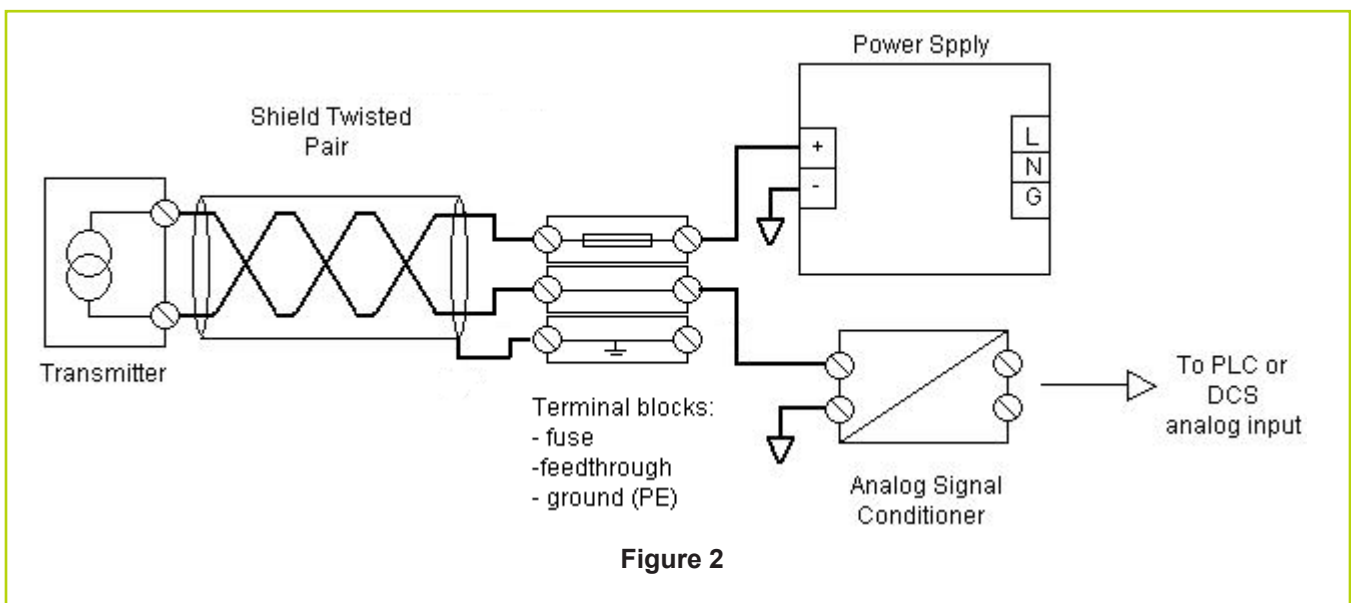
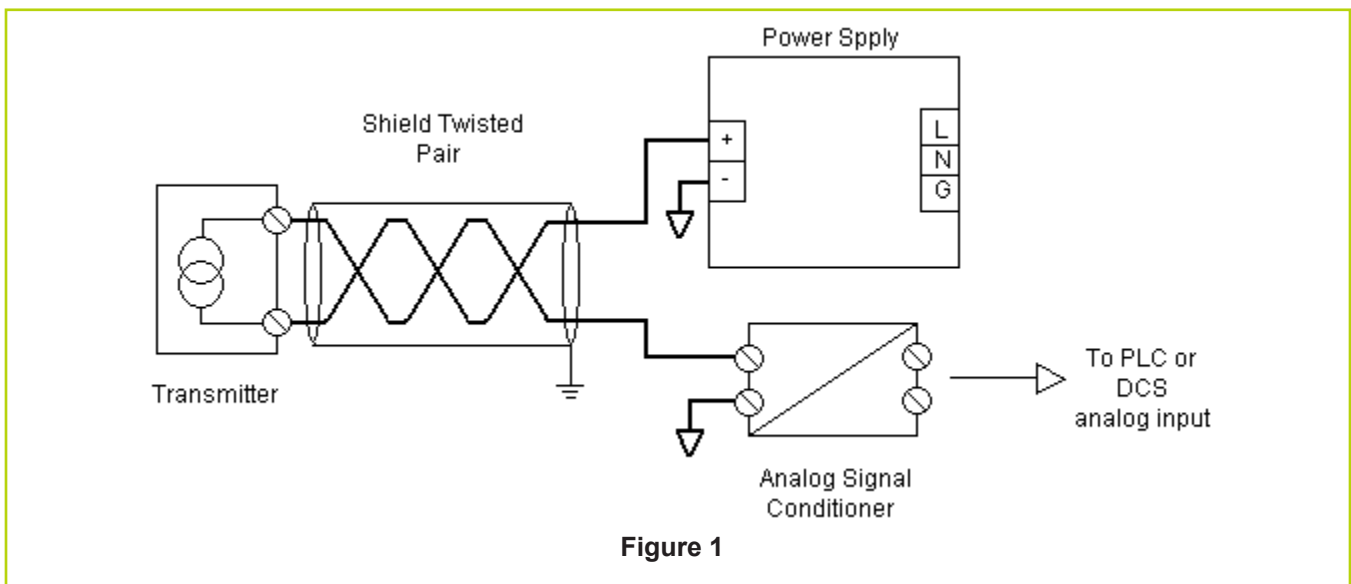




