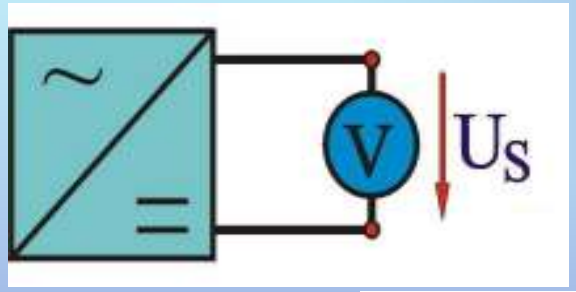
REALNI ELEKTRIČNI KROG

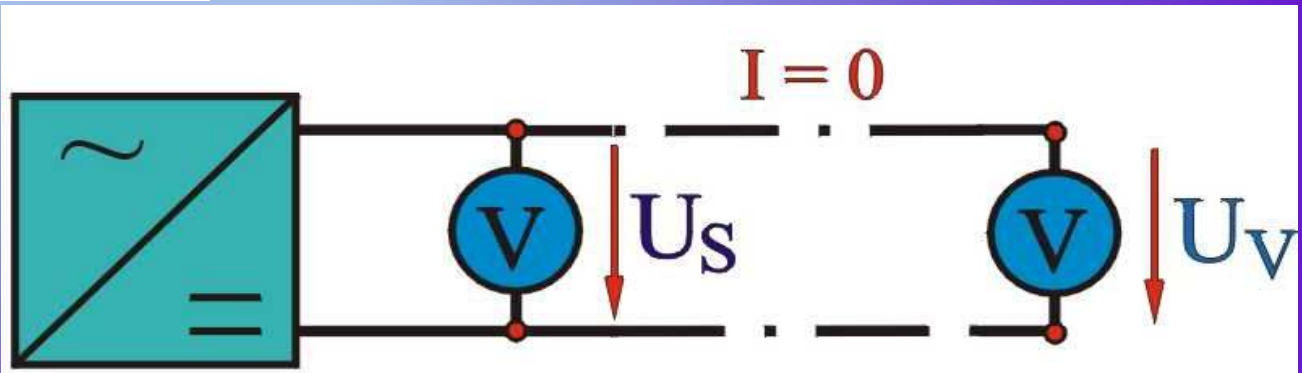


$U_S = U_0$

U_0 - lastna napetost izvora (generatorska)

