□ General Info □ Temperature □ Pressure ■ Flow □ Speed □ Weighing □ Process



Monitoring Bi-Directional Flow

PROBLEM

Dielectric fluid is continuously pumped through the jacket of an underground electric cable. There is a holding tank and a pump at each end of the cable and the fluid is pumped from one tank to the other and back again. A programmable logic controller with one analog input must monitor the flow at the downstream end of the cable as a leak detection system to satisfy regulatory requirements.

SOLUTION

A flow meter with a 4-20 mA output is installed at each end of the cable. Flow Meter #1 measures the flow when the fluid is being pumped from Dielectric Fluid Tank #1, and Flow Meter #2 measures the flow when the fluid is being pumped from Dielectric Fluid Tank #2. An **API 1000 G** DC Input Single Alarm Trip module monitors the flow at Flow Meter #2 to select which flow meter is connected to the input of the PLC.



When there is flow at Flow Meter #2, it is selected for the PLC. When there is no flow at Flow Meter #2, Flow Meter #1 is selected for the PLC. Thus, regardless of the direction, the PLC can monitor for a low flow condition which may be caused by leakage.



Did You Know...?

Api plug-in modules come standard with UL, CUL and CSA approval.