



Relay Expansion Manual

V1.2.1

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Important Safety Instructions



PLEASE READ AND FOLLOW ALL SAFETY INSTRUCTIONS BEFORE PROCEEDING

DANGER

Discontinue use if any signs of water are present in any electronic/electrical device.

WARNING – To avoid injury to yourself and others, safety precautions should always be observed.

DANGER – Never attempt to service any electronic /electrical equipment before unplugging the device from the outlet. Risk of electrical shock if care is not taken. Special care should always be taken when operating any aquarium equipment. If the plug or receptacle gets wet, **NEVER** unplug it from the outlet. Always use the fuse or circuit breaker that supplies power to the device. Disconnect it and then examine for water presence.

- If device shows any sign of abnormal appearance, discontinue use.
- Never operate the device if plugs or cords are damaged, torn, ripped or malfunctioning.
- A “drip loop” should be arranged and position your aquarium stand and tank to the side of the power receptacle to avoid the device or power receptacle from getting wet. Please refer to Figure 1 below.

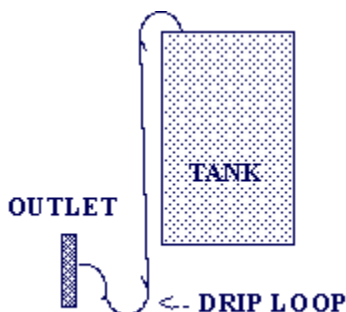


Figure 1

Relay Expansion Unit

- 1. Bus port
- 2. Communication connector
- 3. Power LED
- 4. Dip switches
- 5. Bottom compartment cover



Getting Started

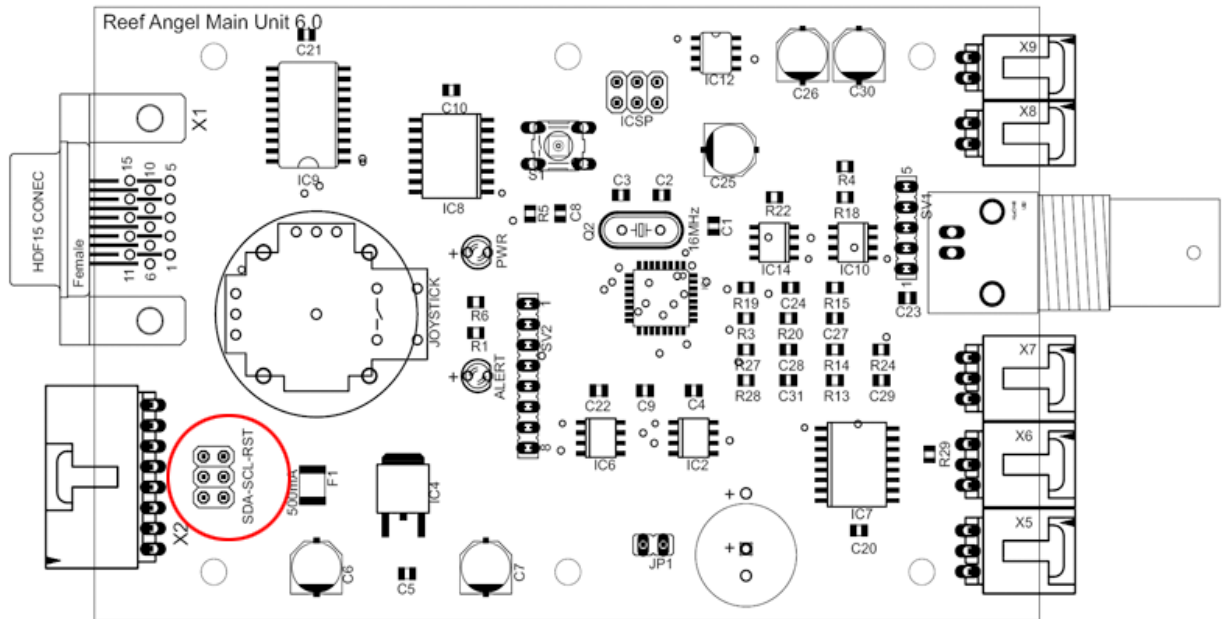
Setting up your Reef Angel Relay Expansion Module

1. Before you start using your relay expansion module, you will need to set it up first.
2. Open the bottom compartment and locate the dip switch.
3. According to the table below, set the switches so that you have a unique ID for each of your relay expansion modules. Up to 8 relay expansion modules can be connected simultaneously.

