RS-M8196F
Motion Control Module

Quick Start
(Version 1.0)

ICP DAS CO., LTD.

1 Packaging and Optional Accessories

The package contains the following items:

1 x RS-M8196F

1 x CA-0910

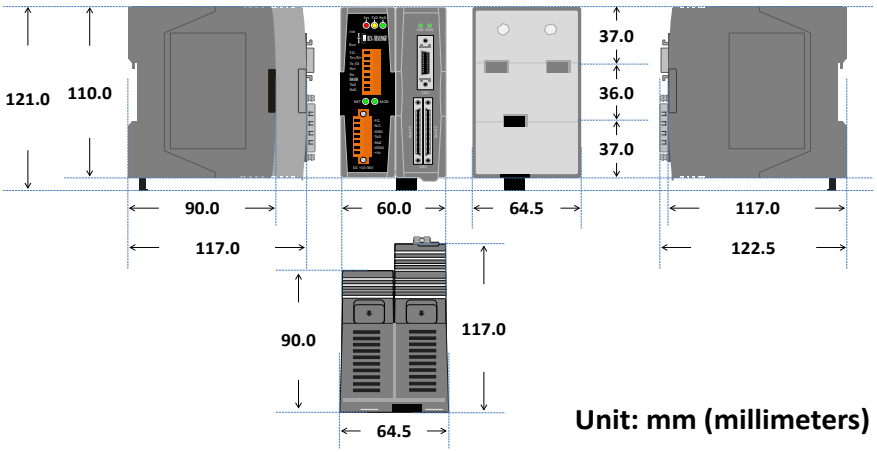
1 x Screw Driver (1C016)

1 x Quick Start

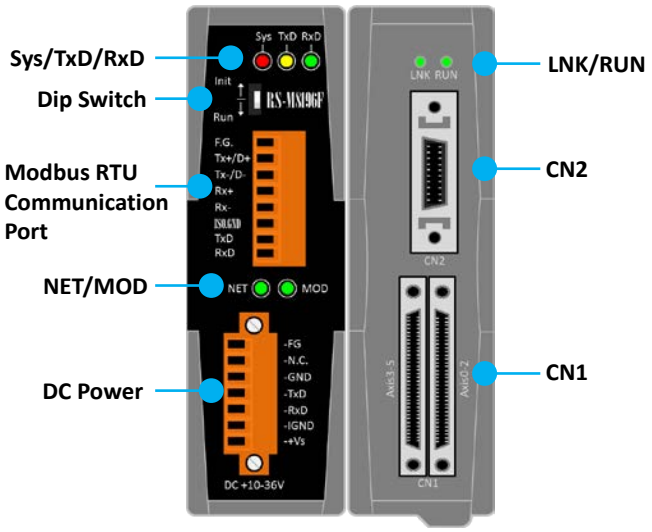
Other optional accessories items:

Model No.	Description
DN-8368UB	Photo-isolated universal Snap-on wiring terminal board
DN-8368GB	Photo-isolated general purpose wiring terminal board
DN-20M	General purpose digital input and remote digital I\O (FRnet) extension board
FR-2053HTA	16-channel isolated sink/source input module
FR-2053HT	16-channel isolated digital input module with 20-pin screw terminal connector
FR-2057HTA	16-channel isolated source output module with 20-pin screw terminal connector
FR-2057HT	16-channelisolated digital output module with 20-pin screw terminal connector
CA-MINI68-15	68-pin VHDCI to SCSI-II connector cable, length 1.5 M
CA-SCSI20-M1/M3/M5	20-pin SCSI-II male connector cable, length 1 M / 3 M / 5 M.
CA-26-MJ3-15/30/50	26-pin HD D-Sub male cable for Mitsubishi MELSERVO-J3/J4 series servo amplifier, 1.5/3/5 M.
CA-26-PA4-15/30/50	26-pin HD D-Sub male cable for Panasonic MINAS A4/A5 series servo amplifier, 1.5/3/5 M.
CA-26-YSV-15/30/50	26-pin HD D-Sub male cable for Yaskawa Sigma II/III/V series servo amplifier, 1.5/3/5 M.
CA-26-TTA-15/30/50	26-pin HD D-Sub male cable for Teco TSTA-A/A+ series servo amplifier, 1.5/3/5M.
CA-26-DAA2-15/30/50	26-pin HD D-Sub male cable for Delta ASDA-A2 servo amplifier, 1.5/3/5 M.
CA-26-DAB2-15/30/50	26-pin HD D-Sub male cable for Delta ASDA-B2 series servo amplifier, 1.5/3/5 M.
CA-26-FFW-15/30/50	26-pin HD D-Sub male cable for Fuji FALDIC-W and ALPHA5 smart series servo amplifier, 1.5/3/5 M.

