
EM Series Application Note



UL Tap Rule

12/13/2017

This application note highlights the UL 240.21 code that allows installers to forgo the use of fuses or circuit breakers when connecting the voltage references of the Senva EM Series meters.

TAP RULE SUMMARY

The UL 240.21 code permits licensed and qualified electricians to tap conductors without overcurrent protection as long as the tap does not exceed 10 feet and complies with the additional guidelines:

- For field installations, if the tap conductors leave the enclosure or vault in which the tap is made, the ampacity of the tap conductors is not less than one-tenth of the rating of the overcurrent device protecting the feeder conductors.
- The ampacity of the conductor is not less than the combined loads on the circuits supplied by the tap conductors.
- The total area of all conductors, splices, taps and equipment cannot exceed 75% of the space within the enclosure i.e. exceeding space limitation
- Except at the point of connection to the feeder, the tap conductors are enclosed in a raceway, which extends from the tap to the enclosure of an enclosed switchboard, switchgear, a panelboard, or control devices, or to the back of an open switch board.
- The tap conductors do not extend beyond the switchboard, switchgear, panelboard, disconnecting means, or control devices they supply.

INSTALLATION OVERVIEW

Senva's Current/Voltage Transducers (CVTs) have a unique architecture that keeps the high voltage connections contained within the enclosure. With consideration to the tap rule Senva does not ship EM Series meters with more than 10 feet of voltage reference wire on any CVT.

The CVT voltage leads supplied from Senva for the EM Series meter are rated for up to 10 amps i.e. do not exceed the rated ampacity of the conductor without the proper use of protection.

If your voltage reference must be longer than 10 feet, proper use of over current protection is required i.e. fusing or circuit breakers.