ID	DIP Switch 1	DIP Switch 2	DIP Switch 3
1	Off	Off	Off
2	On	Off	Off
3	Off	On	Off
4	On	On	Off
5	Off	Off	On
6	On	Off	On
7	Off	On	On
8	On	On	On

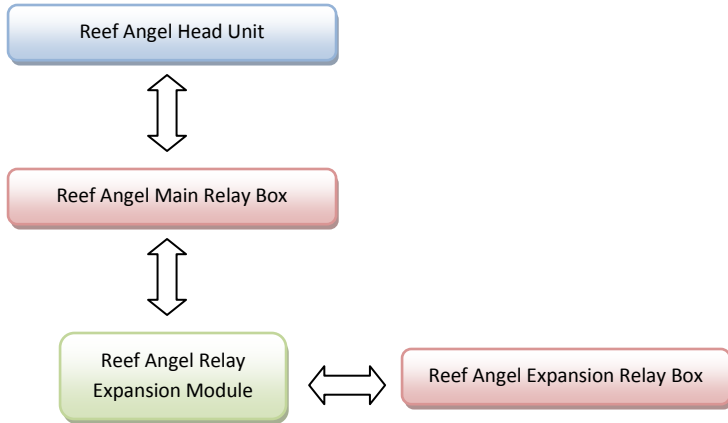
Setting up your Reef Angel Head Unit

1. Your Reef Angel Head unit needs to be setup to be able to communicate with any expansion modules.
2. You need to place the provided jumpers to the SDA and SCL pins.

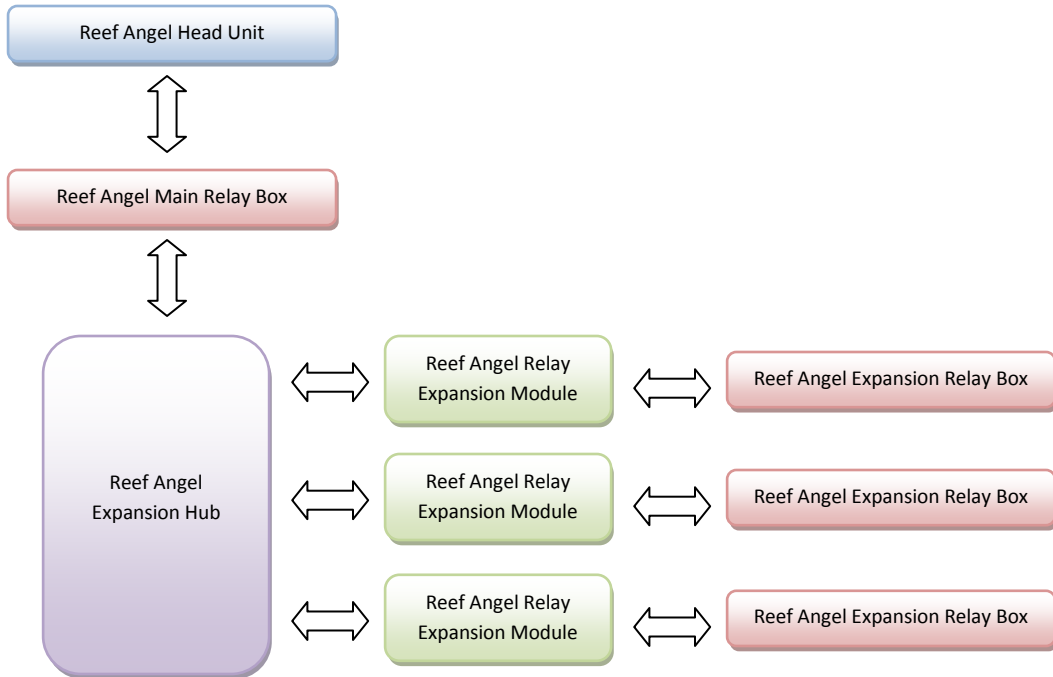


Adding your Relay Expansion Module to your Reef Angel system

1. Plug the communication cable to the communication port of the relay expansion module
2. Plug the other end of the communication cable to the relay expansion box
3. Plug the blue bus cable to the bus port of the expansion module
4. If you are only using one expansion module you can plug the other end of the bus cable straight into the expansion port of the main relay box.



5. If you are connecting more than one expansion module, you will need an expansion hub, which offers 10 additional ports to connect expansion modules.



Testing your Relay Expansion module

We'll assume that the relay expansion module was setup with ID #1.

Uploading the test code

1. Start your Arduino software
2. Open the Relay Expansion test code by going to menu File->Sketchbook->Example Codes and selecting CustomMainScreen_RelayExpansion
3. Upload the code to your Reef Angel Controller.