SIGNEXT® - FM5/PLI/PE 4-20mA Loop Interface Module

In Figure 1, we see the connections between a power supply, a loop powered transmitter and an analog signal conditioner. The transmitter is shown connected directly to the analog signal conditioner. Figure 2 shows the more likely installation – the transmitter is wired to terminals that form the interface between the transmitter and the analog signal conditioner.





The terminal blocks may not be installed in a group as shown. The fuse terminals might be grouped together so that the inputs can be jumpered or cross connected making distribution of the 24Vdc easier. Not shown but almost always used are terminal blocks for the 0V of the 24V supply. These would probably be grouped together and jumpered.

The three terminals shown in Figure 2 would typically occupy 18-20mm of DIN rail. Single terminals providing all three functions (fuse, feedthrough and ground) are available and would occupy just 8mm but the 3 level configuration means wires are over top of each other and jumpering the 24Vdc power is not as easy.

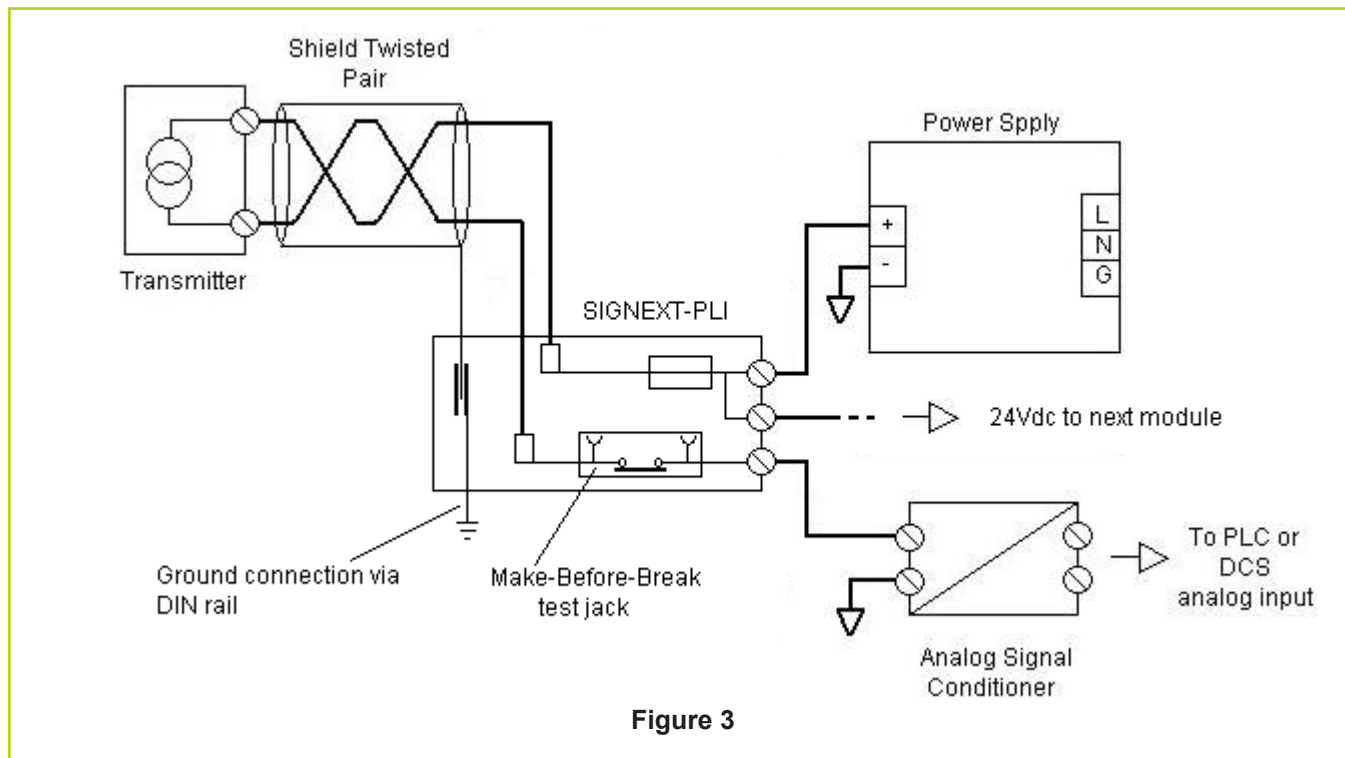


Figure 3

Figure 3 shows the connections using the SIGNEXT®-PLI/PE Passive Loop Interface. This module provides a fuse, a feedthrough and a ground connection just like the individual terminals. Two terminals are provided for the 24Vdc so “daisy-chaining” power to multiple modules is easy and no special jumpers are required. The ground connection is actually not a terminal, it uses Weidmuller’s KLBU grounding clamp which connects directly to the shield of the twisted pair cable and is grounded via the module’s DIN rail mounting foot.

