

InsuLogix® SSK + RFM

Deployment on Renewable Pad Mounted Transformers

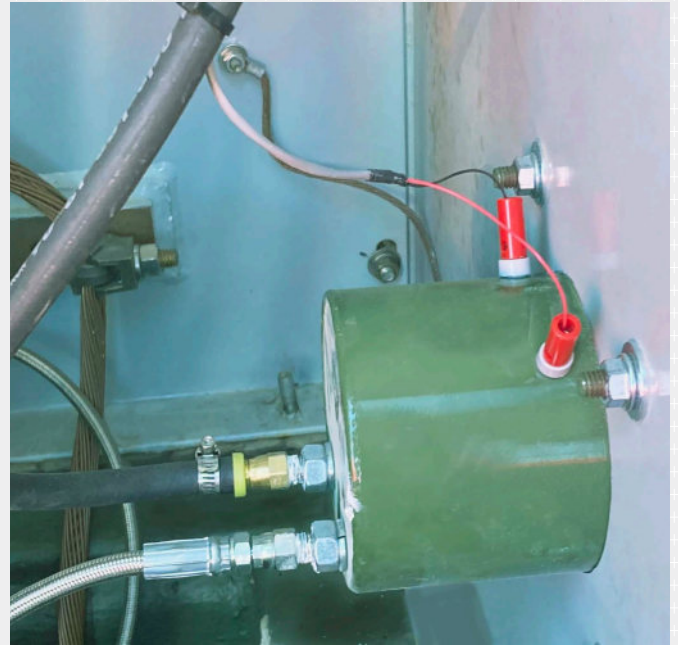
Mitigate Risk: Safeguard Assets, Property, Line Crew, and the Public



Replacing the existing pressure relief valve (PRV) with an InsuLogix® RFM adds the ability to monitor for overpressure events while maintaining the pressure relief functionality with the RFM's built in PRV.

A customer in central Texas was looking for a safe and efficient method for determining whether or not their pad mounted transformers had seen an overpressure event at any point in time.

The **CHALLENGE** of using an overpressure fault indicator on this type of transformer is that the indicator is not visible without opening the cabinet door. This means one must take an outage to confirm if an unsafe pressure condition has occurred or is actively occurring. Unless, of course, the fault indicator contacts were made accessible from the outside.



Two insulated banana jack sockets are then installed into the top of the InsuLogix® SSK's housing, as shown above. The two wires of the RFM's switch contact are outfitted with banana jacks and then plugged into the sockets. With the installation completed, the cabinet door can now be closed and locked and the transformer is ready to go back in service.

Insulogix® SSK + RFM Application Details

In this installation, both InsuLogix® RFMs and InsuLogix® SSKs are installed in six three-phase 1750 kVA 34.5 kV x 690Y/398 V step-up transformers. These transformers are each located at the base of a wind turbine in Central Texas and are part of a larger renewable network that provides green energy to Austin, San Antonio, and many of the surrounding communities.

As these transformers are used whenever conditions allow for wind power generation, they are a vital part of the customer's network. A transformer being out of service during favorable generation conditions means a reduction in revenue for the customer as the associated wind turbine would also be out of service.



Looking at the open InsuLogix® SSK on the outside of the transformer, notice the two posts protruding from the top of the housing. These provide a safe location for personnel who are either oil sampling or preparing to service the transformer to confirm whether a pressure fault has occurred.

Installation Details

Since the installation of the InsuLogix® SSK and RFM requires accessing the inside of the transformer cabinet, the following installation took place during a planned customer outage. These particular units were already outfitted with InsuLogix® SSKs so installation time to add the RFMs was reduced to less than an hour; however, an install of both components could be completed in under two hours as the sockets for the RFM connections would be preinstalled at the factory prior to going on-site.

The InsuLogix® RFM is a dual function device in that it includes both a pressure relief valve (PRV) and a fault indicating flag, each of which function and are calibrated independently. In this application, the existing PRV of the transformer is replaced by the RFM which conveniently uses the same port for mounting.



Using a digital multimeter and measuring continuity, an open circuit indicates that the transformer has not seen an unsafe pressure event, while a closed circuit indicates that a fault has occurred.

SOLUTION: Combining the Weidmann InsuLogix® RFM (Retrofittable Fault Monitor) with the InsuLogix® SSK (Safe Sample Kit) provides service personnel a safe and convenient way to determine if a pad mounted transformer has experienced an overpressure event.