2 Dimensions



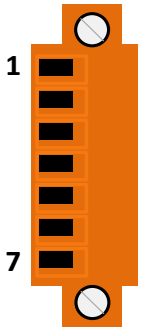
3 Hardware Configuration



Name	Description
DC Power	External power input (24V) and RS-232 communication port. RS-232 communications port for the Modbus RTU settings and firmware updates.
Modbus RTU Communication Port	Modbus RTU communications port (RS-485/RS-422/RS-232)。
CN1	Motion control signal port; connect to the DN-8368 series terminal board.
CN2	Universal I/O and FRnet communication ports; connect to the DN-20M terminal board.
Dip Switch	Switch for enabling/disabling the firmware execution. • Init: Initial mode. Disables firmware execution. This mode is necessary for changing the Modbus RTU settings or firmware update. • Run: Firmware execution mode (default). Firmware normal program execution (default). Note: The dip switch setting takes effect after the power has been reset.
Sys(red light)	On: Power is on and firmware is running. Blinking: Power is on but firmware is not running. Off: The power is off.
Tx(yellow)	Flashing: transmitting data via RS-232. Off: No data transmission.
Rx(green)	Blinking: receiving data via RS-232. Off: No receiving data.
NET(green)	On: Ethernet connection Blinking: Modbus RTU data transmission. Off: No data transmission.
MOD(green)	Flashing: firmware is running. On or off: firmware is not running (Dip switch is in “Init” position or I-8196F card is not properly plugged into its slot)
LNK(green)	I-8196F function indicator
RUN(green)	I-8196F function indicator

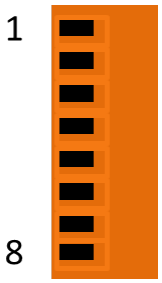
3.1 Power input and RS-232 port

No	Name	Description	
1	FG	Frame ground	
2	N.C.	Reserved	
3	GND	RS-232	Ground
4	TxD		Transmit data wire
5	RxD		Receive data wire
6	IGND	Electrical ground	
7	+Vs	External power supply DC 24V	



3.2 Modbus RTU communication port

No	Name	Description
1	F.G.	Frame ground
2	Tx+/D+	RS-422 transmit data wire (+)/RS-485 data wire
3	Tx-/D-	RS-422 transmit data wire (-)/RS-485 data wire
4	Rx+	RS-422 receive data wire (+)
5	Rx-	RS-422 receive data wire (-)
6	ISO.GND	RS-232 ground
7	TxD	RS-232 transmit data wire
8	RxD	RS-232 receive data wire



