The Type BAU sensors provides both a power frequency and high frequency signals to the Dynamic Ratings monitoring equipment. These signals are used for the monitoring of the bushing insulation as well as for partial discharges that may be occurring in the bushings or windings.

In all cases, the body of the sensor is same. Only the adapter head and contact will change and is based on the design of the bushing tap. Over two dozen designs currently exist. Typically a new design can be manufactured in three weeks.

Under normal operation the bushing test/capacitance tap is grounded. When the sensor is installed, the tap is no longer grounded at that point. The bushing will then be grounded at the monitoring equipment. If the bushing tap were left ungrounded, a voltage of several kilovolts would develop at the tap which could be a hazard to personnel, and may cause a catastrophic bushing failure.

The Type BAU-HVCT is a similar sensor but it is installed in series with the ground lead in the base of High Voltage Current Transformers (HVCT).

Both types of sensors can be connected to the Dynamic Ratings Bushing Monitoring and Partial Discharge Monitoring Systems.

The Only Bushing Sensor that Provides Three Levels of Protection.
Dynamic Ratings has three levels of protection built into the body of every sensor.

1. Open Circuit / Voltage Limiter. – There are four voltage limiters used in the sensor. A current balance circuit is used to distribute the stress equally. This protection circuit will limit the output voltage to around 17 volts AC if the wiring or the monitoring systems loses the ground connection. The circuit has a safety factor of 2 built in for 500 kV and below.

2. Surge Protection – It is necessary to provide surge protection for switching and system transients. The two surge protection circuits exist for this purpose. The circuit has a safety factor of 2 built in for bushing rated 500 kV and below.

3. Finally a Fail Safe Circuit is included that will automatically ground the tap inside the body of the sensor should the open circuit and/or surge protection fails.