COMMISSIONING GUIDELINE

ABB ABILITY™ ELECTRICAL DISTRIBUTION CONTROL SYSTEM

Commissioning guide for Predict feature
This Guide supports the user in the commissioning phase of Predict feature in ABB Ability™ Electrical Distribution Control System (EDCS)
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Prerequisites for commissioning

Before starting the commissioning procedure for the Predict feature, please check that:
• EDCS is working correctly
• The Predict license has been activated for the required products
• When an ABB authorized field service engineer needs to perform maintenance on the asset, he has been invited to the plant to connect the maintenance performed to your plant.

After that, the Predict feature can be easily set up in a few steps:
• Step 1: Define the environments where the products are installed
• Step 2: Define main settings: Installation date, primary voltage and environments
• Step 3: Enter additional info in the case of Ekip UP
Starting phase
With the Predict license active, you can see the list of all the products involved in the Predict analysis. You need to complete the commissioning phase to see the Predict analysis:

### Device Information

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Model Number</th>
<th>Health Conditions</th>
<th>Last Maintenance</th>
<th>Next Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device 1</td>
<td>123456789</td>
<td>Good</td>
<td>12/01/2023</td>
<td>12/01/2024</td>
</tr>
<tr>
<td>Device 2</td>
<td>987654321</td>
<td>Critical</td>
<td>11/30/2023</td>
<td>12/30/2023</td>
</tr>
</tbody>
</table>

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Image 1
Commissioning
Step 1: Environment definition

Step 1: Define the environment(s) where the products are installed

The environment where the product is installed can influence its performance and the related maintenance (e.g., a dusty environment could request a more frequent maintenance activity than a clean environment).

So, to have a more reliable Predict result, it is important to set the correct environment for each product.

ABB has already defined a set of environmental conditions associated with every specific application, but it’s possible to create different environmental conditions if the real environmental conditions are different from the preset options.

Settings (image 2) → Environmental data (image 3) → Add preset (image 3)
Commissioning
Environmental conditions

You are free to create as many environmental settings as you need:

**Name (application type):** Select from the list the application type

**Description:** Give a short description. One possibility is to name it according to the location (such as, Panel1 – Solar roof)

Select the various **environmental conditions:**

1) **Vibration:**
   - Low: <2g, none or negligible
   - Medium: 2-5g, typical of installations like cranes, bridge cranes and similar structures
   - High: >5g

2) **Dust level:**
   - Low: Typical of installations in civilian or commercial buildings.
   - Medium: Typical of installations in industrial buildings and in protected or pressurized panels.
   - High: Typical of installations in industrial buildings and in non-protected panels

3) **Humidity:**
   - < 70%. Choose this option if the switchboard/circuit breaker is installed onshore (more than 10 km from sea/lakes) in the temperate zone.
   - 70-85%. Choose this option if the switchboard/circuit breaker is installed less than 1 km from sea/lakes.
   - > 85%. Choose this option if the switchboard/circuit breaker is installed in the tropics or in specific industrial environments with a strong presence of water.

4) **Corrosion:** Please refer to the Std. IEC 60721-3-3 for a correct classification, or use the following guidelines:
   - “Low.” Class 3C1 or 3C2, or installations in a monitored and controlled atmosphere; installations in rural areas and some urban areas with low industrial activities and moderate traffic; installations with normal levels of contaminants, located in urban areas with industrial activities scattered over the whole area or with heavy traffic.
   - “Moderate.” Class 3C3, or buildings in the immediate neighbourhood of industries with chemical emissions (chemical plants, foundries, etc.)
   - “High.” Class 3C4, or locations within industrial process plants with high emissions of chemical pollutants.

4) **Temperature:** select from the list the average ambient temperature (°C)

**REMINDER!**
If no specific environment is set, the tool automatically sets the predefined environmental parameters ABB defined based on the application. Remember that environmental conditions influence the predictive analysis.
Commissioning
Environmental conditions

Once selected all the data, “Save”

<table>
<thead>
<tr>
<th>Environmental preset</th>
<th>Variation</th>
<th>Corrosion</th>
<th>Humidity</th>
<th>Dust level</th>
<th>Average yearly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Solar Roof 1</td>
<td>Normal</td>
<td>Low</td>
<td>Less than 70%</td>
<td>High</td>
<td>More than 0°C</td>
</tr>
</tbody>
</table>
Commissioning

Step 2: Definition of main settings

Now, for each product you want to monitor, it is time to set:
1) Installation date
2) Primary voltage (if not already present)
3) Environment

Predict Page → Click on the single device (image 6) → Settings (image 7)
Commissioning
Step 2: Definition of main settings

Main settings:: Installation date:
ABB knows the production date of a device from the product serial number. But the installation date probably comes days, months or years later. For each monitored device, you can type or select the installation date from the calendar:
Main Settings: Primary voltage:
ABB electrical devices can work at different voltage levels. If not already present, set the primary voltage from the list:

The higher the primary voltage, the more stressed the device will be.
Commissioning
Step 2: Definition of main settings

Main Settings: Environmental preset:
- From the list, select the environment created for the specific product or for the area where it is installed (image 10):

![Image 10](image10.png)

> Apply
> Save

Perform the same activity for all products to be associated with Predict Analysis.
### Commissioning

**Additional info in the case of Ekip UP**

1) In ABB Ability™ Electrical distribution Control System (EDCS), when you use Ekip UP, you need the data collected above and answers to the following:

   a) Whether Ekip UP is connected to a breaker (CB Linked → flag)
   b) Asset installation date (the date when the breaker or the switch disconnector was installed)
   c) Asset serial number: The product’s serial number gives us information about the product’s production date (the age of the device)
   d) Asset version: Automatic or switch disconnector
   e) Asset family: Product family name (Emax 2, New Emax, etc.)
   f) Standard reference: IEC or UL
   g) Asset type: Select the product from the list (e.g., E2N-2000)
   h) Asset poles: 3p, 4p or 4p/f
   i) Additional number of operations: When installing Ekip UP for a device that is not new, Predict needs to know the number of operations performed by the device up to that moment.
   j) Asset contact wear (CW) when installing Ekip UP: With an automatic circuit breaker, add the CW value indicated on the trip unit at the Ekip UP installation date. With a switch disconnector, evaluate the contacts status (<25%, 25-50%). In case of a higher value of contact wear, ABB strongly suggests replacing the asset with a new one.
Commissioning

2) in Ekip Connect 3:
Commissioning of the Predict feature for Ekip UP requires a few more fill-in steps using Ekip Connect3 (starting from Ekip Connect version 3.0.357.0):
Access to Ekip Connect → Configuration → Ekip UP for Predict

And select all the asset parameters in Ekip UP for Predict → Ekip UP for Predict Wizard:
- Circuit breaker version: Auto/MS
- Circuit breaker family: New Emax/Emax 2
- Standard reference: IEC/UL
- Circuit breaker: Frame
- Performance level: B/N/S/etc.
- Poles
- Rating current (Iu)

TRANSFER → The result must be: Transfer successfully completed.