3.3 External terminal board

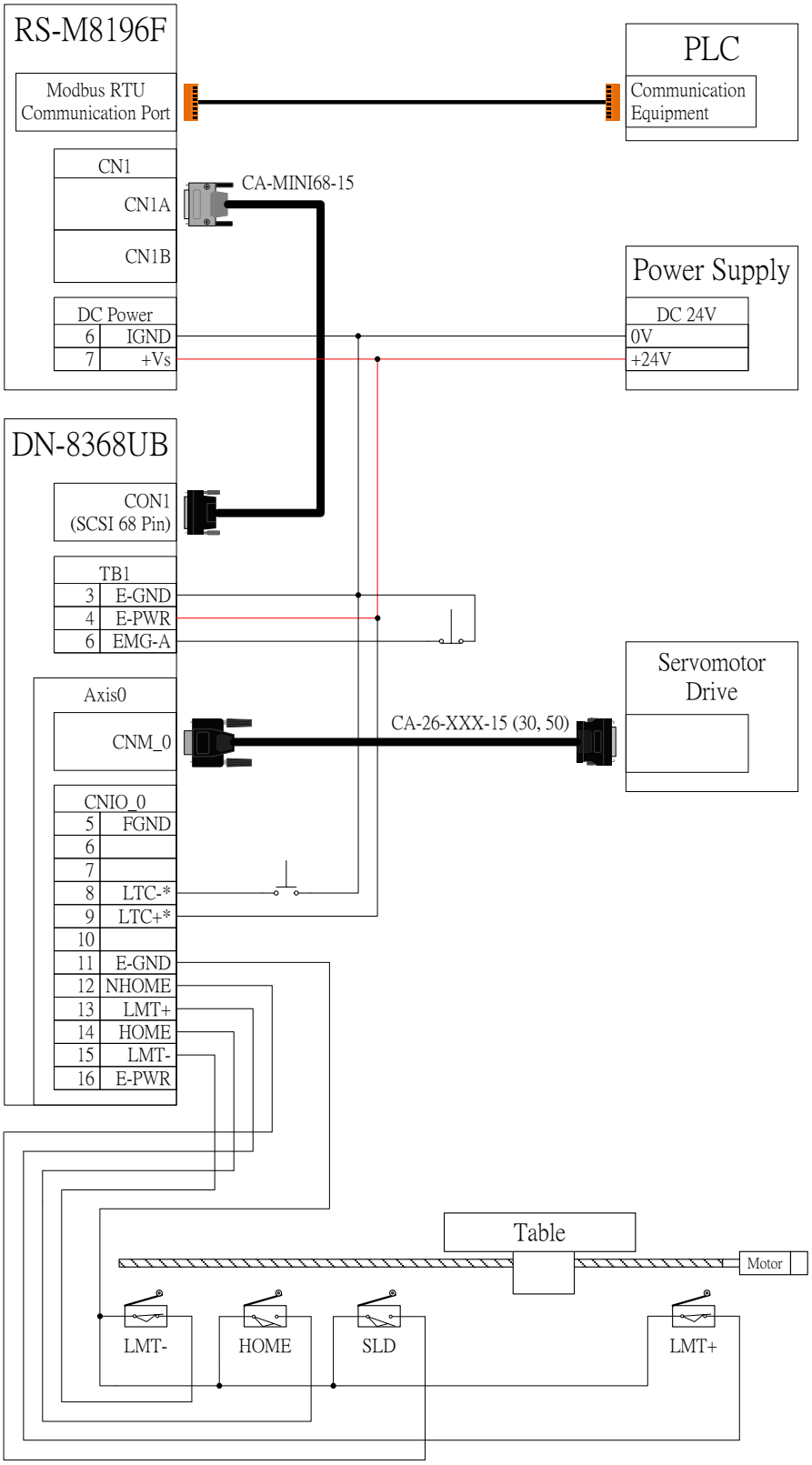
Port CN1 has to be connected to the "DN-8368" series terminal board and CN2 has to be connected to the "DN-20M" terminal board.