U_S - napetost na sponkah

Neobremenjeni izvor



U_S - napetost na priključnih sponkah

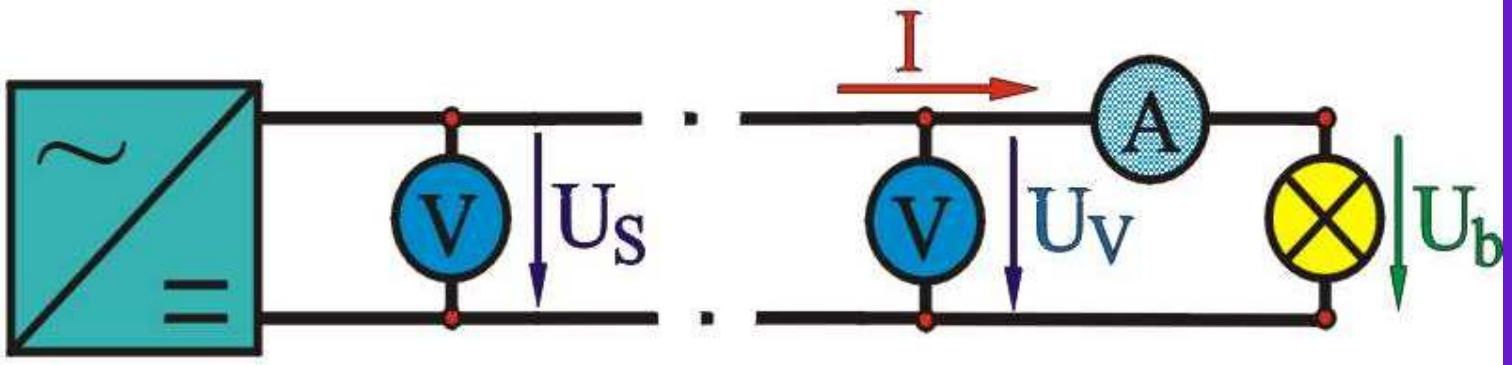
U_0 - napetost neobremenjenega izvora

U_V - napetost med koncema vodnikov

$U_0 \quad U_S \quad U_V$

REALNI ELEKTRIČNI KROG

Obremenjeni izvor



U_S - napetost na priključnih sponkah

U_0 - napetost neobremenjenega izvora

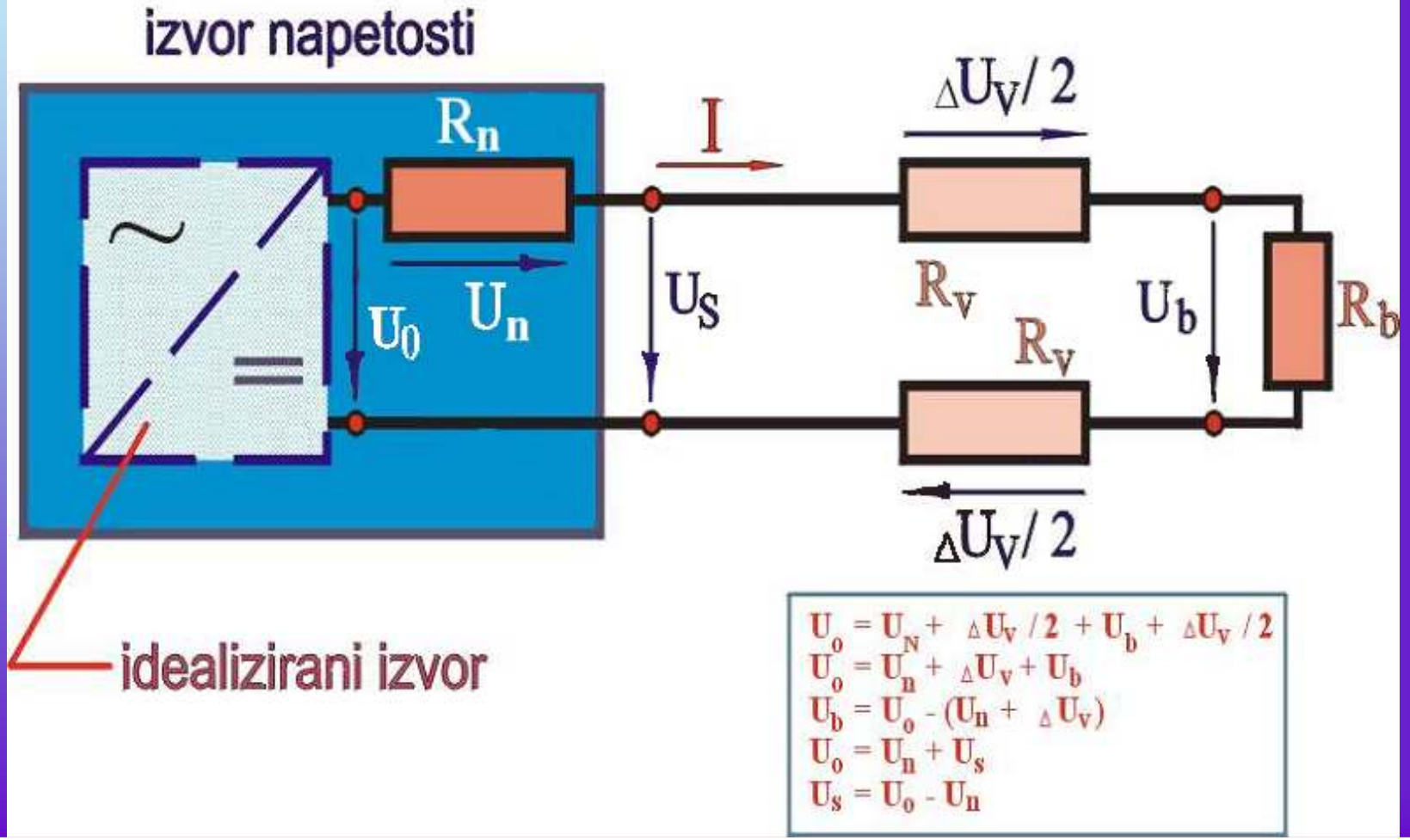
U_V - napetost med koncema vodnikov

U_b - napetost na bremenu

