

When the FT420 must supply both flow rate and total to a PLC (Programmable Logic Controller) via the FT420's 4-20mA current loop and pulse output, the current loop signal will be suppressed or degraded if the PLC's pulse input is not fully galvanically isolated. To determine if this problem is occurring, simply disconnect the FT420 pulse output connection to the PLC input. If the 4-20mA signal returns to what it should be, then you will need to isolate the FT420 pulse output. A simple method of doing this is to add a solid-state relay and a second power supply to energize it.

The wiring diagram below shows how to accomplish this using a Seametrics PN 30221 relay module and a small 12-24Vdc power supply. The relay module can be ordered as an FT420 option conveniently mounted inside the FT420 or as a later retrofit kit if the problem was not anticipated at the time of order. Order option -98 through your Seametrics dealer. The relay power supply can be a Seametrics PC2, PC3 or one purchased locally. Alternatively the Seametrics PC42 is a dual 12/24V power supply that combines both the loop and relay power supplies into one unit. If you use a multiple output power supply, it must have independent floating outputs since, as you can see in the wiring diagram, the power supply output negative terminals are at different circuit potentials with respect to ground. Please note that the maximum pulse output frequency is 5Hz or 300 pulses per minute which will not normally be a problem using the scaled pulse output.

Alternatively, use a PLC with isolated digital I/O.

