

# SEL-734W and SEL-8340

Capacitor Bank Control and Wireless Current Sensor



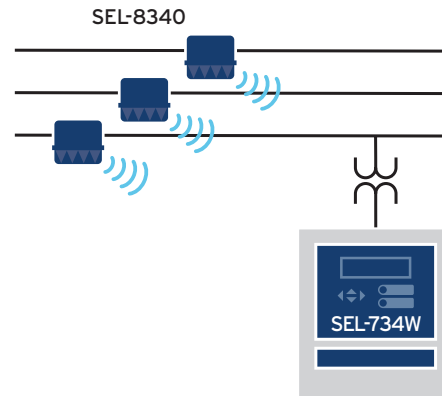
Improve distribution power quality and efficiency with advanced capacitor bank control and wireless current sensing

- Easily install the SEL-734W and SEL-8340 sensors with new capacitor banks, or upgrade traditional installations without the difficulty of installing line post sensors.
- Control capacitor banks using current and reactive power for more accurate switching than time- and temperature-based controls.
- Mount sensors closer to your inductive loads, not just at the control.
- Stock one wireless sensor for all your capacitor bank installations, with support for voltages up to 38 kV.



# Overview

Capacitor bank controls help control distribution voltage, reduce losses in distribution systems, and prolong the life of distribution equipment. Advanced controls have improved the switching accuracy by adding three-phase current inputs so that the controls can calculate reactive power. As a result, utilities have been upgrading older capacitor bank controls and installing complicated and expensive current-sensing devices. The SEL-734W Capacitor Bank Control and SEL-8340 Wireless Current Sensor solution is a safer, quicker, simpler, and more economical way to provide accurate current- and voltage-based control for these capacitor bank installations.



# Key Features

## SEL-734W Capacitor Bank Control

- Preconfigured templates are available to control capacitor banks, or you can customize the control using SELogic® control equations.
- The SEL-734W pairs with up to three wireless current sensors for advanced capacitor bank switching.
- The SEL-734W comes in a weatherproof outdoor compact enclosure.
- The SEL-734W offers SCADA, automatic, and manual control modes.

## SEL-8340 Wireless Current Sensor

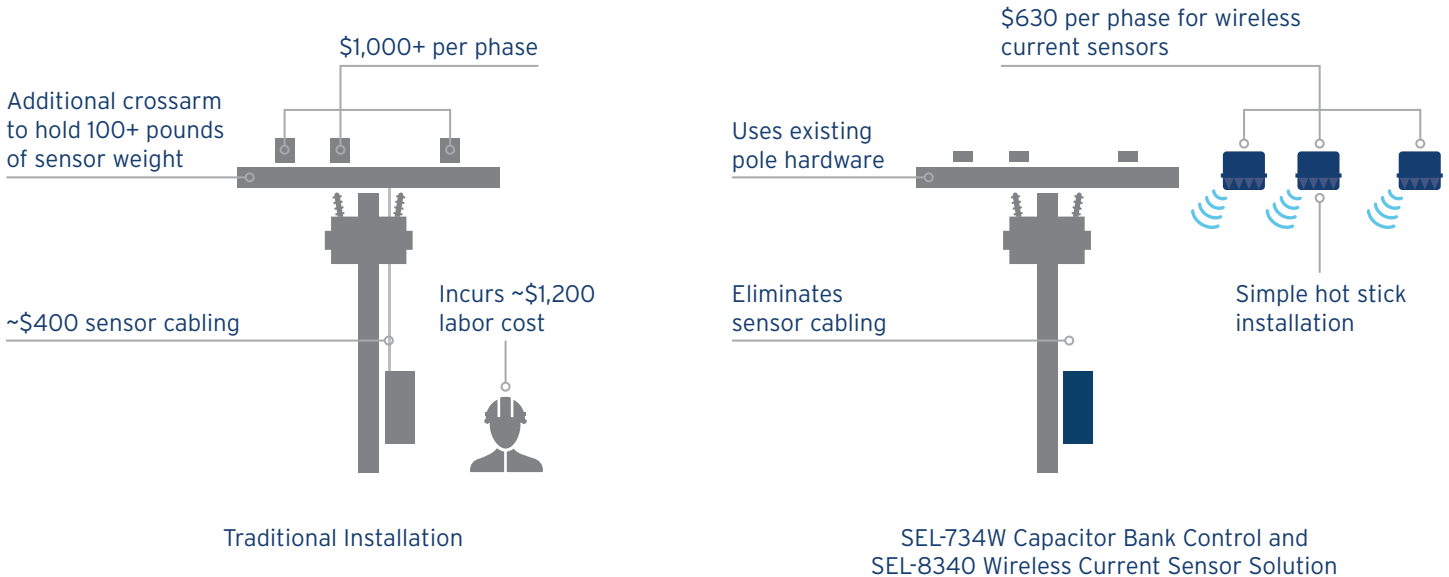
- The sensors provide high-accuracy current sensing for advanced capacitor bank switching.
- You can install the sensors up to 1,500 feet away from the capacitor bank installation.
- The quick clamp-on, line-powered design makes installation safer and easier.
- Each sensor is rated for any voltage up to 38 kV.