$$U_0 > U_S > U_V$$

$$U_b = U_V$$

REALNI ELEKTRIČNI KROG



$U_o = U_N + \Delta U_V / 2 + U_b + \Delta U_V / 2$

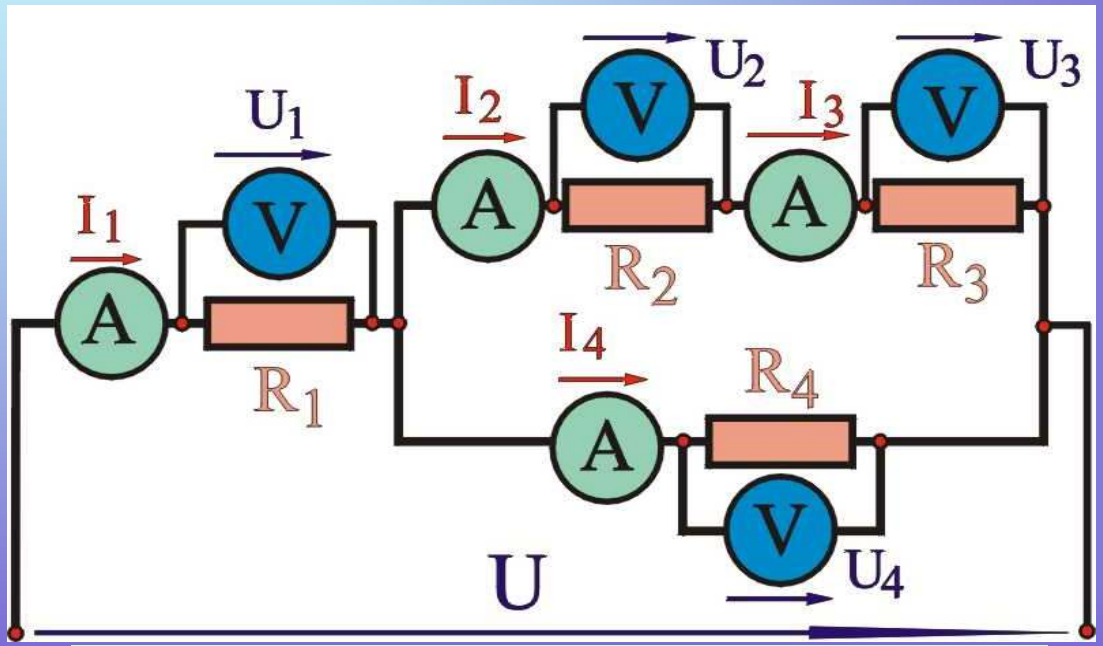
$U_o = U_n + \Delta U_V + U_b$

$U_b = U_o - (U_n + \Delta U_V)$

$U_o = U_n + U_s$

$U_s = U_o - U_n$

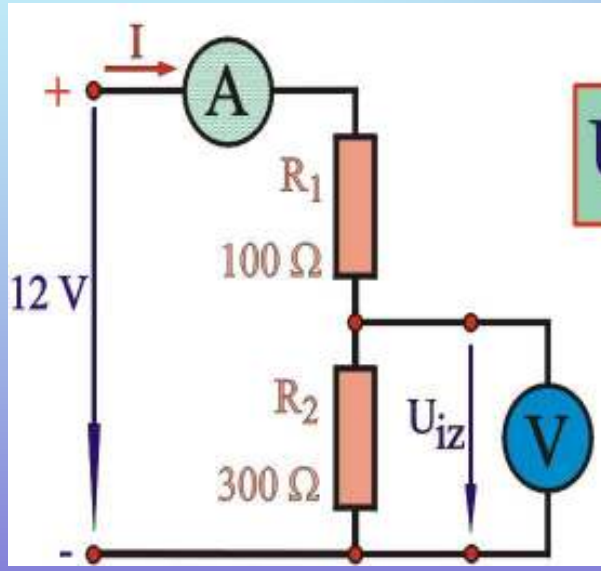
SESTAVLJEN ELEKTRIČNI KROG



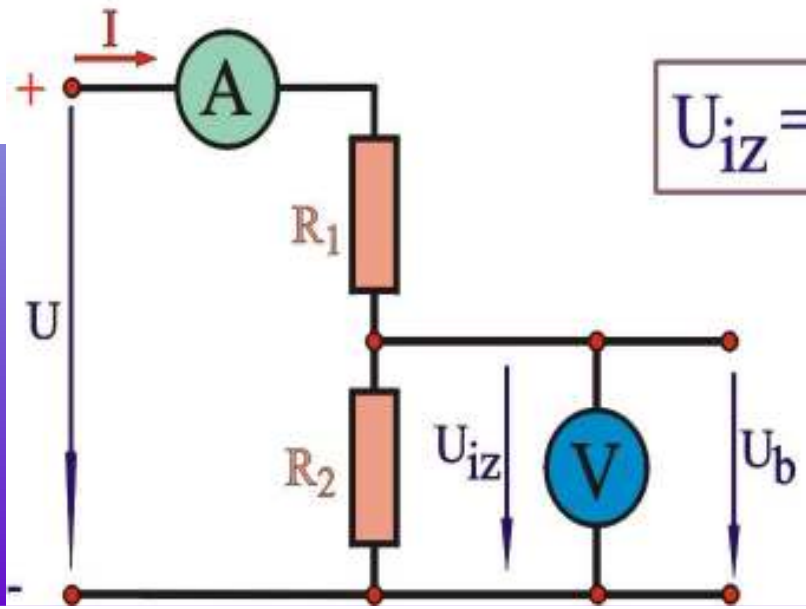
*R*1 = 200 Ω
*R*2 = 400 Ω
*R*3 = 200 Ω
*R*4 = 600 Ω
U =100 V

I = ?; *U*3 = ?

