

The following procedure is for Robotiq Adaptive Gripper S model with M12 power connector and M8 communication connectors. This document replaces section 3.4 and 3.4.1 of the Adaptive Gripper S Model Instruction Manual. All other sections of the Instruction Manual for Firmware 3 still apply.

3.4 Wiring

Two connections are needed for the Adaptive Gripper S Model, one for power and one for communication. On the Gripper, both are located on the Connection Panel shown in Figure 3.4.1.

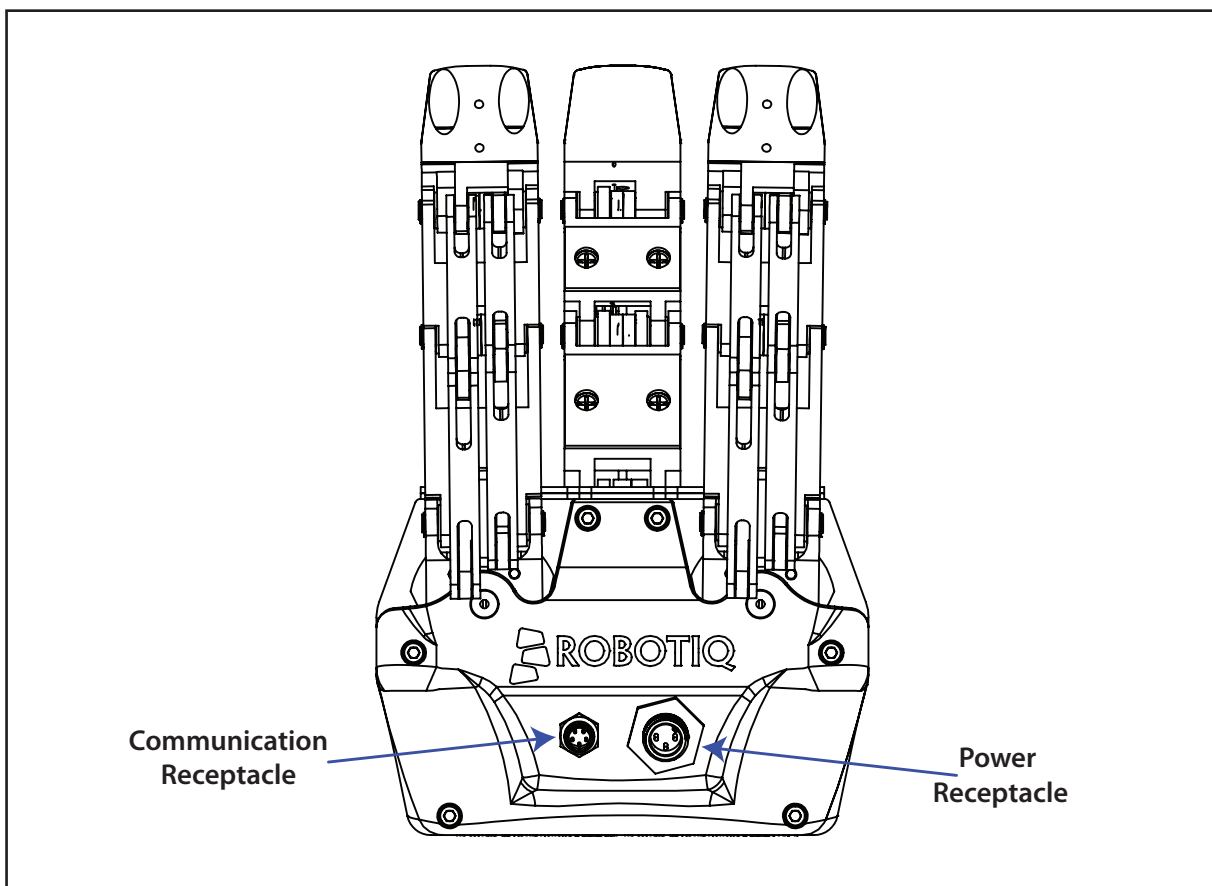


Figure 3.4.1 - Power and communication receptacles

Warning

Use proper cabling management. Be sure to have enough forgiveness in the cabling to allow movement of the Gripper along all axes without pulling out the connectors.

3.4.1 Power connection

Here is the way the Gripper should be connected to a power source (Figure 3.4.1.1).

