IEEE 802.3 DTE Power via MDI Detection and Signature Guidelines

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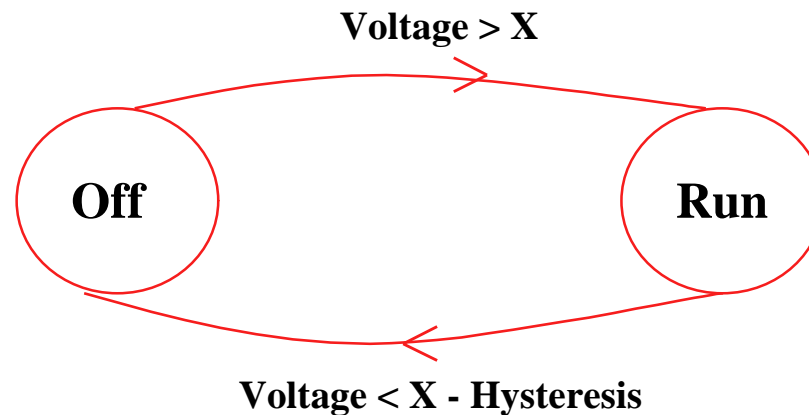## Robert Leonowich

DTE Signature Guidelines

- Provide Signature to Loop when Off
- Polarity Insensitive
- Provide Galvanic Isolation
- Limit Inrush < I max

Typical Values
X ~ 30VDC
Hysteresis ~ 10VDC

Voltage > X

Off　　　　　　　**Run**

Voltage < X - Hysteresis

Source Detection Guidelines

- The DTE will be Polarity Insensitive

- Test Conditions
    - Safe
    - Non-Destructive

- Detection
    - Open (Try Again)
    - Proper Signature (Power On)
    - Pair Used (Try Again)

Typical Values
Timer ~ 1-3 sec
Imax ~ 0.5A
Imin ~ 0.01A

Timer

Off → Test : **Fail** / **Pass**

Test → PWR On : **Pass**

PWR On : **I > Imin and I< Imax**

PWR On → Off : **I< Imin or I> Imax**