NEOBREMENJEN DELILNIK NAPETOSTI

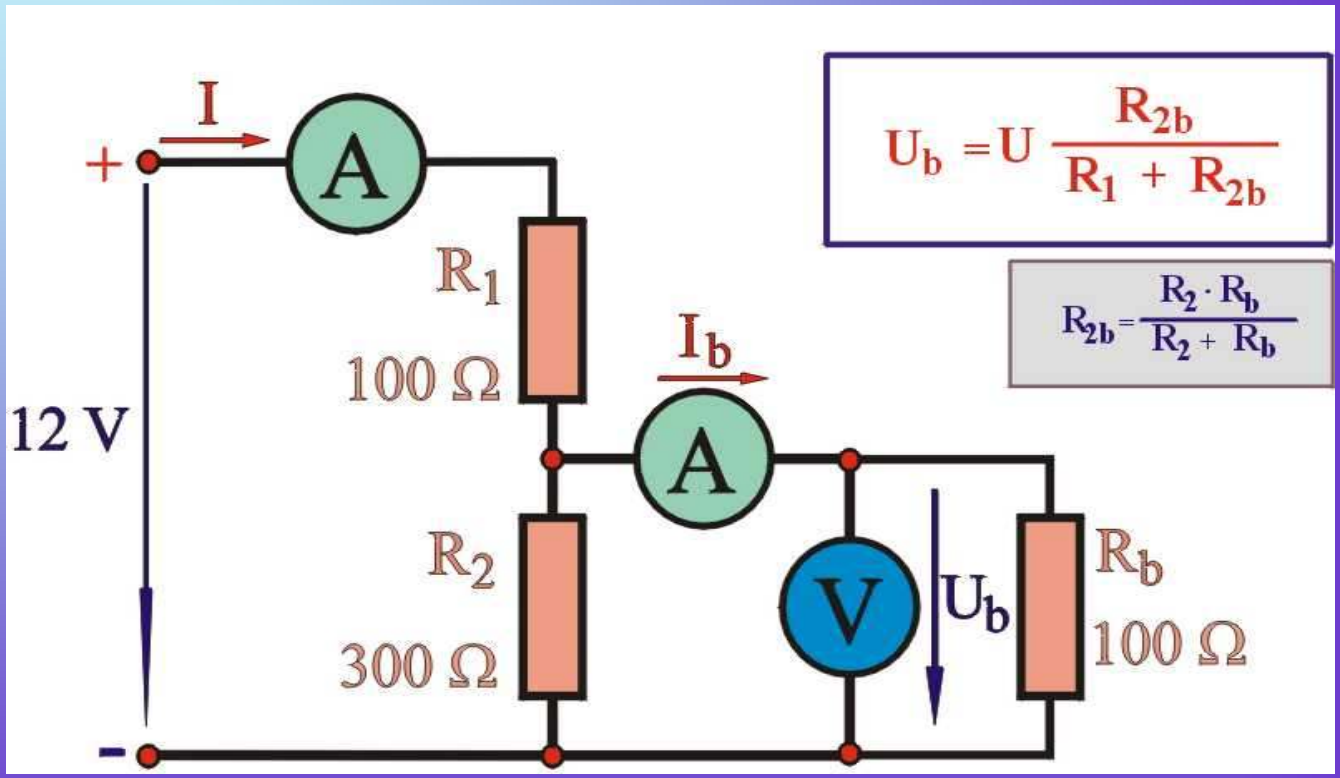


$U_{iz} = U_2$



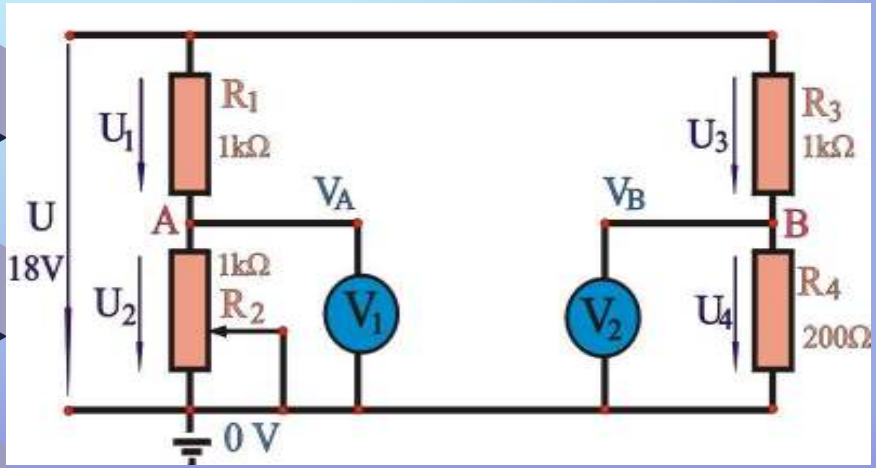
$U_{iz} = U_b$

