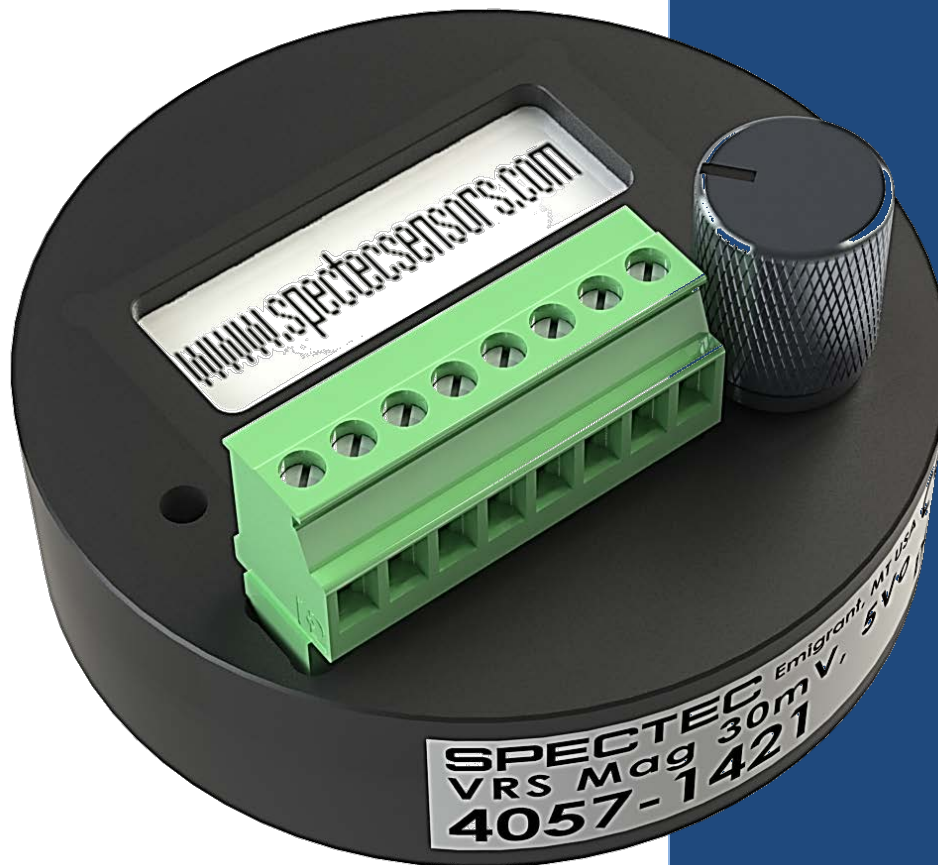


# SPECTEC

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## 4057 QUICK START GUIDE



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# BASIC SETUP

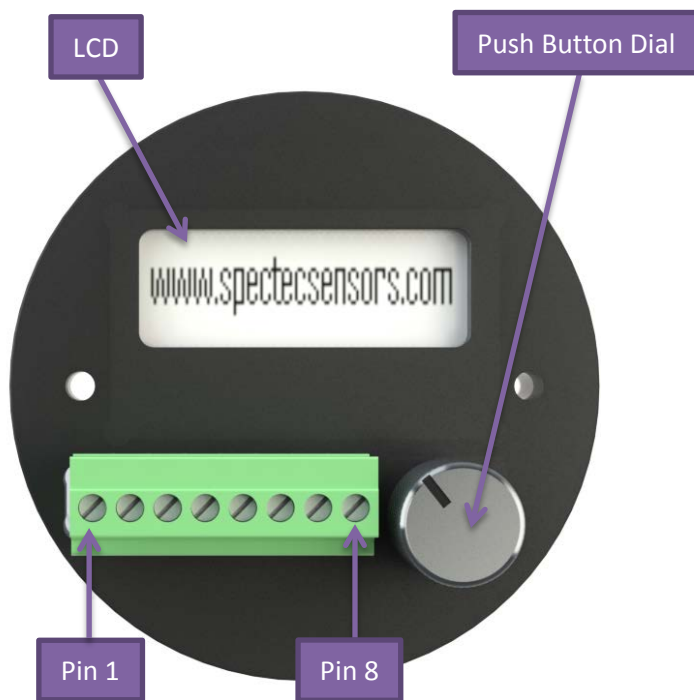


Figure 1: 4057

## Device Pinout

- Pin 1: VDC input (12V-24V)
- Pin 2: Ground (GND)
- Pin 3: Coil + (Mag or RF input)
- Pin 4: Coil – (Mag or RF input)
- Pin 5: Digital Input
- Pin 6: Pulse output
- Pin 7: Ground (GND)
- Pin 8: FTC or FTV Out

## Entering Program mode

- 1) Apply power to the 4057
- 2) Hold the push button dial for 5 seconds
- 3) After 5 seconds the menu in Figure 2 will appear.

