

FRC Robot Programming

MODULE 2 – Relay / Solenoid Output

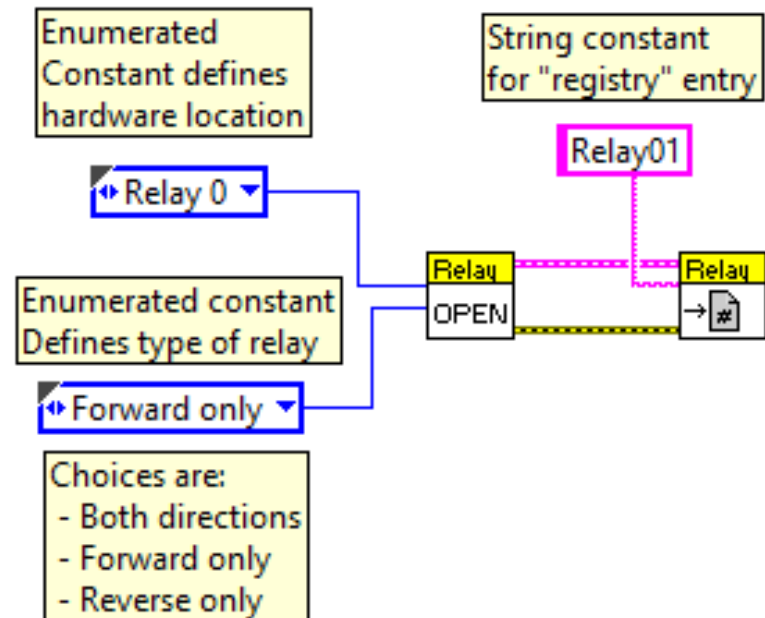
Boolean Output – Relay - Initialization

■ Initialization code

- Initialize hardware I/O
- Assign created data structure to “registry” for use by continuous execution routine.

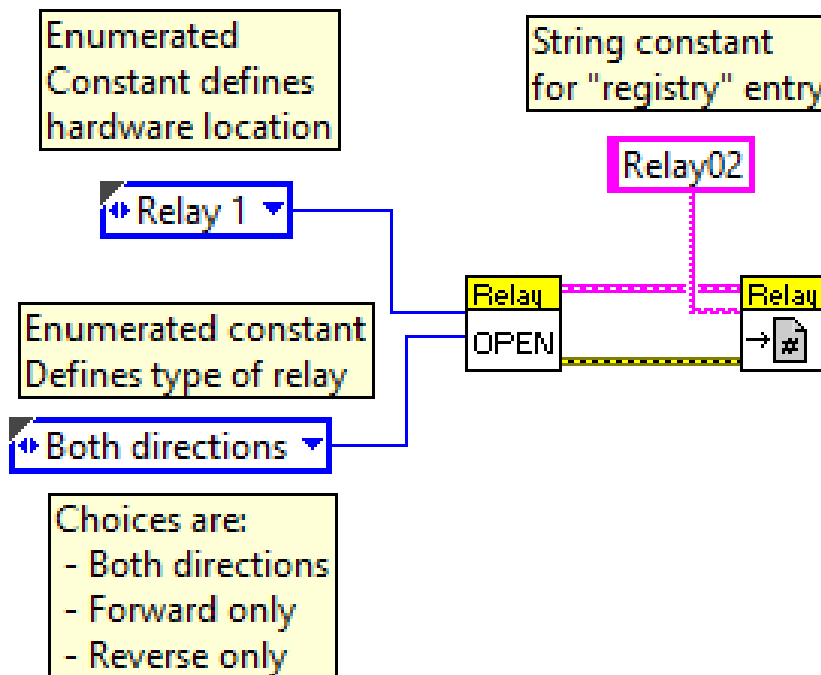
■ Relays can optionally be “bi-directional” (forward, reverse, off), or uni-directional (on, off).