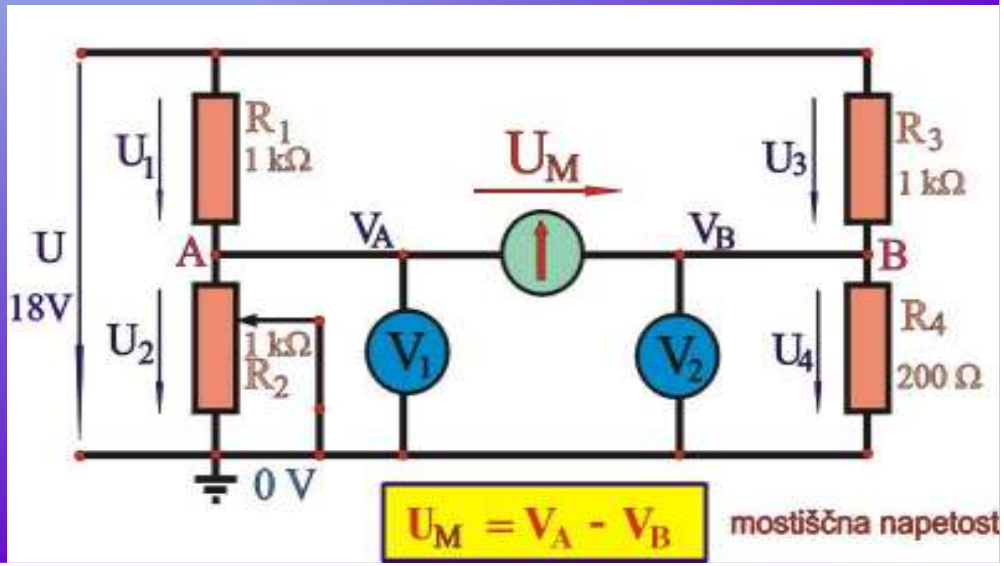
OBREMENJEN DELILNIK NAPETOSTI



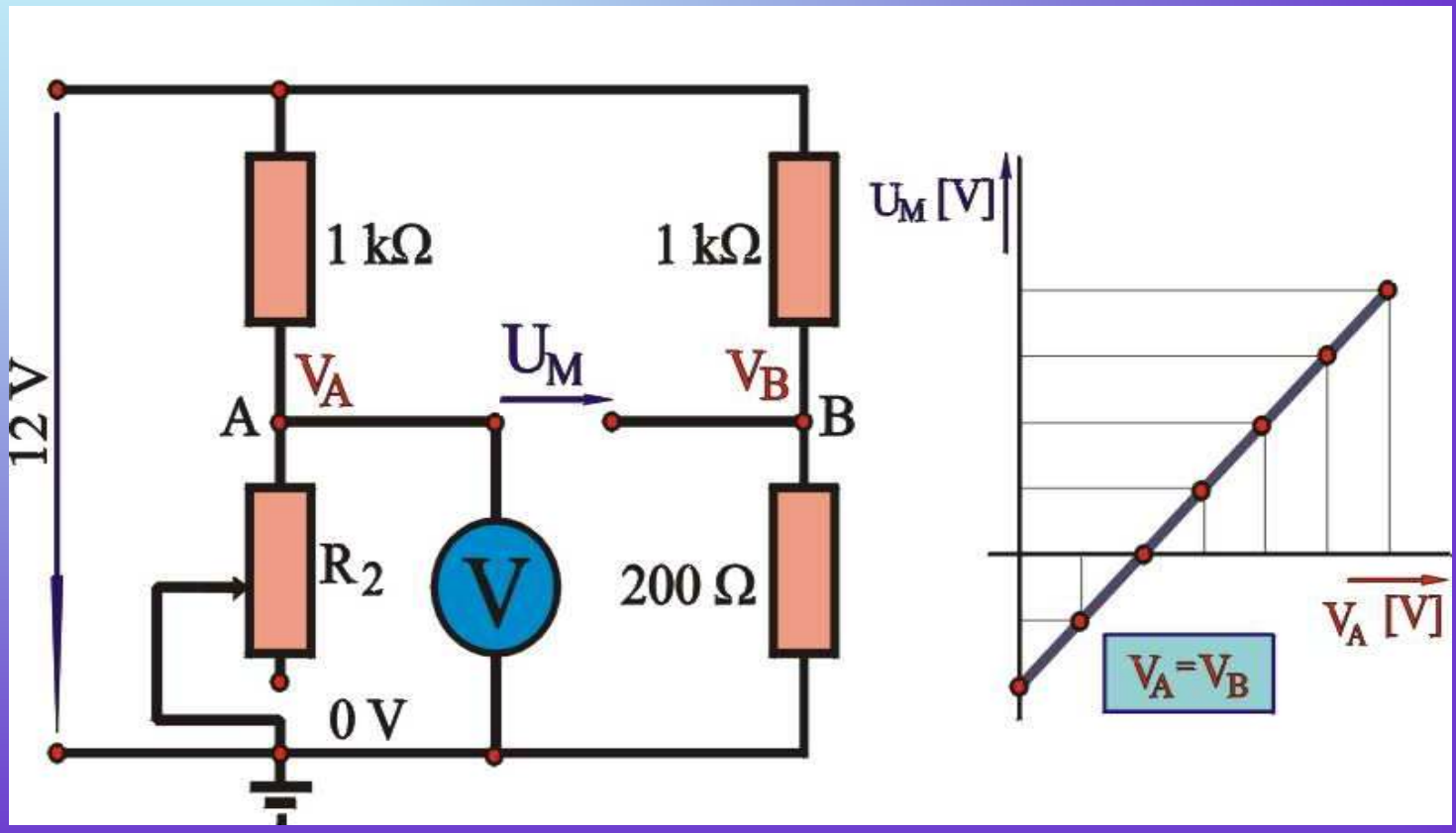
Izhodna napetost delilnika je odvisna od velikosti upornosti bremena.