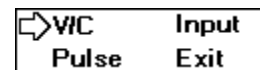


Figure 2: Main program menu.

## User Interface

Rotate the push button dial to move the cursor (an arrow in most cases) on screen. Rotating clockwise moves the cursor to the next on screen option, rotating counter clockwise moves the cursor to the previous option.

Press the push button to make a selection.

A diamond next to a selection means that is the currently selected mode.

If the LCD has turned off after 2 minutes, simply press the push button to turn it on again

## Exiting Program mode

- 1) Return to the Main Programming menu
- 2) Rotate the push button dial until the arrow on screen moves to the “Exit” option.
- 3) Press the push button to exit
- 4) All settings are saved

**Note:** The LCD screen will not turn off while in programming mode. When not in program mode, the LCD screen will turn off after 2 minutes of inactivity. To turn the LCD on, simply press the push button.

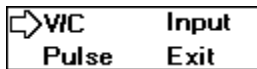
**Note:** Do not disconnect the power from the device while programming it. This will erase all settings and return the device to its default state.

# Root Menus

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## Program mode main menu

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**Figure 3: Main program menu.**

“Input” selects which input option to use, the digital input or the Mag/Rf coil input.

“V/C” controls the Voltage or current analog output pin.

“Pulse” controls the Divider/Multiplier digital output pin.

“Exit” selection exits program mode and saves all settings.

## Input (Input Selection)

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**Figure 4: Input menu.**

“Coil” corresponds with a RF or Mag input (Depending on board type) on pins 3&4.

“Digital” allows the 4057 to use the Digital input on pin 5 (default)

“Exit” exits this menu and returns to the main menu.

## V/C (Analog voltage or current output)

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**Figure 5: Analog output menu.**

“Current” will select a current output

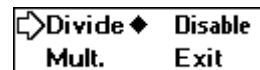
“Voltage” will select a voltage output

“Disable” will disable the analog output pin (default)

“Exit” exits this menu and returns to the main menu.

## Pulse (Pulse Output)

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**Figure 6: Pulse output menu.**

“Divide” allows the user to select a frequency divider.

“Multiply” allows the user to select a frequency multiplier.

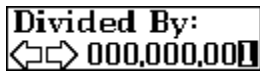
“Disable” will disable the digital output pin.

“Exit” exits this menu and returns to the main menu.

# SELECTING A FREQUENCY DIVIDER

**Note:** The divider has a range of 1 to 999,999,999.

- 1) Enter program mode
- 2) Select “Pulse”
- 3) Select “Divider” The menu seen in Figure 7 will be on screen.



**Figure 7: Divider menu**

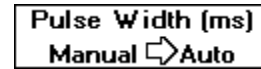
This menu uses a black cursor that can be moved by rotating the push button dial. Simply move the cursor over a number that is to be changed, and press the push button. The screen will invert, (as seen in Figure 8.) the number can now be incremented by rotating the dial clockwise, and decremented by rotating the dial counter clockwise. When finished inputting a new number, press the push button.



**Figure 8: Divider menu inverted**

The arrow facing the left represents “Back”, and the arrow facing right represents “Next”. Selecting “Back” will return to the “Pulse” screen, hitting “Next” will lead to the “Pulse width” options shown in Figure 9.

## Pulse width options

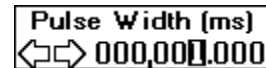


**Figure 9: Pulse width options menu**

Select either “Auto” or “Manual.”

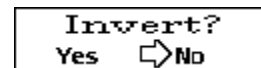
“Auto” allows the device to output a 50% duty cycle for any signal. Selecting this will return the user to the “Pulse” screen.

“Manual” allows the user to input a custom output pulse width. Selecting this will show the menu in Figure 10



**Figure 10: Manual Pulse Width input menu**

The user interface functions just like the “Divider” menu. The pulse width has a range of 1 $\mu$ s to 10s. In Figure 10 a value of 1ms is shown. Hitting “Next” goes to the “Invert” menu, and hitting “Back” returns to the “Divider” menu.



