DID YOU KNOW?
OPTICAL ENCODERS

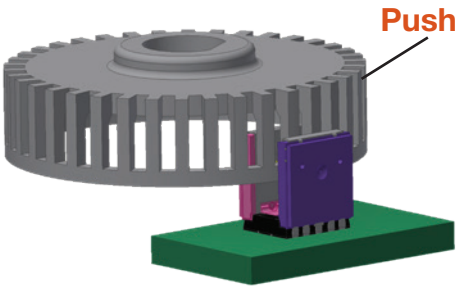
Behind accurate turn and push applications, there is a code wheel and an optical encoder.

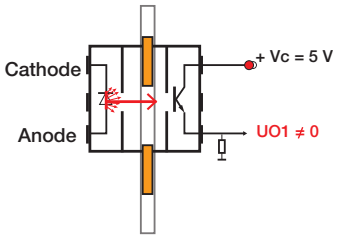
Optoelectronics
Bright Ideas, Stellar Products

Operating Principle:

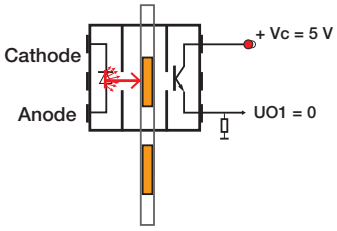
Optical encoders work by shining a light through or onto an optical grating or code wheel and calculating position from the intensity of light on the phototransistors.

- Light blocked by object
  - Sensor output equals (=) zero
- Light not blocked by object
  - Sensor output is not equal to (≠) zero





Light Not Blocked



Light Blocked

Output Signal

TCPT1350X01
1-Channel Incremental

TCUT1350X01
2-Channel Incremental

TCUT1630X01
3-Channel Incremental

TCUT1800X01
4-Channel Absolute or Incremental

Incremental Versus Absolute Encoders

- Incremental encoders generate an output signal each time the shaft rotates a certain amount. Each time the encoder is powered on it begins counting from zero, regardless of where the shaft is
- Absolute rotary encoders are capable of providing unique position values from the moment they are switched on

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