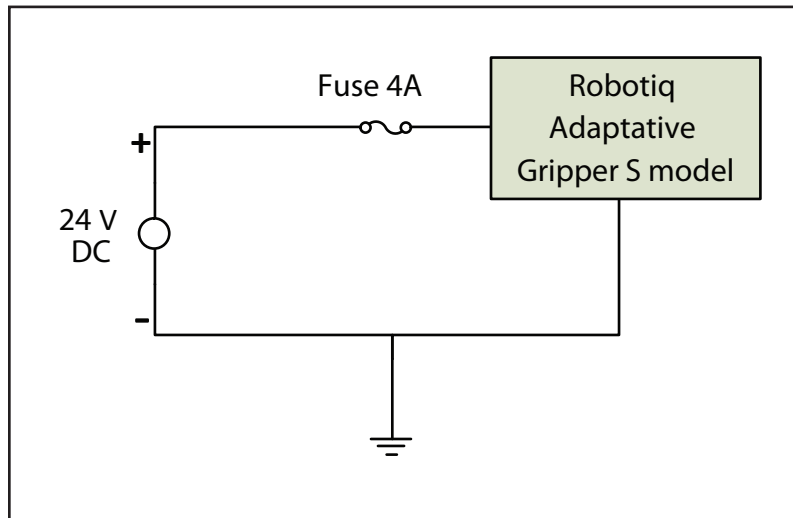


Figure 3.4.1.1 - Power connection diagram of the Adaptive Gripper S

Caution
The 4A fuse is external to the Gripper. It is not provided by Robotiq and the user is responsible for proper installation.

The pin-out of the power connectors is detailed in Figure 3.4.1.2.

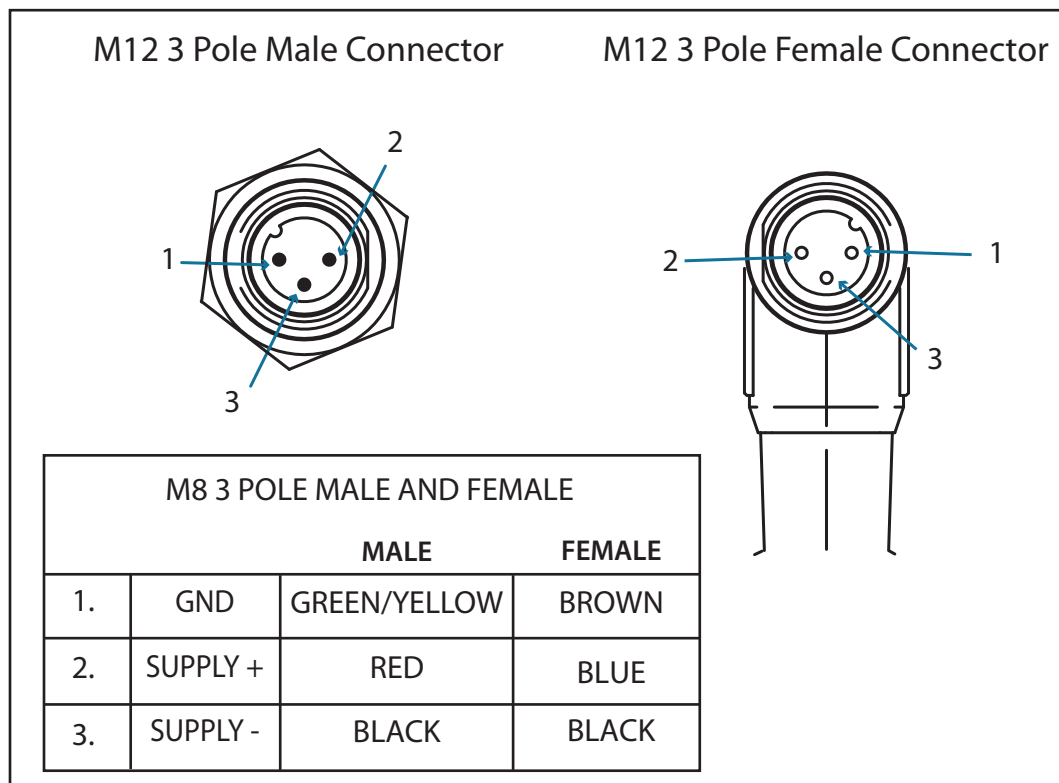


Figure 3.4.1.2 - Gripper Power Inlet and Power Connector.