**Figure 11: Invert Menu**

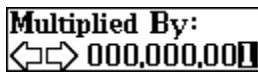
The “Invert” menu asks if the user wants to invert the pulse output. Select “Yes” to invert the signal, (change high to low) or “No” to leave the signal as is.

# SELECTING A FREQUENCY MULTIPLIER

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**Note:** The multiplier has a range of 2 to 50,000, and can output a max of 80 KHz.

- 1) Enter program mode
- 2) Select "Pulse"
- 3) Select "Multiplier" The menu seen in Figure 12 will be on screen.



**Figure 12: Multiplier menu**

This menu uses a black cursor that can be moved by rotating the push button dial. Simply move the cursor over a number that is to be changed, and press the push button. The screen will invert, (as seen in Figure 13.) the number can now be incremented by rotating the dial clockwise, and decremented by rotating the dial counter clockwise. When finished inputting a new number, press the push button.



**Figure 13: Multiplier menu inverted**

The arrow facing the left represents "Back", and the arrow facing right represents "Next". Select either arrow to return to the "Pulse" menu.

# SELECTING A VOLTAGE OR CURRENT OUTPUT

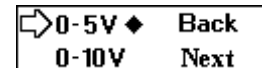
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**Note:** Changes to the Voltage/Current Output settings will not take effect until program mode is exited.

- 1) Enter program mode
- 2) Select "V/C"
- 3) Select either "Current" or "Voltage"

## Voltage options

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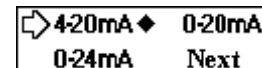


**Figure 14: Voltage options menu**

Select either 0-5V, or 0-10V output. "Back" cancels the selection and goes back to the "V/C" menu. Hitting "Next" continues the setup and shows the "Hz or RPM" menu.

## Current options

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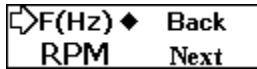


**Figure 15: Current options menu**

Select 4-20mA, 0-20mA, or 0-24mA output. "Back" cancels the selection and goes back to the "V/C" menu. Hitting "Next" continues the setup and shows the "Hz or RPM" menu.

# SELECTING A VOLTAGE OR CURRENT OUTPUT CONT.

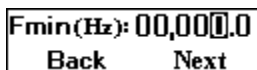
## Hz or RPM



**Figure 16: Hz or RPM menu**

Select what units will be used for measuring the frequency. “Back” cancels the selection and goes back to the “V/C” menu. Hitting “Next” continues the setup and goes to the “Minimum Frequency” menu

## Minimum Frequency

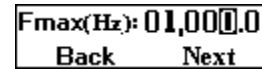


**Figure 17: Minimum frequency menu**

This menu uses a black cursor that can be moved by rotating the push button dial. Simply move the cursor over a number that is to be changed, and press the push button. The screen will invert, and the number can now be incremented by rotating the dial clockwise and decremented by rotating the dial counter clockwise. When finished inputting a new number, press the push button.

Select “Back” to return to the “Hz or RPM menu”, or select “Next” to select a Maximum frequency

## Maximum Frequency

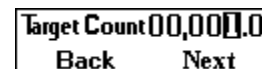


**Figure 18: Maximum frequency menu**

This menu uses a black cursor that can be moved by rotating the push button dial. Simply move the cursor over a number that is to be changed, and press the push button. The screen will invert, and the number can now be incremented by rotating the dial clockwise and decremented by rotating the dial counter clockwise. When finished inputting a new number, press the push button. The maximum frequency must be larger than the minimum.

Select “Back” to return to the “Minimum Frequency” menu. If in RPM mode, select “Next” to enter the “Target Count” menu. If in Hz mode, “Next” will return to the “Main menu.”

## Target Count (RPM mode only)



**Figure 19: Target count menu**

Select the number of targets/teeth. This menu uses a black cursor that can be moved by rotating the push button dial. Simply move the cursor over a number that is to be changed, and press the push button. The screen will invert, and the number can now be incremented by rotating the dial clockwise and decremented by rotating the dial counter clockwise. When finished inputting a new number, press the push button. Target count can only be an integer value.

Select “Back” to return to the “Maximum Frequency” menu, or select “Next” to return to the “Main Menu.”