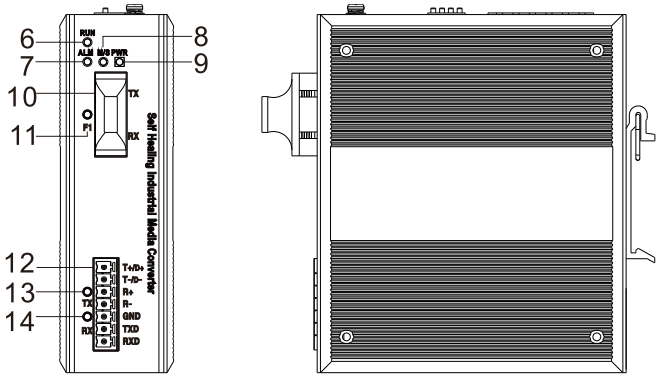
➢ **Front view and right view**



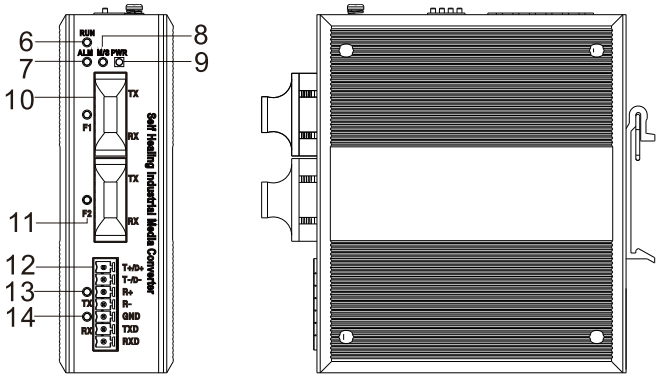
Model I



Model II



Model III, V



Model IV, VI

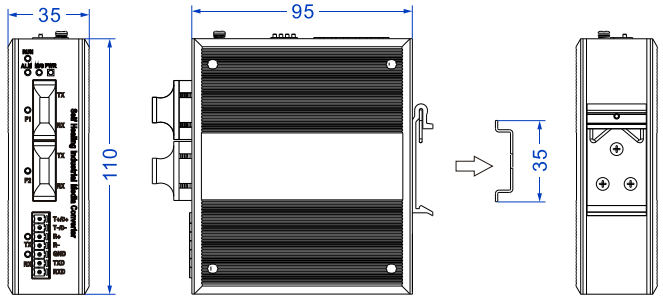
1. Terminal blocks for power input (P1/P1, PWR)
2. Terminal blocks for relay output (RELAY)
3. DIP switch
4. Grounding screw (M3)
5. DIN-Rail mounting kit
6. Running indicator (RUN)
7. Alarm indicator (ALM)
8. Ring network master/slave indicator (M/S)
9. Power indicator (P1/P2, PWR)
10. Fiber interface
11. Fiber interface indicator (F1, F2)
12. RS-232/485/422 serial port
13. Serial port transmission data indicator (TX)
14. Serial port reception data indicator (RX)

【Mounting Dimension】

Unit: mm

Note:

The external dimensions of this series of products are the same, unit: mm.

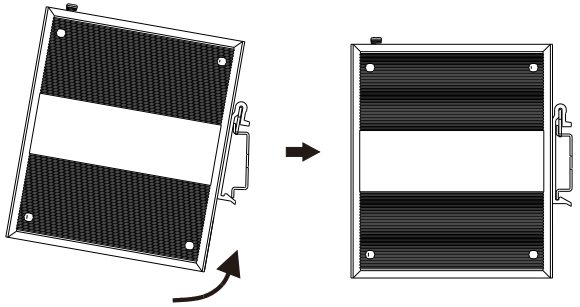


Notice Before Mounting:

- Don't place or install the device in area near water or moisture, keep the relative humidity of the device surrounding between 5%~95% without condensation.
- Before powering on the device, check the power specifications supported by the device to prevent device damage due to overvoltage.
- 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】

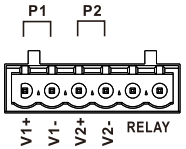
Step 1 Power off the device.

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】

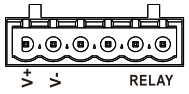
The top panel of this series devices provides 6-pin 5.08mm pitch terminal blocks. This series provides 6 products and adopts different power supply ranges. Please notice the corresponding power supply type of the device in case it damages the device.

➢ **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 one of the dual power supplies fails, the device can still work normally.

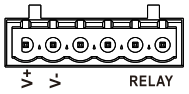
➢ **110~370VDC power supply input**



The power terminal blocks of Model III and Model IV devices 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**

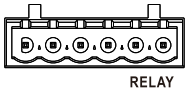


The power terminal blocks of Model IV and Model V device are V +, V -. The power supply has 2.0A built-in overcurrent protection.

Note:

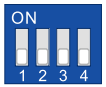
- Power ON operation: First insert the power supply terminal block into the device power supply interface, and then plug the power supply plug contact and power on.
- Power OFF operation: First, remove the power plug, then remove the wiring section of terminal block. Please pay attention to the above 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 supplies 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.

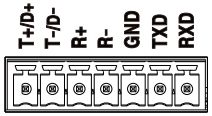
【DIP Switch Settings】



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	Slave ring network device
	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 provides 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
F (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/multimode
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 and data 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	2.55W@12VDC
Full-load	2.62W@12VDC
High temperature full load	2.83W@12VDC
Working Environment	
Working temperature	-40~75℃
Storage temperature	-40~85℃
Working humidity	5%~95% (no condensation)
Protection grade	IP40

【Disposal of Waste Electrical and Electronic Equipment (WEEE 2012/19/EU)】

(Applicable in the EU-member states)



The crossed-out wheeled bin symbol on the equipment or its packaging indicates that the product, at the end of its service life, shall not be mixed with unsorted municipal waste but should be collected separately, in accordance with local laws and regulations.

A proper separate collection of end-of-life equipment for the subsequent recycling, treatment, and environmentally compatible disposal, will help prevent potential damage to the environment and human health, facilitating the reuse, recycling and/or recovery of its component materials.

Private users should contact their vendor or municipal waste management service and ask for disposal information.

Professional users should contact their suppliers and check the terms of their selling agreement.

This product must not be disposed of with other commercial waste.

Users' cooperation in the correct disposal of this product will contribute to saving valuable resources and protecting the environment.