4 Wiring Example

Perform the following these wiring steps:

1. Connect the RS-M8196F to a DC24V power input.
2. Connect the RS-M8196F to PLC communication equipment.
3. Connect one or two DN-8368 series terminal board to the CN1 port. Terminal board connected to the CN1A port defines the Axis 0 ~ 2 and the terminal board connected to CN1B is defines the Axis 3 ~ 5.
4. The pin definition of each axis are described in the DN-8368 User's Manual
5. Connect the DN-20M terminal board to the CN2 port if GPIO or FRnet I/O is needed. Refer to the DN-20M instruction manual for the signal pin definitions.
6. Turn on the power after all the connections are properly connected

4.1 Connecting to servomotor

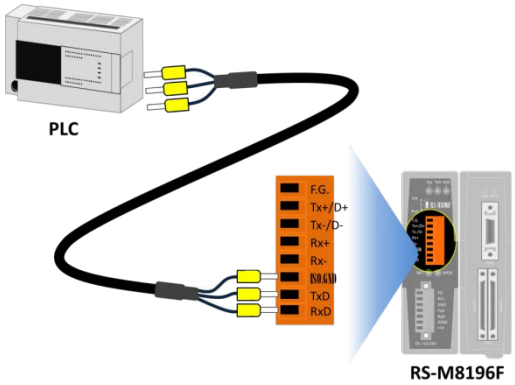


*When using the LTC signal follow the input voltage setting of the DN-8368UB's jumper JP1 ~ JP3.

4.2 Connect the Modbus RTU communication port

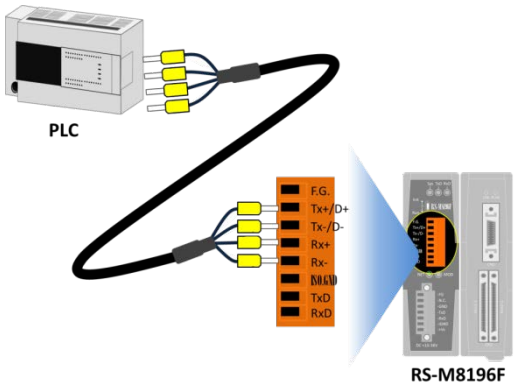
Via RS-232:

Connect the ISO.GND, TxD and RxD pins to the PLC communication equipment (or PC serial port).



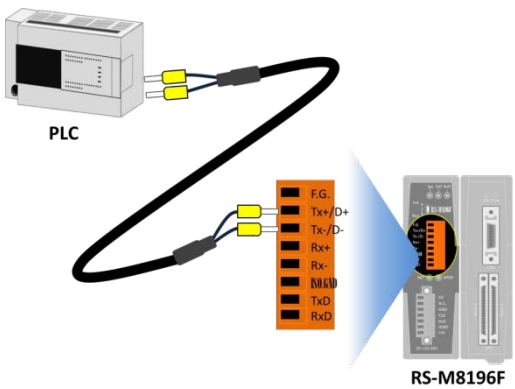
Via RS-422:

Connect the Tx+, Tx-, Rx+ and Rx- pins to the PLC communication equipment (or PC serial port).



Via RS-485:

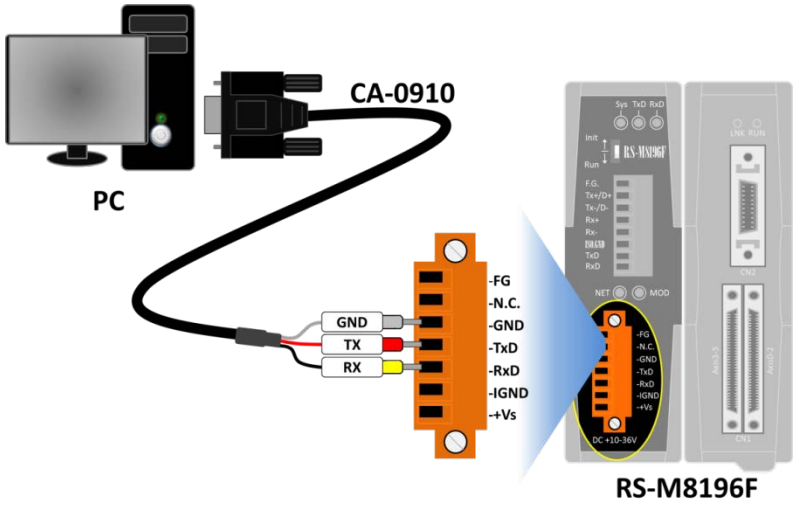
Connect the D+ and D- pins to the PLC communication equipment (or PC serial port).



