

# Monitoring 347/600V Services

## Overview

The 347/600Vac wye service (347V phase to neutral, 600V phase to phase) is rarely seen in the USA, although it's quite common in Canada. As the eGauge is only rated for 277Vac from phase to neutral (480V phase to phase), it traditionally could not be used to monitor such a service.

However, with the introduction of the [EV1000 High Voltage sensor](#), it's now possible to monitor these services directly, instead of using large and potentially inaccurate stepdown transformers.

To monitor a 347/600Vac service, the user will need one [ESH044 Sensor Hub](#) and three [EV1000 High Voltage Sensors](#). An additional power supply is also required to power the eGauge (our standard [120Vac/12Vdc power supply](#) can be used for this purpose if the barrel jack is removed).

This guide only applies to EG4xxx meters. Older EG30xx and eGauge2 meters do not support the EV1000.

## Installation Considerations

1. All hardware must be installed in a suitably rated enclosure. eGauge Systems offers several [powered enclosure kits](#) which are suitable for this purpose. Most kits feature DIN rails (for mounting the eGauge meter and EV1000s securely) along with a powered receptacle and optional stepdown transformer (which can be used to power the 5Vdc supply for the sensor hubs and/or other supporting hardware).
2. Sensor Hubs must be powered. Up to 2 hubs can be powered directly from the eGauge via the USB ports on the meter. For installations where more hubs are required or the USB ports are in use (e.g., for Modbus RTU communication) the hubs can be powered directly from a generic 5Vdc power supply.
3. The eGauge must have a separate power source in this configuration. This can either be an AC power supply connected to the L1 and N terminals providing 120Vac - 277Vac or a DC power supply connected to the Ldc terminal providing 12-60Vdc. Note that correct polarity is required

when using a DC power supply.

## Examples

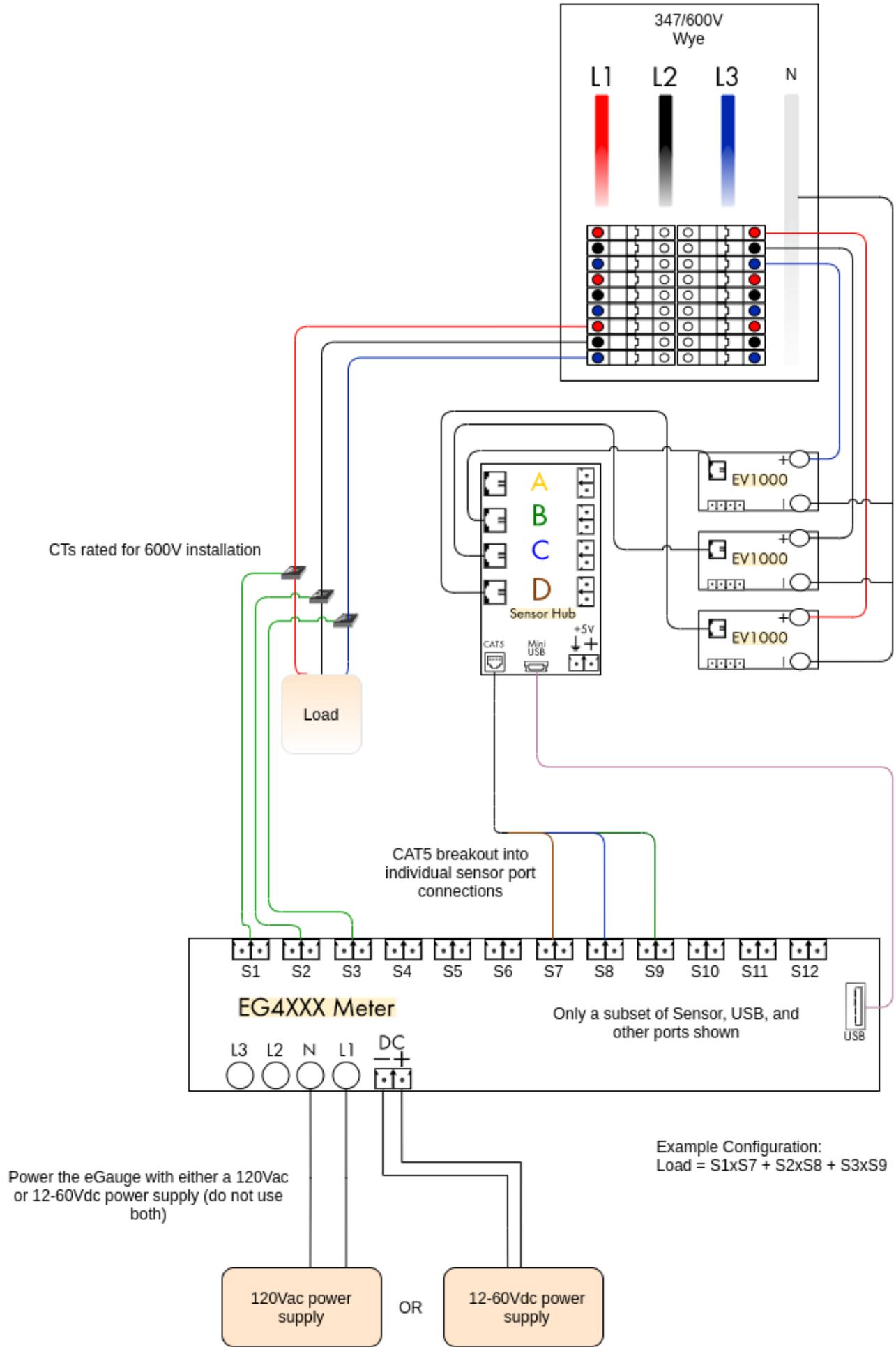
The following are general examples which may be useful for planning a specific installation. Note that these examples may omit certain details (for example, not all ports are shown on the eGauge meter). These are intended to serve as **guidelines only** - always consult local code requirements when planning an installation.

Hardware appearance in the following diagrams may not reflect the actual size or layout of actual hardware. Refer to the [product pages](#) for actual measurements.

Configuration examples are correct for the diagram shown. Note that it is **essential** to associate CTs with the correct phase, and failure to do so will result in incorrect readings. Correct phasing can only be guaranteed [using a multimeter to verify phasing](#).

### 347/600V Wye

In the following example, the eGauge is monitoring a single load on a 347/600V panel. Note that the neutral connection to the load is not shown. The eGauge can be powered via AC or DC - both options are shown, but only one is required.



The meter configuration would be set as follows (note that the CT selection is filler - use the [correct CTs](#) for the actual installation):

**Sensors:**

CTId®

Use high-gain mode

S1	JD JS 24mm/0.94" 100A	x 1	S2	JD JS 24mm/0.94" 100A	x 1	S3	JD JS 24mm/0.94" 100A	x 1
S4			S5			S6		
S7	EV1000 Voltage Sensor	x 1	S8	EV1000 Voltage Sensor	x 1	S9	EV1000 Voltage Sensor	x 1
S10			S11			S12		
S13			S14			S15		

**Remote Devices:**

Modbus Maps

Device name: Protocol: Device address:

Add Device

**Registers (2 of 64 in use):**

Name: Recorded value/formula:

Load	x	=	P	=	S1	x	S7	x	+	S2	x	S8	x	+	S3	x	S9	x	Add Component
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Add Register

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Please visit [kb.egauge.net](http://kb.egauge.net) for the most up-to-date documentation.