- In other words a relay is really two separate boolean outputs, “forward”, and “reverse”



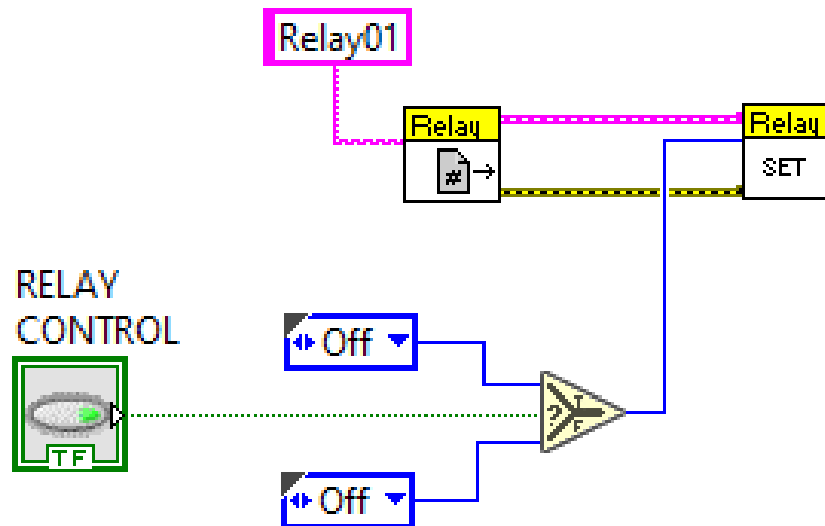
Boolean Output – Relay - Initialization

■ Bi-Directional initialization sample



Boolean Output – Relay - Execution

- **Execution code -- uni-directional**
 - Get “registry” entry for desired output
 - Write desired value to hardware.
- **This code needs to be used every 20 milliseconds**

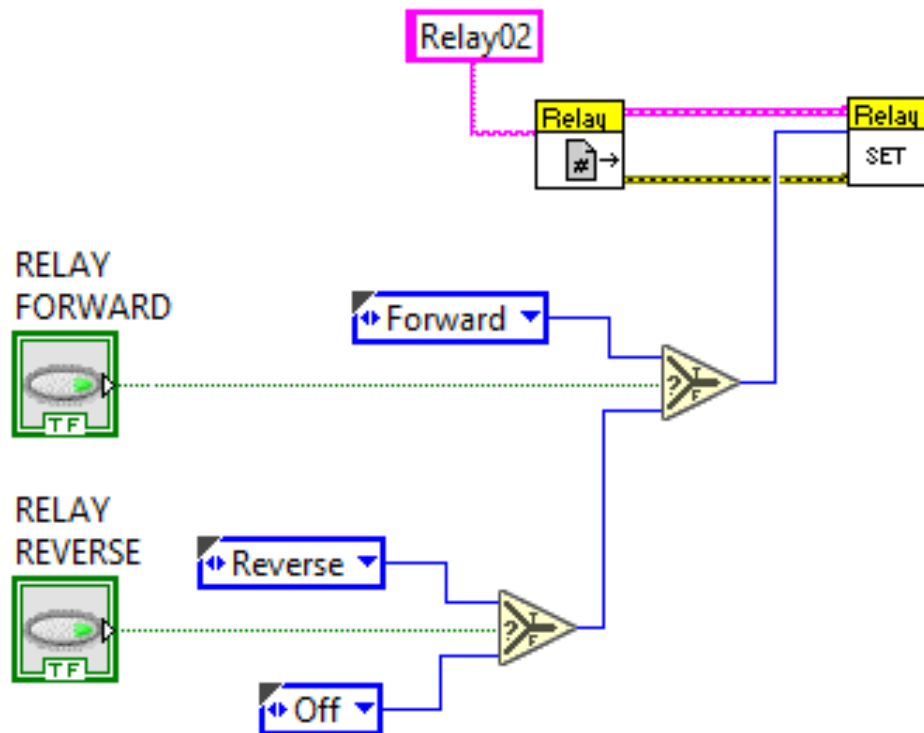


Boolean Output – Relay - Execution

■ Execution code -- bi-directional

- Get “registry” entry for desired output
- Write desired value to hardware.

■ This code needs to be used every 20 milliseconds

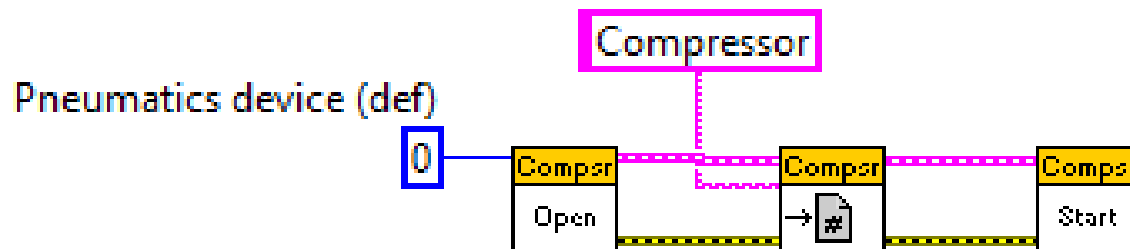


Compressor - Initialization

■ Initialization code

- Initialize hardware I/O
- Assign created data structure to “registry” for use by continuous execution routine.
- Starts compressor (after robot is enabled).

