

WideRangeFlexCT™ Accuracy

Trademarked flex CT interface WideRangeFlexCT™ measures currents from 1A to 2500A without requiring the user to set specific ranges. Internally there are 3 measurement ranges that are automatically switched between. The measurement error depends on which range is active, these ranges are 1.00A – 18.00A, 18.0A – 180.0A and 180A – 2500A.

The total measurement error will depend on different factors: the component tolerances of the electronic interface, the manufacturing tolerances of the flex CT coil and the position of the flex CT with respect to the conductor. For minimum positional error the ideal position is for the flex CT loop to be perpendicular to the conductor with the conductor passing through the center of the loop. In field installations it is difficult to ensure that the conductor passes through the center of the loop so we calibrate the flex CTs with the conductor passing perpendicular through the loop but positioned on the edge of the loop at the farthest point from the flex connector.

With the conductor positioned the same as during calibration the measurement errors are:

1.00A – 18.00A: $\pm (0.02A + 0.5\% \text{ of reading})$

18.0A – 180.0A: $\pm (0.2A + 0.5\% \text{ of reading})$

180A – 2500A: $\pm (2A + 0.5\% \text{ of reading})$

Non-ideal positioning can add an additional 1% of reading error.

