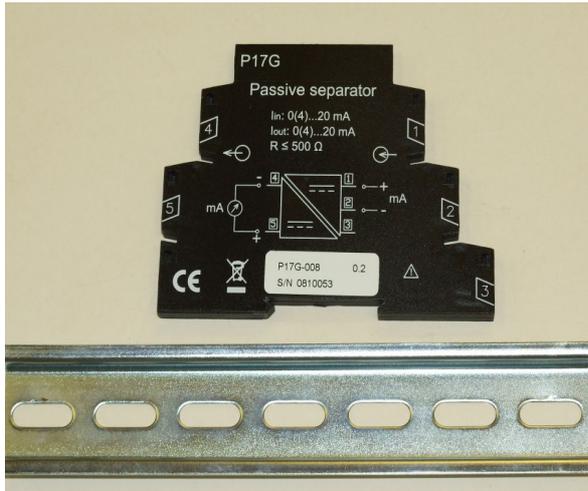


4-20mA self powered loop isolator - Model P17G



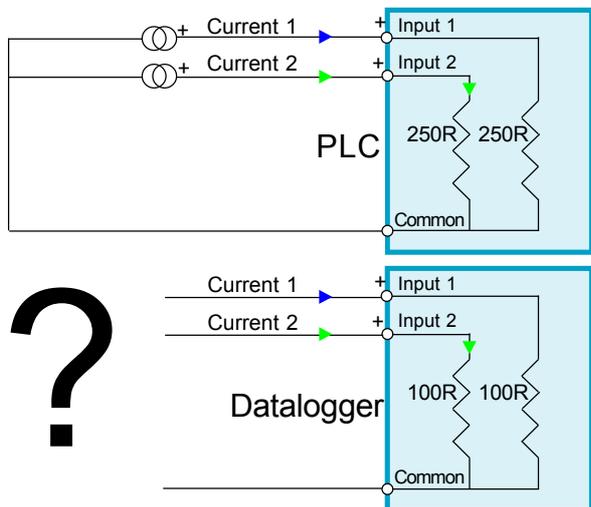
- Simple to install and commission
- No power supply needed
- Avoids current loop errors
- Ultra slim, only 6.2mm wide.

One of the most common causes of difficulty with 4-20mA systems is to do with current loop errors, caused by commoned -ve or +ve terminals.

Some devices, such as PLCs, can accept several 4-20mA inputs, and it is not unusual to find that all -ve terminals are connected to the same point.

Because 4-20mA is a current signal, it can only be properly shared with several devices by connecting them in series, but the common -ve connections in PLCs and other similar devices can upset a series loop. An isolator or two can solve this problem.

As an example, this PLC and data logger both need to receive 4-20mA signals from a temperature transmitter and a humidity transmitter. It is easy enough getting the 2 signals to the PLC, but how do you connect the datalogger also?



Specifications

Conversion error	± 0.2% of the range
Thermal error	± (0.05 % of range /10C)
Load error	± (0.15 % range/100 Ohms)
Conversion bandwidth	70 Hz
Isolation	500V DC - 50Hz 1 minute
Warmup time	not required
Operating temperature	-20 to 55°C
Storage temperature	-25 to +85°C
Humidity	<95% non condensing
Operating position	any
Sustained overload capacity	40mA
Sealing	IP50 (housing) IP20 (electrical)
Dimensions	76.9 x 99.1 x 6.2 mm
Weight	80 g
Mounting	DIN rail acc. to EN 60715
Analog input	4...20 mA
Input voltage drop	$I_{in} \times R_{load\ out} \times 1.25$
Output resolution	0.005 mA
Output load (Rload)	< 500 Ohms
Installation category	III
Pollution grade	2

The solution to our connection problem is to wire input 1 of both devices in series, so that they share this current.

Input 2 of both devices cannot also be wired in series, because there is only one common connection, so we use a P17G to create a copy of Current 2, which we connect directly to input 2 of the datalogger.

Note that we cannot just connect our inputs in parallel because the input resistances of the PLC are different to the Datalogger, so currents would not be equally shared.

Ordering Code: P17G

