

API-Cecom Group n'fo

Technical & Application Note A144

Application: Monitoring motor current on DC motors
Type Of company: Steel Plant
Location: Indiana

Problem: The customer is a steel mill. A steel mill is an industrial plant for the manufacture of steel and a mini-mill is traditionally a secondary steel producer. However, some of the world's largest steel producers are using mini-mills exclusively. Usually it obtains most of its iron from scrap steel, recycled from used automobiles and equipment or byproducts of manufacturing. A typical mini-mill will have an electric arc furnace for scrap melting, a ladle furnace or vacuum furnace for precision control of chemistry, a strip or billet continuous caster for converting molten steel to solid form, a re-heat furnace and a rolling mill. Most of the energy usage is from the furnace and the motors inside the plant.

Note: For additional information on steel mills see http://en.wikipedia.org/wiki/Steel_mill

The customer has a requirement to monitor motor current on their DC motors and integrate this information into the plant control and power monitoring system (PLC). There are currently $\pm 100\text{mV}$ shunts installed but they need both to isolate the shunts from the PLC and convert the signal to $\pm 10\text{ VDC}$ for the analog input card. There is also a space consideration in the currently installed panel.

Solution: The customer purchased an APD 4380. This unit is factory calibrated for $\pm 100\text{mV}$ input and $\pm 10\text{ VDC}$ output. Since the unit is only 22 mm wide and has full three way isolation it satisfied all of the customer needs by allowing them to fully integrate the energy information into their plant control and power monitoring system.

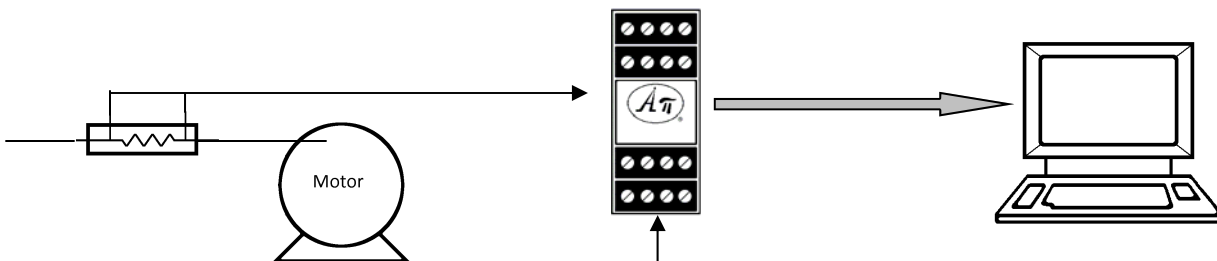



APD 4380

Field rangeable Isolated
DC to DC Transmitter



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