

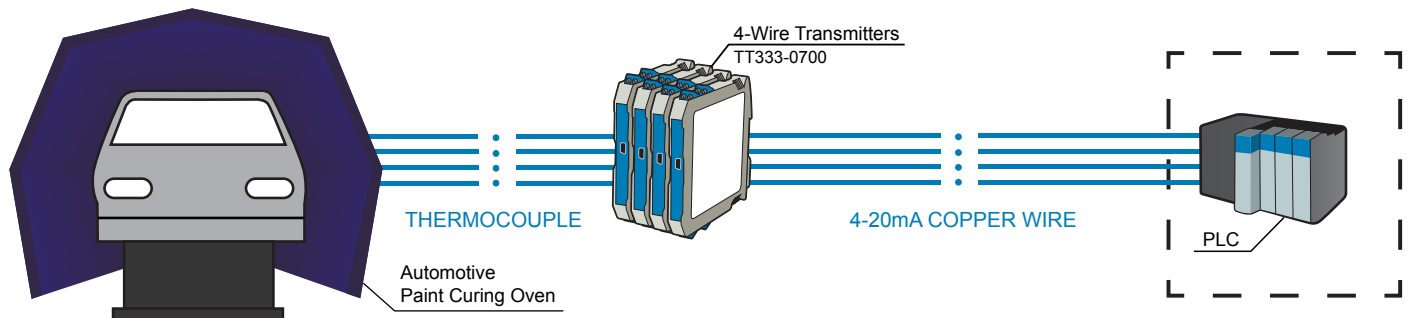
Application Note: Thermocouple Transmitters Monitor Temperatures in Paint Systems

Defining the Problem:

The area around an auto manufacturer's paint curing ovens is at elevated temperatures affecting the performance of locally installed instrumentation. Placing Signal Conditioners rated for high operating temperatures near the ovens allows the PLC controlling the process to be mounted in a lower temperature area. The Signal Conditioner will convert Thermocouples to 4–20mA outputs. Running current loops over long distances instead of Thermocouples reduces costs and minimizes the potential for measurement errors due to electrical noise.

System Requirements:

An Isolated Thermocouple to Current Signal Conditioner with a high operating temperature, Acromag model [TT333-0700](#), that is rated for –40 to 80°C. The TT333-0700 output powers the loop to the PLC. Also, the plant has standardized on PLCs with less expensive current input cards over temperature input cards. This makes installations and programming throughout the plant more consistent.



Implementing the Solution:

1. Program the TT333-0700 with software from either a Windows based computer or with the Acromag Agility™ Config Tool. This programming application for Android devices is available at no charge from the Google Play Store.
2. Connect the shorter Thermocouples to the locally installed Acromag Transmitters and run 4-20mA copper wires from the Transmitters to the PLC panel.

Featured Products:

Loop powered Isolated Thermocouple Transmitters [TT333-0700](#)
Programming options: [TTC-SIP](#) software kit or Android based [Acromag Agility™ Config Tool](#) application downloaded from the Google Play Store

Why Acromag:

The installation meets manufacturer's process standards while delivering high performance with simple and fast set-ups.