MOSTIČNO VEZJE

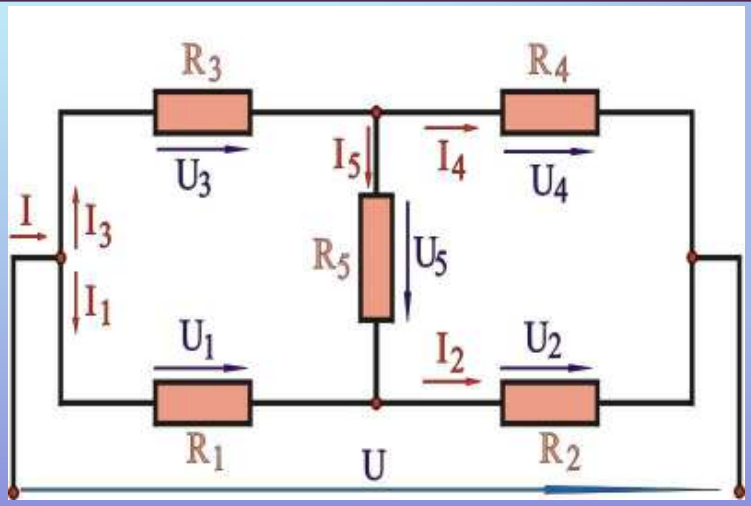


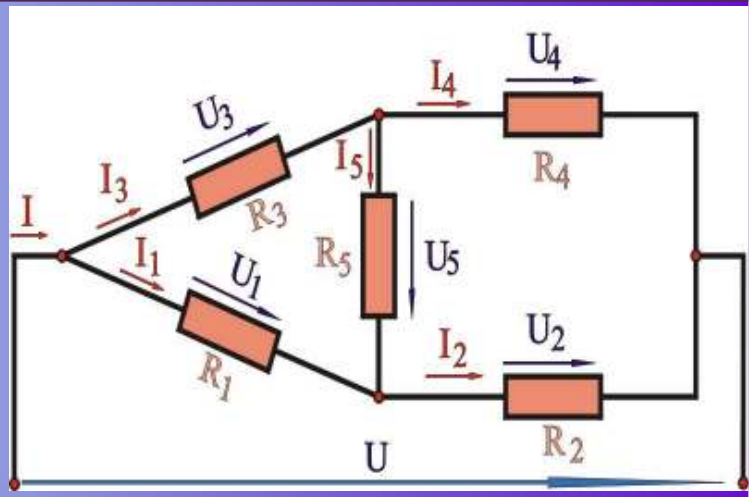


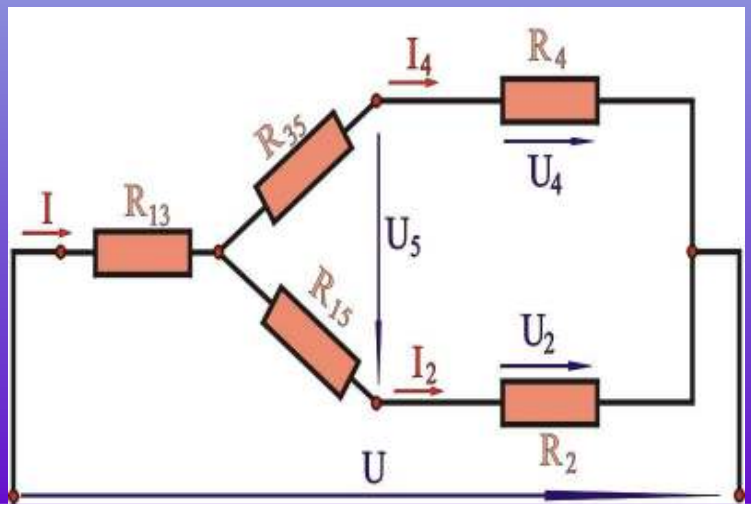
MOSTIČNO VEZJE

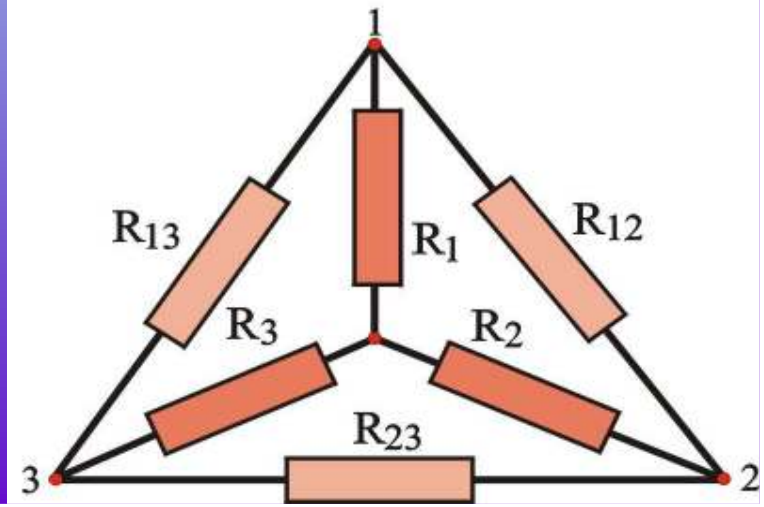


ZVEZDA - TRIKOT VEZAVA

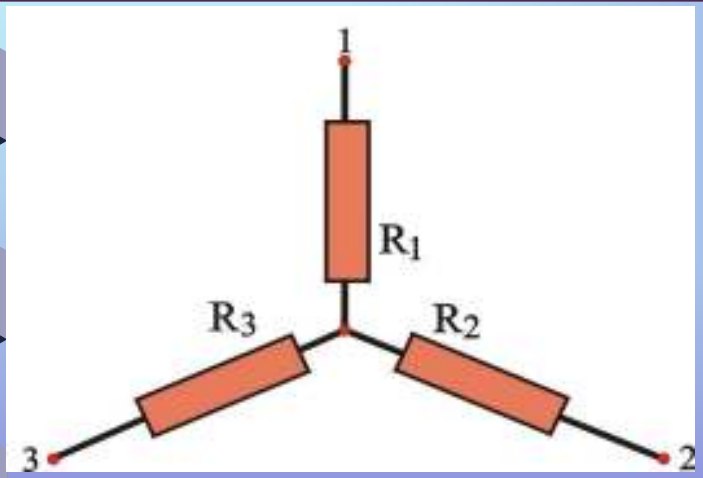


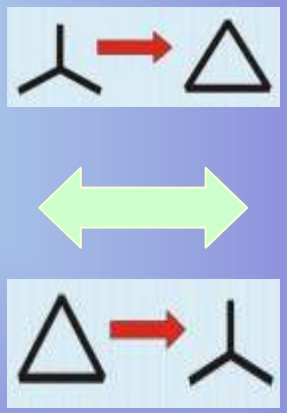


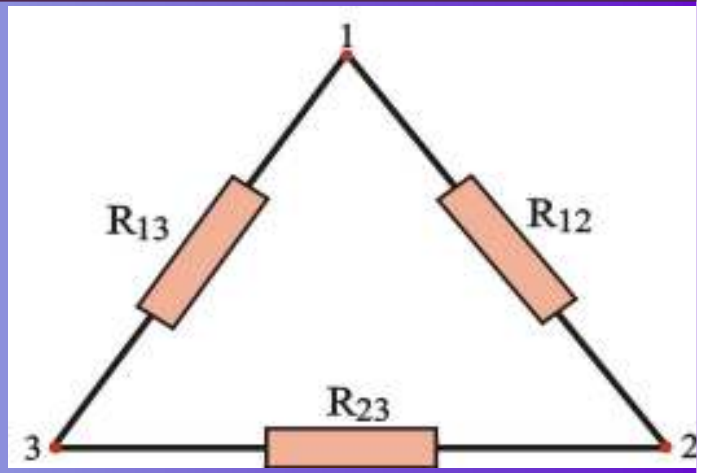




TRANSFORMACIJA VEZAVE UPORNOSTI
TRIKOT - ZVEZDA







$$R_1 = \frac{R_{13}\,R_{12}}{R_{12}+R_{23}+R_{13}}$$

$$R_2 = \frac{R_{12}\,R_{23}}{R_{12}+R_{23}+R_{13}}$$

$$R_3 = \frac{R_{13}\,R_{23}}{R_{12}+R_{23}+R_{13}}$$