# Applications

## New or Retrofit Capacitor Bank Installations

Implement the SEL-734W and SEL-8340 solution quickly and easily to add advanced control for existing time- and temperature-based installations or new capacitor banks. The lightweight current sensors install on an overhead distribution line using a single hot stick. There is no need for an outage or significant hotline work.



## Increased Accuracy With Up to Three Sensors

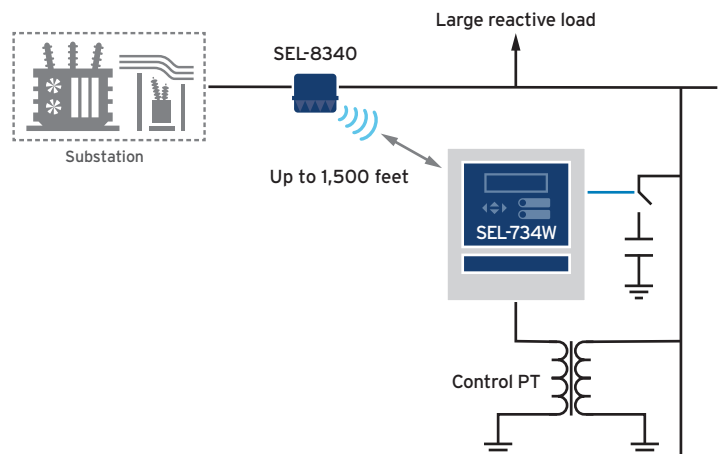
Use up to three SEL-8340 wireless sensors to measure current with  $\pm 1$  percent accuracy and within a 1-degree phase angle. The SEL-734W uses the sensor data to compute reactive power, make switching decisions, and create load profiles.

## Power Quality Monitoring

Improve power quality and address customer concerns with advanced monitoring features, such as harmonic measurements, load profile trending, and voltage sag, swell, and interruption (VSSI) recording.

## Location Flexibility

Use the SEL-8340 sensors to measure line current at one point of the distribution system while operating a capacitor bank at a nearby point on the system. This is ideal for situations where the capacitor bank is not near the inductive loads.



# SEL-734W and SEL-8340 Specifications

## SEL-734W

<b>Power Supply</b>	<b>Continuous Operating Limits</b> 125/250 V supply: 85–264 Vac (50/60 Hz), 85–275 Vdc <b>VA Rating</b> <40 VA, 15 W maximum <20 VA, 7 W typical <b>Interruption (IEC 60255-11:1979)</b> 100 ms at 250 Vac/Vdc 50 ms at 125 Vac/Vdc
<b>15 Vdc Accessory Power Supply</b>	<b>Continuous Operating Limits</b> Output voltage: 15 Vdc $\pm$ 5% for accessories, as power supply only Output current: 2.75 A for accessories, as power supply only
<b>Single-Phase AC Voltage Measurement Inputs (Compact Enclosure)</b>	Input impedance: 10 M $\Omega$ Range: 57–150 V Accuracy: $\pm$ 0.15% Maximum rating: 300 V continuous, 600 V for 10 seconds

## SEL-8340

<b>Operating Temperature</b>	–40° to +85°C (–40° to +185°F)
<b>Storage Temperature</b>	–40° to +85°C (–40° to +185°F)
<b>Operating Environment</b>	Pollution degree: 2 Relative humidity: 5%–95%, noncondensing Maximum altitude: 2,000 m
<b>Ingress Protection</b>	IP67
<b>Overvoltage</b>	Category III
<b>Insulation Class</b>	Class III
<b>Radio Frequency</b>	902–928 MHz ISM band (U.S./Canada)
<b>Clamp Range (SEL WCS)</b>	6.35 mm to 31.75 mm (0.25 in to 1.25 in)
<b>Dimensions</b>	141.7 mm diameter $\times$ 177.0 mm height (5.58 in diameter $\times$ 6.97 in height)
<b>Weight</b>	0.85 kg (1.9 lb)
<b>Power System Frequency Range</b>	45–65 Hz
<b>Accuracy</b>	Load magnitude: $\pm$ 1% typical Phase measurement: $\sim$ 1 degrees typical
<b>Maximum Voltage</b>	38 kV (L-L)
<b>Minimum Load Current</b>	2 A
<b>Maximum Steady-State Load Current</b>	1,000 A
<b>Maximum Fault Current</b>	25 kA for 10 cycles

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