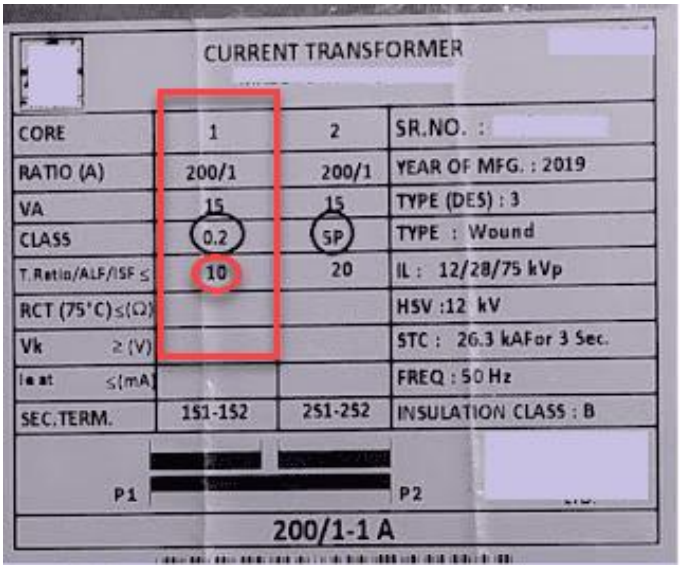
Çeşitli CT'ler için FS ve ALF Değerlerinin Tahmin Edilmesi

Kategory	**tester**
Bölüm	**Akım Trafosu Modülü**
Dil	**Türkçe**
Oluşturuldu	**2026-11-04**



Şekil 1

$$RatioError = \frac{N_{measured} - (\frac{I_{pn}}{I_{sn}})}{(\frac{I_{pn}}{I_{sn}})}.100$$

$$CompositeError = \frac{I_c}{\frac{I_{pn}}{N}.Fs}.100$$

Şekil 2

$$I_c = \sqrt{I_s^2 + \left(\frac{I_p}{N}\right)^2 - \left(2.I_s.\frac{I_p}{N}.\cos\alpha\right)}$$

I_{sn} : rated secondary current

I_s : secondary rms current

I_c : calculated composite current

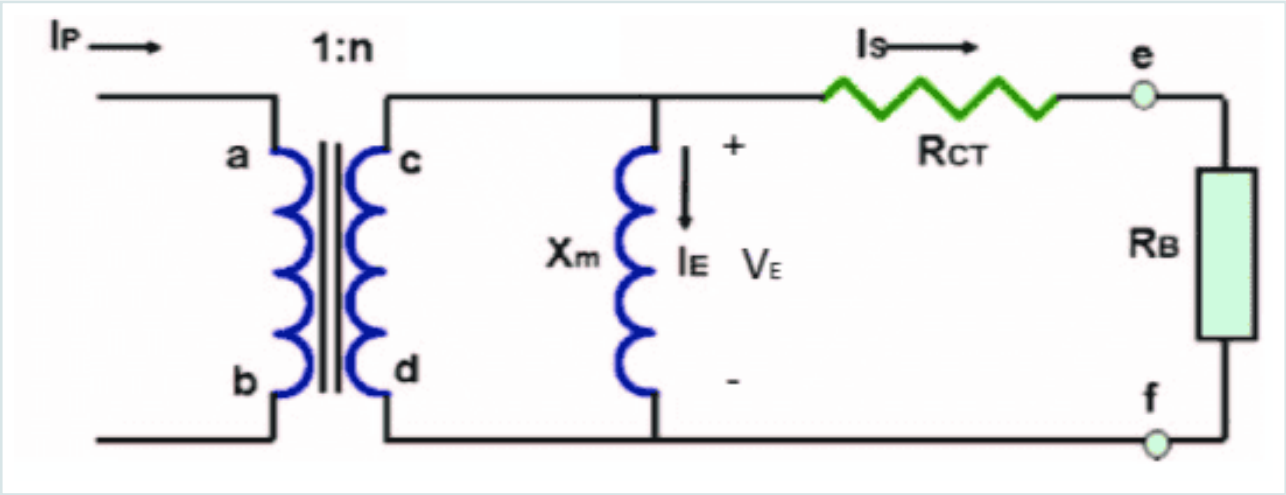
I_{pn} : nominal primary current

Fs : instrument security factor

N : rated transformer winding ratio

α : Phase deviation between primary and secondary current

Şekil 3



Şekil 4

$$I_E = 0.1 * Fs * I_n$$

Şekil 5

$$I_n = \frac{V_{En}}{R_{CT} + R_B} => Fs * I_n = Fs. \frac{V_{En}}{R_{CT} + R_B}$$

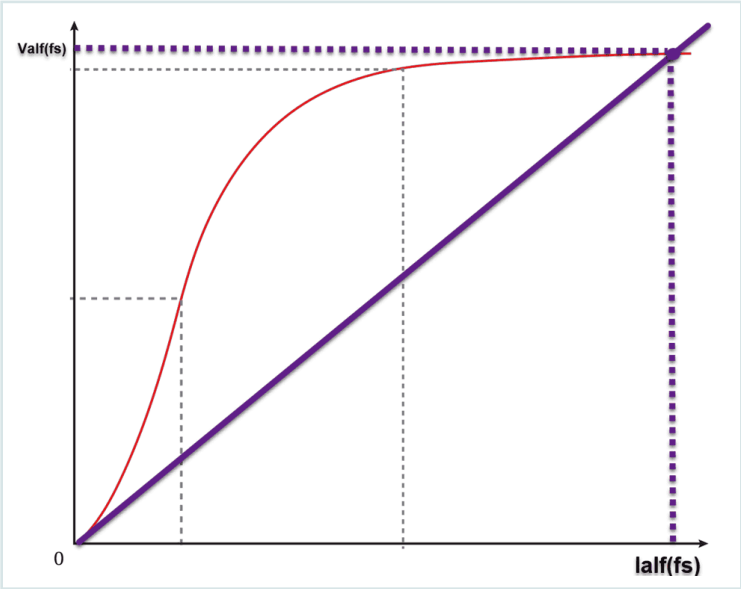
$$V_E = F_s . V_{En}$$

$$Fs = \frac{V_E}{V_{En}}$$

$$I_E = 0.1 * Fs * I_n => I_E = 0.1 * \frac{V_E}{V_{En}} * I_n => * \frac{I_n}{I_n}$$

$$I_E = 0.1 * \frac{V_E}{V_{En} * I_n} * I_n^{\,2} => I_E = 0.1 \frac{I_n^{\,2}}{VA_n} V_E$$

Şekil 6



Şekil 7

$$I_{out} = \frac{V_{ALF}}{Z_n}, \quad Z_n = \frac{VA_n}{I_n}$$

$$ALF(Fs) = \frac{I_{out}}{I_n}$$

Şekil 8