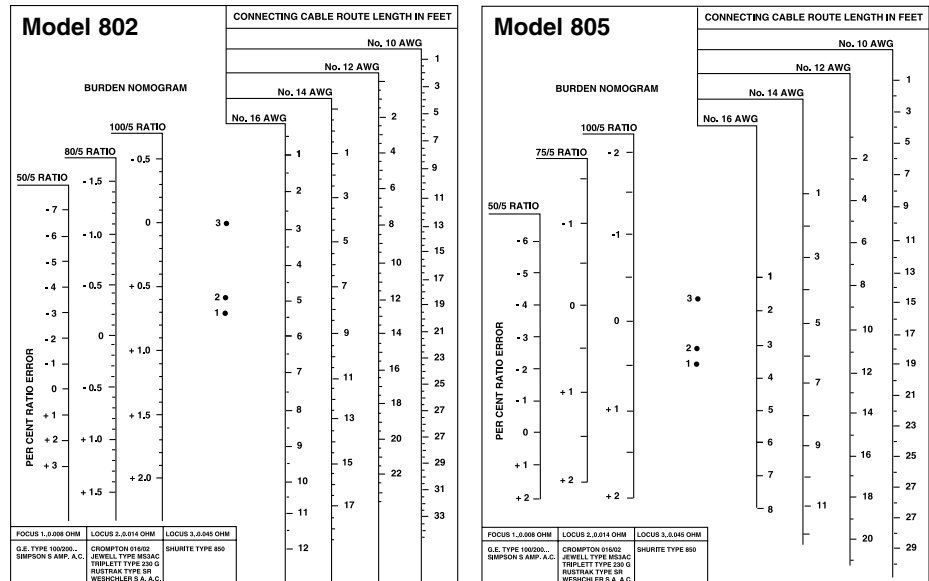


Moulded Case Current Transformers

Nomograms

Nomograms are a convenient guide for determining the accuracy of low ratio current transformers.



The Nomograms are a convenient reference for determining the accuracy of low ratio current transformers where the length of connecting cable has a marked effect upon the accuracy. To use the Nomogram, a straight edge is required. Select the locus point nearest to the impedance of the meter being used and place the straight edge across it. Using that locus as a pivot, and selecting the transformer current ratio scale, read off percent error versus cable route length for any of the 4 gauges given. Cable route length means the one way distance between the transformer and the meter. It is obvious that the error can be optimised by choosing a cable route length that will result in a zero or near zero ratio error. The Nomogram graphically illustrates the vast improvement in accuracy when using higher ratio current transformers with a given burden and it is desirable whenever possible to choose a higher ratio transformer and pass multiple primary turns through the transformer window to obtain the required ratio.

As an example, and bearing in mind that PRIMARY AMPERE TURNS = SECONDARY AMPERE TURNS, a 150:5 tranformer can be used as a 50:5 tranformer if three primary turns are placed through the window. The procedure to follow is to decide upon the burden and accuracy desired and select a suitable transformer on the basis of the number of primary turns required as a multiple of the actual current to be measured, to equal the primary current of the higher ratio transformer.

All low ratio transformers are compensated and in a particular case where large quantities of units are required, and the burden and connecting cable length and size are known, this compensation can be adjusted to give the optimum accuracy for any current ratio.

The table lists the dc resistance per foot at 25°C of the cable sizes contained in the Nomograms.

Cable size AWG	No.16	No.14	No.12	No.10
Resistance/foot	0.00485	0.00305	0.00192	0.00124

Specification details subject to change without notice