



XMM1: The voltage on the multimeter (which is set on voltage mode) reads 12 V. This is because the DC power supply is supplying 12 V to the wire.

XMM2: This multimeter is set to read current in Amperes. Without looking at the multimeter, we can calculate the expected value for current using Ohm's Law:

$$V = IR$$

$$1 \text{ V} = 1 \text{ A} \times 1 \Omega$$

In this case, we have 12 V and 1k Ω:

$$12 \text{ V} = ? \text{ A} \times 1 \text{ k}\Omega$$

$$\frac{12 \text{ V}}{1 \times 10^3 \Omega} = ? \text{ A}$$

$$? \text{ A} = 12 \times 10^{-3} \text{ A} = 12 \text{ mA}$$

Sure enough, the multimeter XMM2 reads 12 mA.