The Adaptive Gripper S Model should be supplied with cables that have the following specifications:

- Approximate length of 5 meters #22 AWG TEW cable, 300V or 600V.
- 3 conductors, 2 for the supply and one for the protective ground.
- Shielding, depending on the application. Shield must be grounded in robot controller.

3.4.2 Communication connection

The following table summarizes the communication protocols available for the Gripper.

Note that only one protocol option is available in a given Gripper unit. The Gripper that you have was configured before shipment with only one of the following protocols.

Family	Protocol
Real-Time-Ethernet	EtherNet/IP
	Modbus TCP/IP
	EtherCAT
Fieldbus	DeviceNet
Serial	Modbus RTU

The same communication cable and connectors are used for all the protocols but each protocol has its own pin-out.



Warning

Be sure to use the appropriate cables and pin-outs for your communication protocol as any other setup may damage the Gripper.

DeviceNet communication protocol

Figure 3.5 shows the pin-out for the DeviceNet communication protocol.

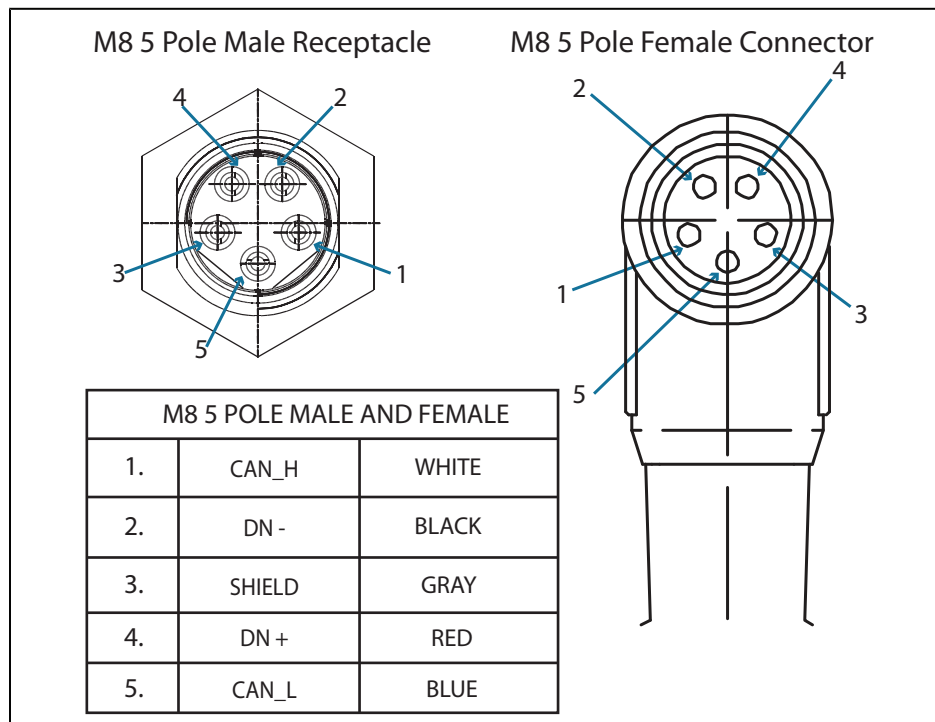


Figure 3.5 – DeviceNet communication pin-out.



Caution

- There is no terminating resistor mounted in the Gripper.
- The shielding of the cable must be grounded in the robot controller.

The DeviceNet communication and the Adaptive Gripper use 24 V supply. Robotiq suggests to separate power supplies as shown in Figure 3.6.