A unique feature of the SIGNEXT®-PLI/PE is the make-before-break test jack. This allows a meter to be inserted into the 4-20mA current loop without momentarily interrupting the loop. No levers or disconnects need to be operated.



The jack looks like a standard phone jack (because it is!) and the only thing needed to use it is a cable between the user’s meter and the jack. This is available from Emphatec, catalog number 330035. This feature is also used on many other analog interface modules and loop isolators offered by Emphatec.

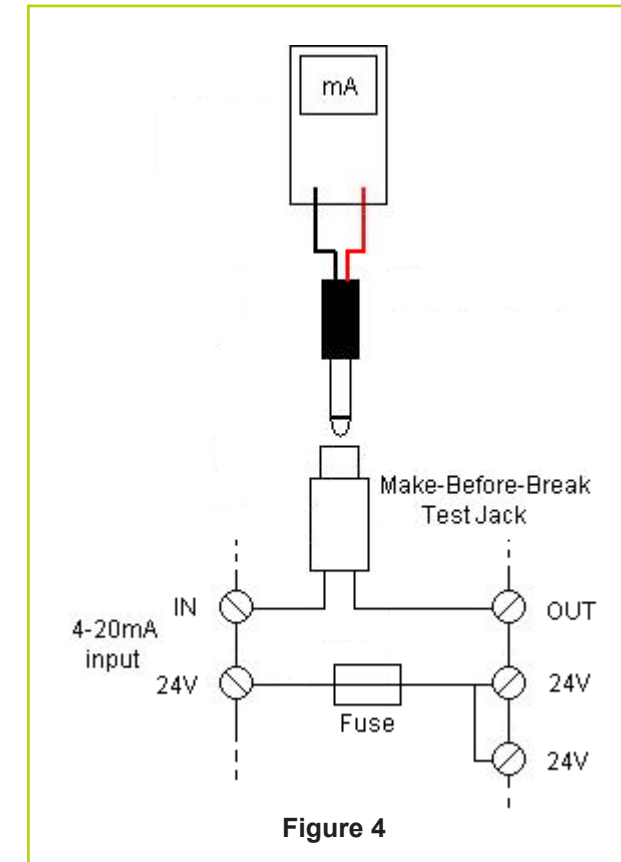


Figure 4

The fuse on the SIGNEXT®-PLI/PE is a socket mounted, 0.5A, 5x20mm and is installed under a protective cover making it touch safe. The cover is held in place by a small screw which the user would remove in order to replace a blown fuse. The module occupies 25mm of DIN rail.

The ground connection for the shield is made via the DIN rail mounting foot. When the SIGNEXT®-PLI/PE is installed on the rail the shield clamp is grounded – no other operations such as tightening of screws is required. The twisted pair terminates on top-entry, spring loaded terminals to save space and time.

Catalog numbers:
SIGNEXT®-PLI 330271
Test cable 330035