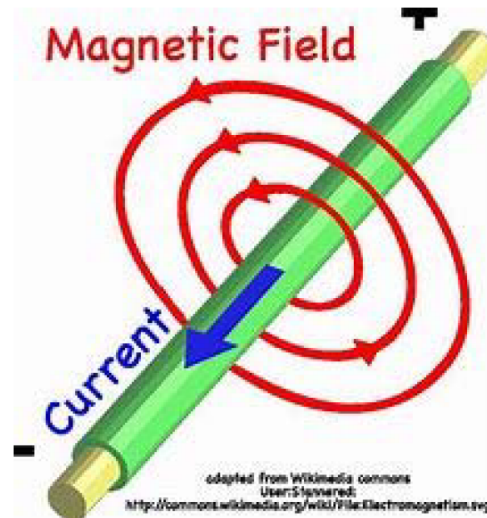


# Instantaneous (Magnetic) Trip Element

- Any conductor carrying current creates a magnetic field around that conductor.
- During a short circuit (example 10,000 amps) this is a large magnetic field.
- This magnetic field is produced instantly.
- A properly designed disconnect has a magnetically operated trip coil that energizes “**instantly**” in the presence of the magnetic field.
- Operates typically in milliseconds



Since 1922



**Rockwell  
Automation**  
Allen-Bradley  
High Current Laboratory

Date: 12/11/14 13:22  
Plot No. 1

Device: 1200 Amp Withstand  
Type of Test: 0

2.290 kA/mm  
CURRENT

25.50 V/mm  
VOLTAGE

CIRCUIT PARAMETERS :  
Open-Circuit Voltage: 98.0 V DC  
Available Ave Current: 60.6 kA DC  
L/R Ratio: 16.1 ms  
Filter Frequency: 100. kHz

i peak: 29.9 kA  
 $i^2t$ :  $9240. \times 10^3 \text{ A}^2\text{s}$   
e peak: 449. V  
eidt:  $23.6 \times 10^3 \text{ Ws}$

Clearing Time: 19.9 ms

