



Phase ID: Ensuring Sensors Are Configured to Correct Phases

To optimize performance of line sensing solutions it is essential that sensor phase assignments are correct. Sometimes sensors are incorrectly configured during installation, or phase assignment errors are introduced when circuits are reconfigured or repaired. Unless these errors are caught and fixed, phase misalignment can introduce confusion and weaken grid operators' confidence in line sensor data for operational decision making.

Sentient Energy's line sensing solution for overhead feeders addresses this concern with phase identification, or Phase ID. The MM3™ sensors and Ample® software work together to identify sensors that are not configured to the correct phase. These phase assignments conflicts are reported through Ample.

Serial Number	Phase Configured	Phase Auto-Detect	Late Auto Phase Updated
RE49150048	C	Conflict : A	2021-10-04 13:00:00.0
RE33160229	C	Conflict : A	2021-10-04 13:00:00.0
RE33160232	A	Conflict : C	2021-10-04 13:00:00.0
RE33160237	C	Conflict : A	2021-10-04 13:00:00.0
RE49150013	A	Conflict : C	2021-10-04 13:00:00.0
RE49150020	C	Conflict : A	2021-10-04 13:00:00.0

How It Works

Sentient Energy's phase Identification follows this simple process:

- 1. Define reference sensors** – Utility engineers pick a location with three MM3 sensors as the phase identification references for the feeder. Engineers must verify that the phase assignments are correct for these three reference sensors.
- 2. Ample checks phase assignments** – Every six hours Ample checks the phase assignment of each sensor on the feeder against the reference units using GPS timing and measured e-field data from MM3s and reports conflicts.
- 3. Corrections made** – With the data from Ample utility engineers can correct the phase configurations of MM3 sensors on the feeder that do not align with the phase ID reference units.

Results

Correct phase assignments improve the quality of data and increase user confidence in line sensing as a trustworthy data source. Load monitoring, phase balancing, and fault analysis can be done with assurance that system data is correct. Sentient Energy's Phase ID capabilities enable utilities to rely on sensor data and realize the full benefits of line sensing for overhead feeders.