

Output Wiring Changes for Type 4 CPU Module in Daniel 3410 and 3810 Series Ultrasonic Flow Meters

Overview

This bulletin documents the output wiring changes when replacing a Type 2 CPU Module with a Type 4 CPU Module in Daniel 3410 Series and 3810 Series Ultrasonic Flow Meters.

Products Affected

- Daniel Gas Ultrasonic Flow Meters equipped with 3410 Series Electronics (Models 3411/3412/3414/3415/3416/3417)
- Daniel Liquid Ultrasonic Flow Meters equipped with 3810 Series Electronics (Models 3812/3814/3818)

Description

The Type 4 CPU Module is now available for Daniel 3410/3810 Series Electronics ([3410 / 3810 Series Electronics Flyer](#)) to increase the frequency output / digital output (FODO) capability over the Type 2 CPU Module.

In order to offer an increase in outputs, some of the terminal functionality has been relocated and the second analog output has been removed.

For users of the current Type 2 Module, the Type 4 Module is available as a replacement or as an upgrade to existing meters. This will require a minor relocation of FODO 3 (if used) and removal of analog output 2 wiring.

Resolution

Frequency output 3 (FODO3) moves from pin 4 to pin 2 in the Group 2 terminal block. Ground 2 (GND2) moves from pin 2 to pin 4 in the Group 2 terminal block. In effect, this is simply swapping the frequency output wiring for output 3.

Analog output 2 pins (AO2+ and AO2-) are removed. Those pins (5 and 6 in the Group 2 terminal block) become frequency/digital outputs 4 and 5, respectively. The grounds for FODO's 4 and 5 are shared with FODO's 2 and 3 on pins 3 and 4 of the Group 2 terminal block.

The sixth frequency/digital output FODO 6 is software configurable on pins 2 and 3 of the Group 1 terminal block as either a digital input or as a frequency/digital output.

Please refer to the [wiring diagram](#) for additional information.

Figure 1: Type 2 CPU Module Terminations

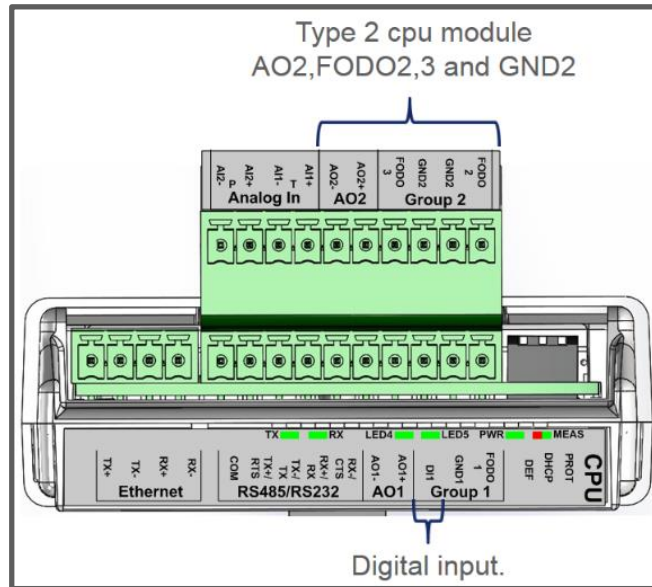
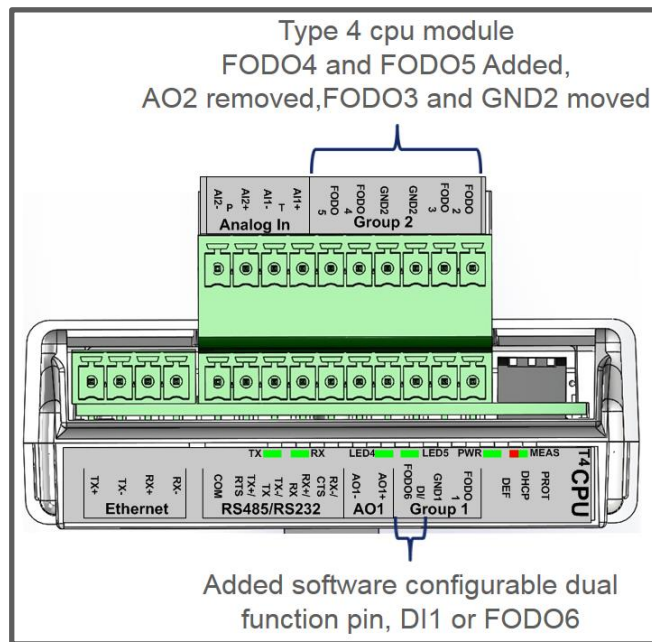


Figure 2: Type 4 CPU Module Terminations



Configuration of the additional frequency/digital outputs requires Daniel MeterLink version 1.31 or later. See the screen captures below to preview a few of the configuration dropdown menus.

[3414] Field Setup Wizard - Frequency/Digital Output Sources

GROUP 1 (group 1 outputs share a common ground)

Frequency/Digital Output 1
Source: Frequency Output 1A Mode: Open Collector

Frequency/Digital Output 6
Source: Mode:

GROUP 2 (group 2 outputs share a common ground)

Frequency/Digital Output 2
Source: Frequency Output 2A Mode: Open Collector

Frequency/Digital Output 3
Source: Digital Output 2B Mode: Open Collector

Frequency/Digital Output 4
Source: Digital Output 2A Mode: Open Collector

Frequency/Digital Output 5
Source: Digital Output 2B Mode: Open Collector

< Back Next > Cancel Help

[3414] Field Setup Wizard - Frequency Outputs

	Frequency output 1	Frequency output 2
Content:	Uncorrected volume flow rate	Uncorrected volume flow rate
Direction:	Forward	Uncorrected volume flow rate
Channel B phase		Corrected volume flow rate
Maximum frequency for frequency output:	5000 Hz	Average flow velocity
Full scale volumetric flow rate for output:	1.8e+007 ft3/day	Average speed of sound
K-factor:	24 pulses/ft3	Energy flow rate
Vol/pulse:	0.0416667 ft3/pulse	Mass flow rate
Maximum scale velocity for output:	0	
Minimum scale velocity for output:	0	
Full scale energy rate for output:		
K-factor:		
Energy/pulse:		
Full scale mass rate for output:		
K-factor:		
Mass/pulse:		

< Back Next > Cancel Help

Contact Information

Product manuals and other technical information are available on our web site at www.Emerson.com/Daniel.

Please refer to the menu below to contact a Flow Lifecycle Services representative in your region who can provide assistance for Daniel products.

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