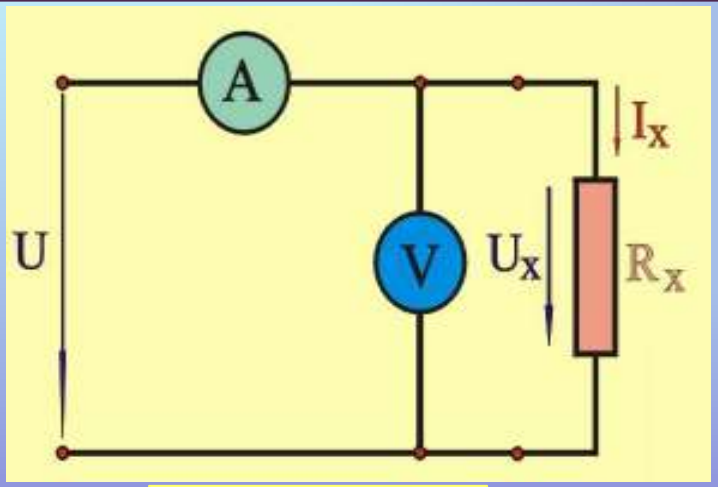
$$R_{12} = R_1 \cdot R_2 / (R_1 + R_2 + R_3)$$

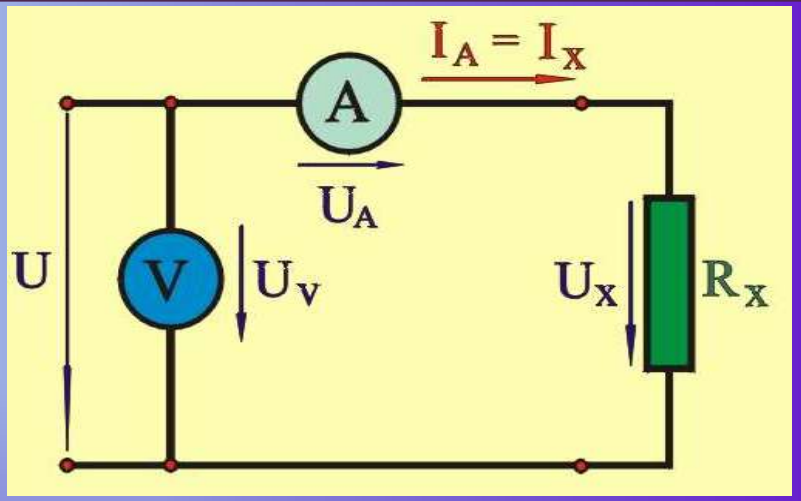
$$R_{13} = R_1 \cdot R_3 / (R_1 + R_2 + R_3)$$

$$R_{23} = R_2 \cdot R_3 / (R_1 + R_2 + R_3)$$

POSREDNO MERJENJE EL. UPORNOSTI

Vezava z napetostno napako





$$R_X = \frac{U_X}{I_X}$$

$$R_X = \frac{U_V - U_A}{I_A}$$

$$I_X = I_A$$

$$U_V = U_A + U_X$$

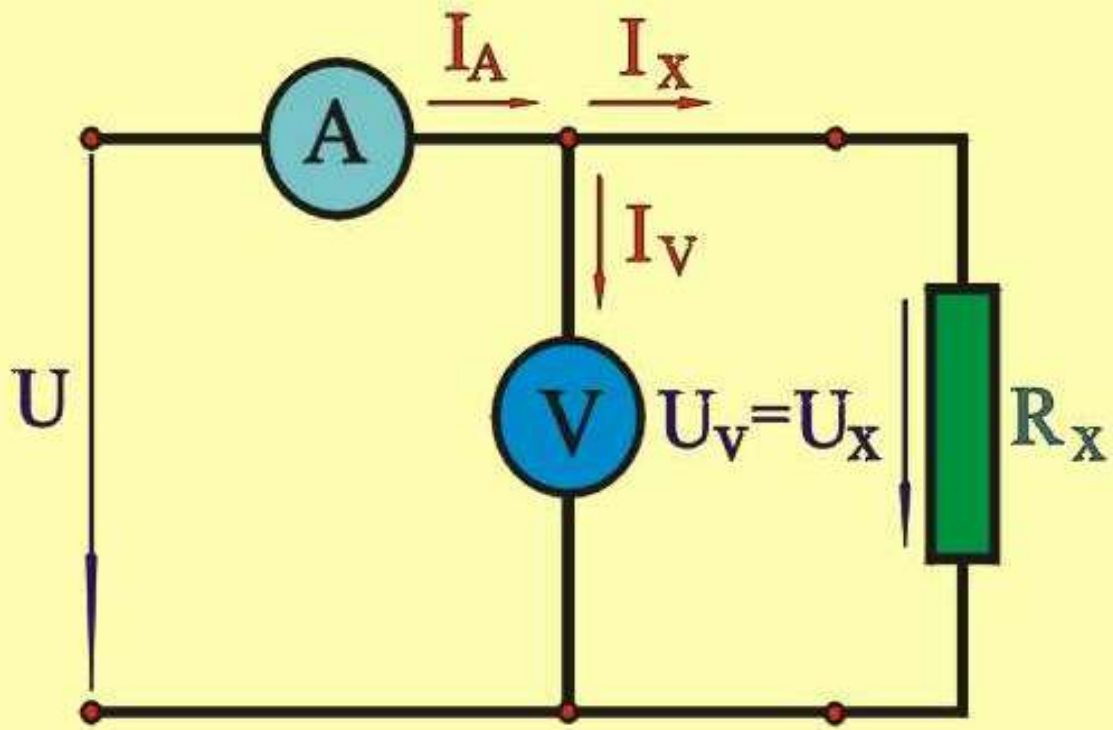
$$U_X = U_V - U_A$$

$$R_X = \frac{U_X}{I_X}$$

Vezava z napetostno napako (voltmeter pred ampermetrom) je primerna za merjenje velikih upornosti.

