Low-Voltage Products
Predictive Maintenance

Investing to prevent failures and their costly consequences, such as loss of production and possible violation of health and safety laws, is a primary concern for many businesses. Successful prevention of failures can make a big difference but it must be minimized optimizing costs

Integrating the Predict feature into the ABB Ability™ Electrical Distribution Control System (EDCS), ABB has created an easy-to-use tool to immediately understand, analyze and predict the health and status of monitored devices. A web page, accessible from anywhere, provides an overview of the health of all the devices monitored in the plant, along with a detailed analysis of each device with a clear indication of a deadline (“Next maintenance”) for its next maintenance work. This deadline date is optimized according to the real utilization of the device and its real environmental conditions.

The ABB Ability™ Electrical Distribution Control System (EDCS) is able to collect and analyze all the necessary data directly from the circuit breaker to define accurate mechanical and electrical aging trends. The number of operations, trips for overload (L - ANSI 49), short circuits (S - ANSI 51 & 50TD, I - ANSI 50), earth faults (G - ANSI 51N & 50NTD), possible errors or trip unit malfunctions and all the environmental factors (temperature, humidity, corrosion, dust level and vibrations) are considered and used to calculate the circuit breaker’s working life. The device’s health conditions are represented by colors with meanings similar to the colors of a traffic light; the risk of a failure increases when passing from green to yellow to orange to red.
The tool also shows the date of the next recommended maintenance and the date of the last maintenance performed in the device. Accessing to the dedicated single device page, the health conditions asset curve shows the historical trend of the product up to now. Maintenance performed at the right time by skilled and authorized ABB field service engineers has a positive influence on product health trends. With the right training, the proper tools and genuine spare parts, extending the working life of installations is simple. Authorized field service engineers can be either from within the ABB organization or from external qualified sources.

Internal authorized personnel are:
- ABB Level 3: ABB’s top level of expert field service engineers, able to replace complicated and important components marked as Type “A” (e.g., operating mechanism, poles), for which a particular expertise is required.
- ABB Level 2: ABB field service engineers not trained to replace components marked as Type “A.”

External ABB authorized personnel are:
- Authorized service providers (that have successfully attended AVP or ABB MAN classroom training) who can perform ordinary maintenance activities.

When maintenance is performed by non-ABB authorized personnel, the health conditions asset curve is not affected. When an important event that will influence the next maintenance date occurs, EDCS sends an automatic notification.

EDCS’s Predict feature enables users to optimize their power availability with targeted maintenance for both standard and critical applications, while preserving reliability and maximizing operational efficiency. The Predict feature is available for new or existing installations.

New installation:
1) Emax 2 circuit breakers equipped with one of the following trip units:
   a. Ekip Touch
   b. Ekip Hi-Touch
   c. G-Touch
   d. G Hi-Touch
   e. LCD
2) Emax 2 switch disconnector + Ekip UP (Protect or Protect + or Control +)

Existing installation:
3) Any retrofit kit solution using Emax 2 (equipped with Ekip Touch or Ekip Hi-Touch or G-Touch or G Hi-Touch or LCD)
4) New Emax circuit breakers (automatic or switch disconnector) together with Ekip UP (Protect or Protect + or Control +)

When installing Ekip UP with New Emax already installed, maintenance on the installed asset by authorized personnel is required to restore the device’s health conditions. Ekip UP + maintenance can be available as part of a maintenance bundle. The Predict feature can be acquired by purchasing a license in the ABB Marketplace for either of two packages:
- As an already included feature in ABB Ability™ EDCS Predictive Premium Access, available in different tiers according to the number of monitored devices.
  - Tier S (up to 5 connected devices per plant)
  - Tier M (from 6 to 15 connected devices per plant)
  - Tier L (from 16 to 30 connected devices per plant)
  - Tier XL (over 30 connected devices per plant)
- As an add-on per single device included in the ABB Ability™ EDCS Predictive standard access package (Monitor, Optimize, Control).

Key benefits
- Improve service profitability by optimizing maintenance costs. Dynamic management of maintenance for cloud-monitored ABB electrical equipment, scheduling according to real needs
- Manage and connect from anywhere, thanks to the ABB ability EDCS cloud-based platform
- Extend product lifetime by optimizing performance
- Increase safety for devices and personnel by reducing the risk of unexpected shutdowns.