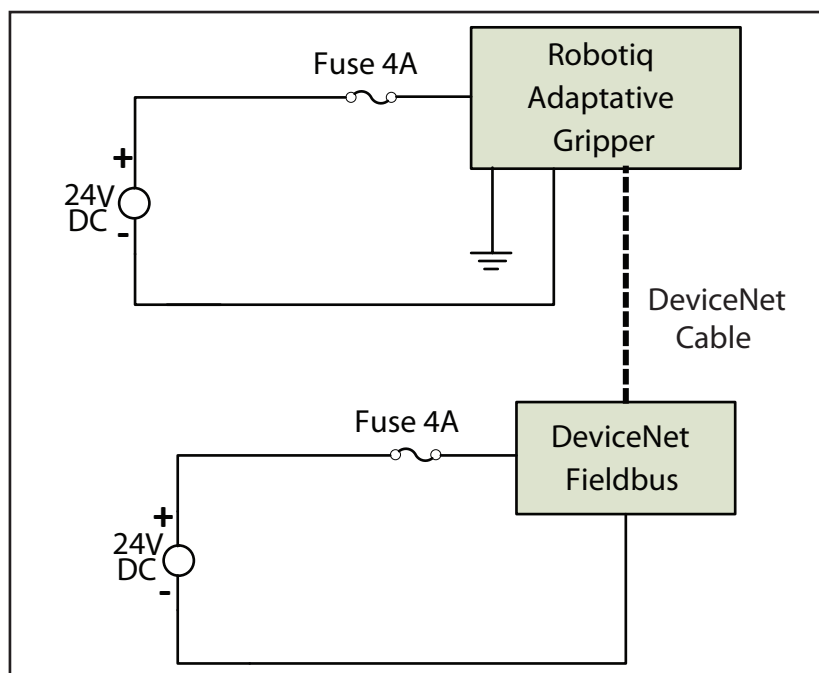


Figure 3.6 – Power connection diagram of the Adaptive Gripper using DeviceNet Fieldbus.

Factory settings for DeviceNet protocol:

IDENTIFICATION SETTINGS		
Info	Decimal value (base 10)	Hexadecimal value (base 16)
Vendor ID :	283	0x0000011B
Product Code :	35	0x00000023
Serial Number :	0	0x00000000
Product Type :	12	0x0000000C
Major Revision :	1	
Minor Revision :	1	
Product Name :	AG-DNS	

BUS SETTING	
MAC ID :	11
Baud Rate :	250 kBaud

DATA SETTINGS	
Prod. Data Length :	12
Cons. Data Length :	12

Real-time Ethernet communication includes Ethernet/IP, EtherCAT and Modbus TCP/IP protocols. See the Real-Time Ethernet pin-out diagram below (Figure 3.7).

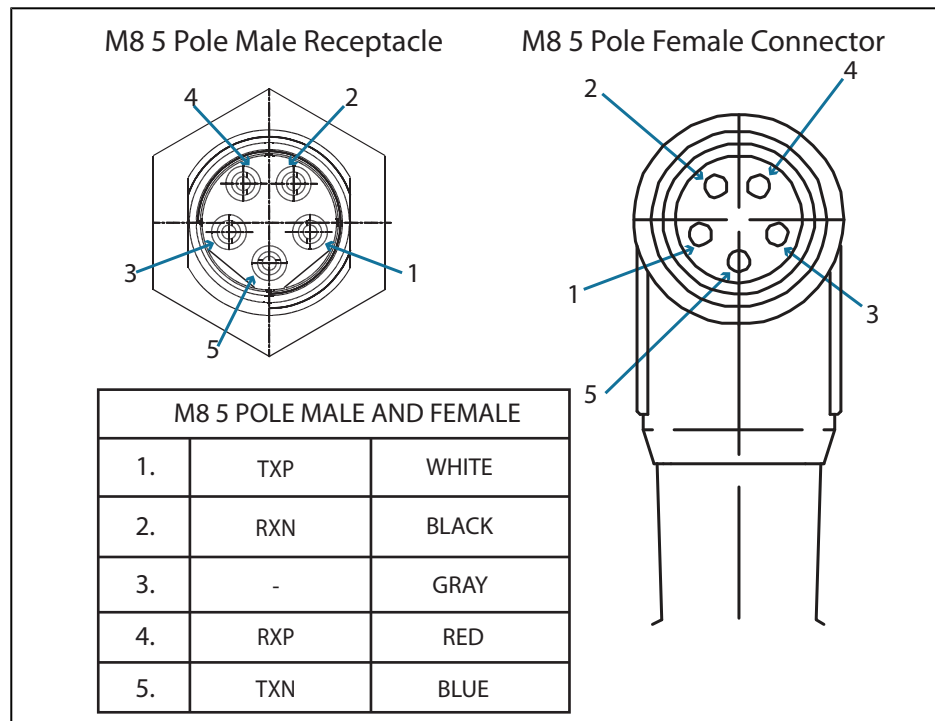


Figure 3.7 – Real-Time Ethernet communication pin-out.



