

Intelligent Disconnect Drive Box

The current trend in the power industry is the automation of substations. Making them SCADA enabled, unmanned and future ready. There is a crucial need for reduction in installation error and installation time at substations, to power up the substation faster. A variable speed programmable drive will enable the disconnect to have better and longer life. Intelligent drive box is a smart controller that monitors the voltage, current, torque and environmental variables (temperature and humidity) as a function of time and position. Based on a reference operating curve recorded at the time of commissioning, it also makes real-time comparative analysis to detect fault, breakages and major misalignments of the disconnect. Therefore, Intelligent disconnect drive box can monitor not only the motor operator, but also the disconnect itself.

This technology is currently owned by M/s. MindCore Technologies, Canada. They are licensing S&S Power Switchgear Equipment Limited in India to manufacture this product and promote the same. The key benefits of the drive box that need to be highlighted are:

1. Provides a variable speed for reduced arcing time, thereby reducing harmonics and contact erosion.
2. IEC 61850 compliant communication protocol.
3. Optical sensing of the primary drive and elimination of cam switch and auxiliary switch.
4. Microprocessor based controller, programmable operation, remote control & sensing.
5. Reduced requirement for wiring and termination at site during installation.
6. Condition based monitoring of equipment.

One essential part of this Intelligent drive box is the optical positioning system (OPS), which provides a precise measurement of the position of the disconnect switch (DS) at all time. The intelligent driver can vary the motor speed as a function of the position, monitor various parameters based on the positions of the disconnect switch blade.

This technology is compatible in all types of disconnectors. It can therefore be retrofitted into any existing disconnect. This Application provides various advantages over the traditional drive boxes of disconnectors such as:

- Eliminates traditional Cam Switches
- Easy calibration
- Ice breaking operation
- Retry operation
- Suitable for all environments
- Live monitoring capability
- Real time Analysis
- Maintenance free
- Robust design