POSREDNO MERJENJE EL. UPORNOSTI

Vezava s tokovno napako



$$U_x = U_V$$

$$I_A = I_V + I_x$$

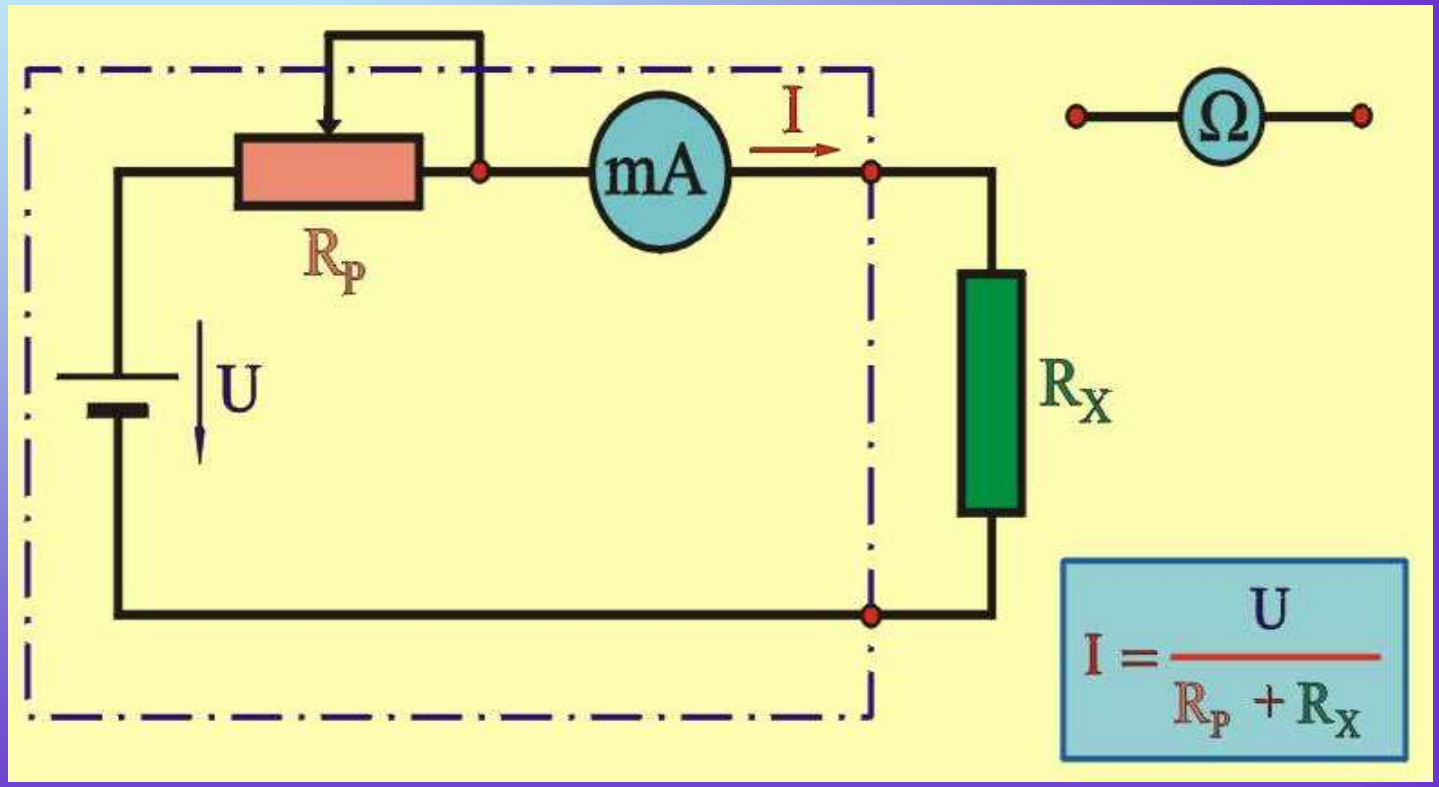
$$I_x = I_A - I_V$$

$$R_x = \frac{U_x}{I_x}$$

$$R_x = \frac{U_V}{I_A - I_V}$$

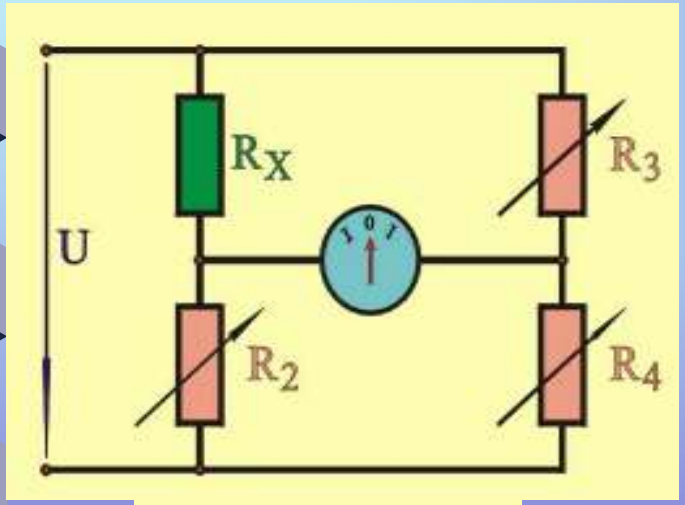
Vezava s tokovno napako (ampermeter pred voltmetrom) je primerna za merjenje majhnih upornosti.

POSREDNO MERJENJE EL. UPORNOSTI - OHMETER



POSREDNO MERJENJE EL. UPORNOSTI

Mostično vezje



$$\frac{R_X}{R_2} = \frac{R_3}{R_4}$$

$$R_X = R_2 \frac{R_3}{R_4}$$