

Continuous Load Assumption:

AC: 25KW

BASEBOARD HEATER : 15kW

After adding EV charging for e-scooter: 1.5KW

10 HP Make Up Air Unit for the building 11kW

Exhaust Fans for the building 3.3kW

Exterior Light 1.8KW

So Continuous Load = (25+15+11+3.3+1.8+1.5) = 54.5KW

*Max. Operating Load* = 19.62067507 KW+ 54.5KW

= 74.12 KW

Now we determine the Service Size

$Amps = (54.5K\ KW * 1.25) + 19.62067507\ KW / (\sqrt{3} * 600) = 84.43\ A$

In this case we could use a 100A, 347/600V, 3 phase service for this building.

So the conductor sizing does not get affected by addition of EV charging portal. And we can add more 11KW of load and still it will not affect the 100A conductor sizing.