5 Modbus RTU Communication Parameter Settings

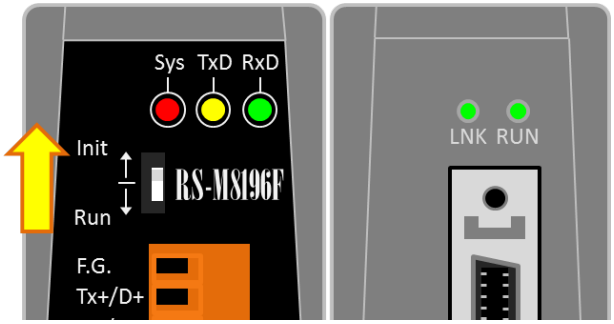
Step 1: Connect PC to serial port (RS-232)

Connect to the RS-M8196F to the PC COM port by using the RS-232 cable (CA-0910). The Tx, Rx and GND pins of CA-0910 have to be connected to the Rx, Tx and GND ports of the RS-M8196F. Connect the other end (9-pin, D-sub connector) to the RS-232 COM port of your desktop/laptop.

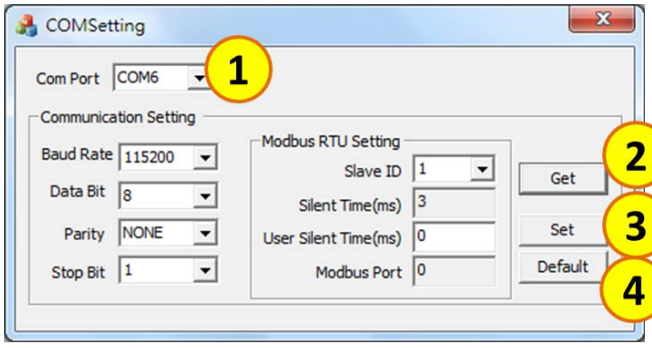


Step 2: Set RS-M8196F to Initial Mode

First set the DIP-switch to “Init” position, then power up the RS-M8196F.



Step 3: Execute the configuration tool “COMSetting”

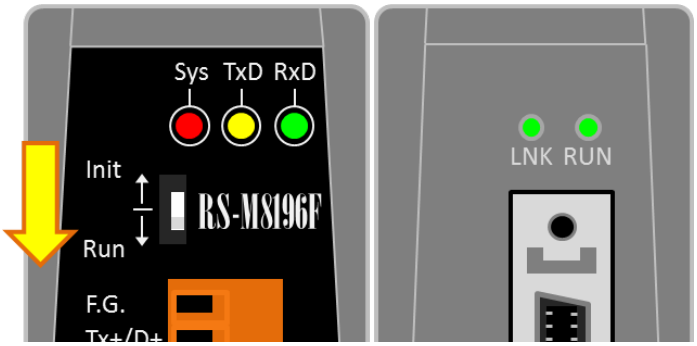


1. Click the drop-down menu and select the PC's COM port number to which the RS-M8196F is connected
2. Click the Get button to read the current configuration.
3. Specifies the field value, and then click the Set button to change the configuration.
4. Click the Default button to restore the default configuration.

Factory default setting:

Baud Rate: 115200
Data Bit: 8
Parity: NONE
Stop Bit: 1
Slave ID: 1
Silent Time: 3
User Silent Time: 0
Modbus Port: 0

Step 4: Switch off the RS-M8196F and set the DIP-switch to "Run".



Step 5: Reset the power. Now the RS-M8196F is using the new configuration.

6 Technical Support

Product website:

http://www.icpdas.com/root/product/solutions/remote_io/machine_automation_io/ethernet_solutions/rs-m8196f.html

ICPDAS product service:

service@icpdas.com