■ If compressor code isn't added, it is automatically loaded when first solenoid is initialized

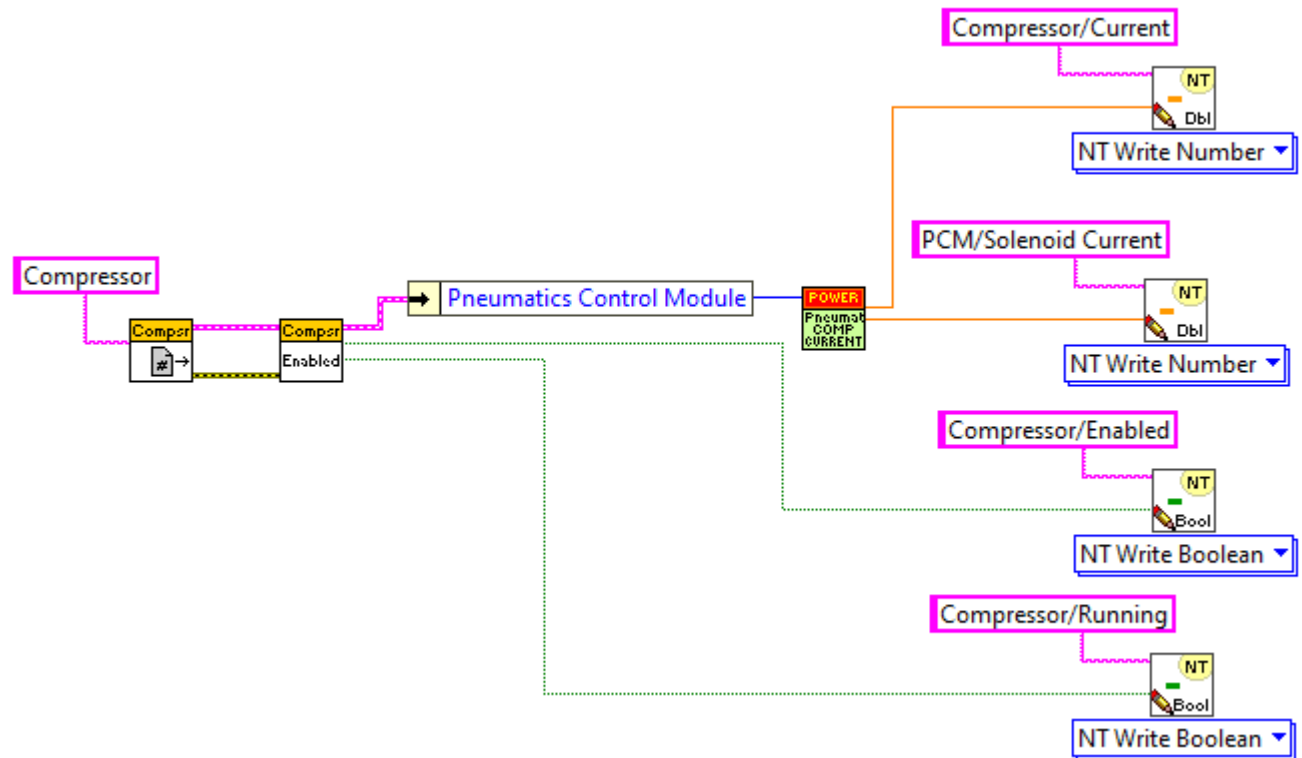


Compressor – Get Status

■ Execution code

- Get “registry” entry for desired output
- Read compressor status

■ This code isn't mandatory. If desired it can be periodically executed.

