85. The current in the ammeter is given by $i_A = \mathcal{E}/(r + R_1 + R_2 + R_A)$. The current in R_1 and R_2 without the ammeter is $i = \mathcal{E}/(r + R_1 + R_2)$. The percent error is then

$$\begin{aligned}\frac{\Delta i}{i} &= \frac{i - i_A}{i} = 1 - \frac{r + R_1 + R_2}{r + R_1 + R_2 + R_A} = \frac{R_A}{r + R_1 + R_2 + R_A} \\ &= \frac{0.10\,\Omega}{2.0\,\Omega + 5.0\,\Omega + 4.0\,\Omega + 0.10\,\Omega} = 0.90\% \ .\end{aligned}$$