Caution

The crossover on the RX/TX signals is made inside the Gripper.

Factory settings for Ethernet protocols:

EtherCat		EtherNet/IP		Modbus TCP/IP
IDENTIFICATION SETTINGS				
Vendor ID :	0xE0000044	Vendor ID :	0x0000011B	N / A
Product Code :	0x0000000B	Product Code :	0x0000010D	
Serial Number :	0x00000000	Product Type :	0x0000000C	
Revision Number :	0x00000000	Major Revision :	1	
		Minor Revision :	1	
		Device Name :	AG-EIS	

EtherCat	EtherNet/IP		Modbus TCP/IP	
BUS SETTING				
N / A (see info note)	IP Address :	192.168.1.11	IP Address :	192.168.1.11
	Netmask :	255.255.255.0	Netmask :	255.255.255.0
	Gateway :	Disabled	Gateway :	Disabled
	BootP :	Disabled	BootP :	Disabled
	DHCP :	Disabled	DHCP :	Disabled
	100Mbit :	Enabled	100Mbit always on	
	Full Duplex:	Enabled	Full Duplex always on	
	Auto-neg :	Enabled	Auto-neg always on	
	Assembly Instance (input) :	101		
	Assembly Instance (output) :	100		
	Configuraton Instance :	1		
	Connection Type :	Run/Idle Header		

EtherCat		EtherNet/IP		Modbus TCP/IP
DATA SETTINGS				
Input Data Bytes :	12	Prod. Data Length :	16	N / A
Output Data Bytes :	12	Cons. Data Length :	16	N / A

Info

Ethercat protocol uses inherent dynamic addressing thus bus settings cannot be customized.

Serial communication protocol

Figure 3.8 shows the pin-out of the communication connectors when used in serial mode.

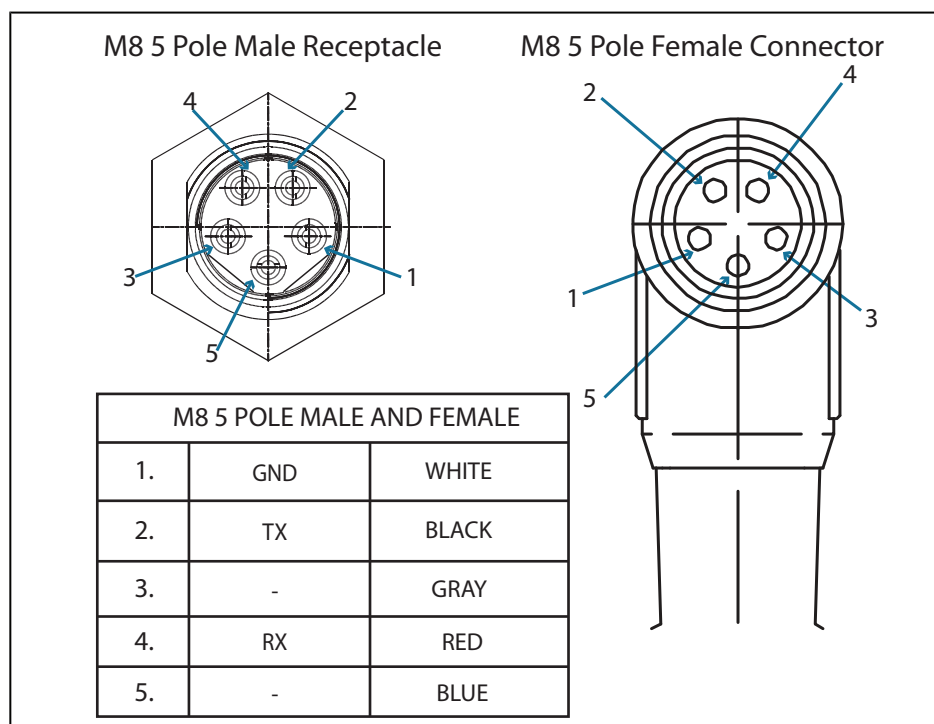


Figure 3.8 – Serial communication pin-out.

Factory settings for Modbus RTU protocols:

IDENTIFICATION SETTINGS	
Device:	9

BUS SETTINGS
See section 4.9.1 of the Adaptive Gripper S Model Instruction Manual

DATA SETTINGS	
Number of Register:	5000