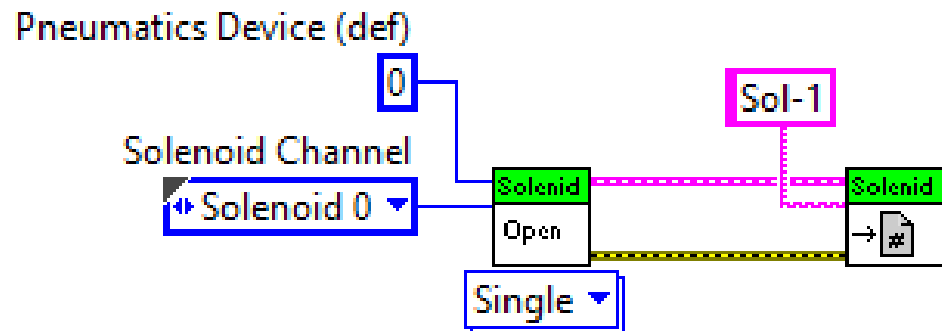


Single Solenoid Output – Initialization

■ Initialization code

- Initialize hardware I/O
- Assign created data structure to “registry” for use by continuous execution routine.

■ Relays can optionally be “single” (on, off), or “double” (forward, reverse, off).

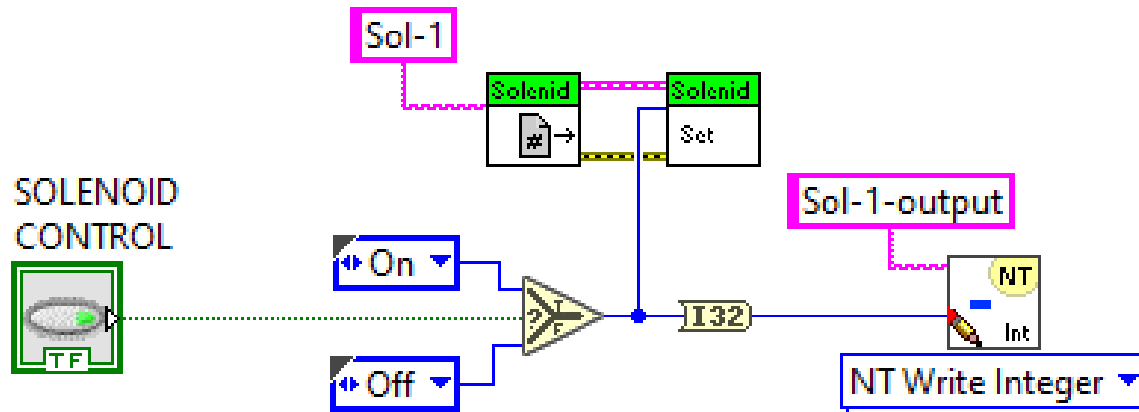


Single Solenoid - Execution

■ Execution code

- Get “registry” entry for desired output
- Write desired value to hardware.

■ This code needs to be used every 20 milliseconds

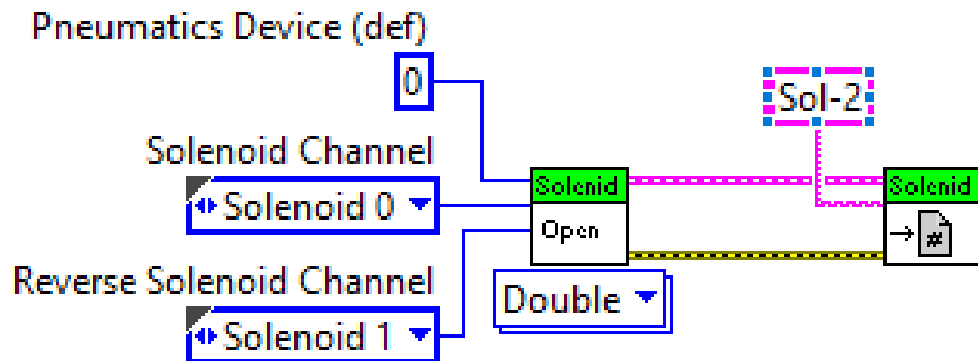


Double Solenoid Output – Initialization

■ Initialization code

- Initialize hardware I/O
- Assign created data structure to “registry” for use by continuous execution routine.

- Relays can optionally be “single” (on, off), or “double” (forward, reverse, off).



Double Solenoid - Execution

■ Execution code

- Get “registry” entry for desired output
- Write desired value to hardware.

■ This code needs to be used every 20 milliseconds

