

## FCT100AB15BY



### Main characteristics:

- Nominal current measurement: from  $\pm 100\text{A}$  DC, AC
- Excellent linearity: 15 ppm
- High resolution
- Very low offset drift
- Overall accuracy at  $I_{PN}$  @  $+25^\circ\text{C}$ :  $\leq \pm 0.01\%$
- Wide frequency bandwidth up to 200 kHz (-3 dB)
- ROHS Compliant

### Features:

- DC, AC pulse currents' measurements with galvanic isolation
- Nano Crystal Fluxgate technology
- Electrostatic shield between primary and secondary circuit
- Bipolar Power supply  $\pm 15$  Volt
- Operating temperature range from  $-40$  to  $+85^\circ\text{C}$
- Wire Connector Type
- Current output

### Standard compliance:

- Typical applications:
- Feedback element in precision current regulated devices (power supplies...)
- Precise and high stability inverters
- Medical equipment
- Energy measurement
- Power analyzers

### Remarks:

- Current overload capability
- Additional output indicating the transducer state

**Specification**

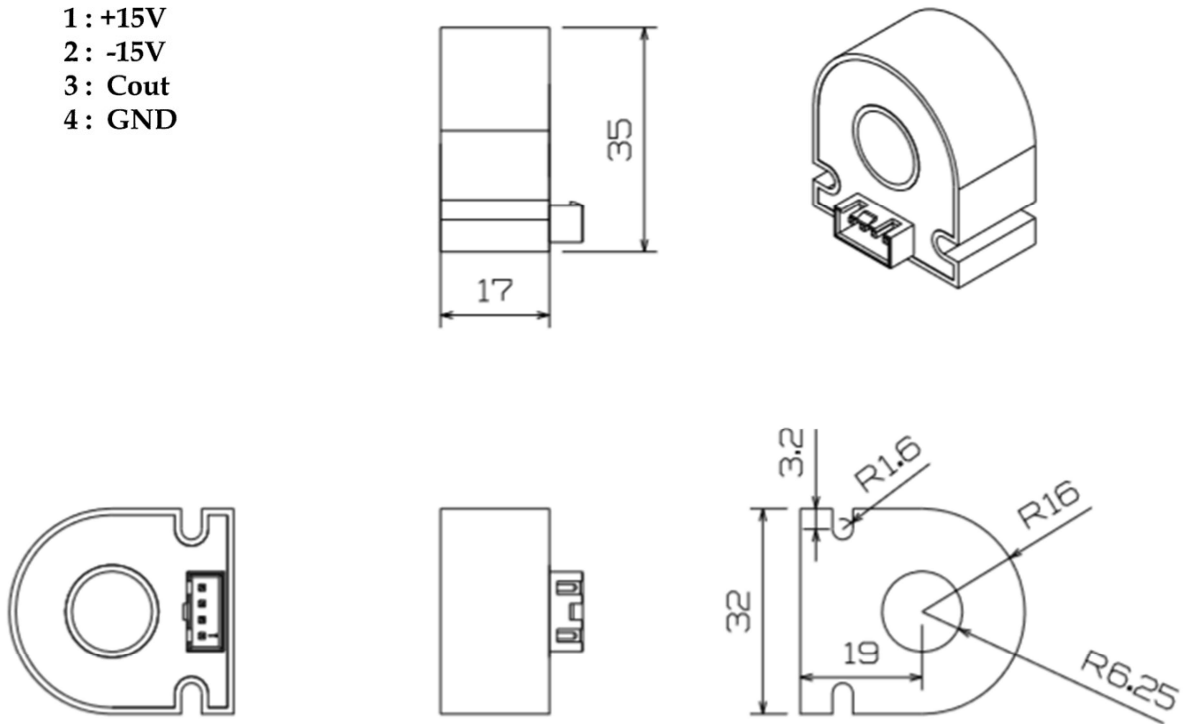
Nominal primary current ( $I_{PN}$ )	$\pm 100$	A r.m.s.
Measuring range @ $\pm 15V$ ( $\pm 5\%$ )	$\pm 120$	A peak
Max. measuring resistance @ $I_P$ max & $\pm 15V$ ( $\pm 5\%$ )	20	$\Omega$
Min. measuring resistance @ $I_{PN}$ & $\pm 15V$ ( $\pm 5\%$ )	1	$\Omega$
Turn number	2000	Turn
Secondary current at $I_{PM}$	$100/2000=0.05$	A
Accuracy at $I_{PN}$ @ $+25^\circ C$	$\leq \pm 0.01$	%
Offset current @ $+25^\circ C$	$\leq \pm 50$	$\mu A$
Linearity	$\leq \pm 0.005$	%
Thermal drift coefficient @ $-45 \sim +105^\circ C$	$\leq 0.5$	$\mu A/^\circ C$
Bandwidth @ -3dB	$\leq 200$	kHz
Max. no-load consumption current @ $\pm 15V$ ( $\pm 5\%$ )	$\leq 20$	mA
Secondary resistance @ $+105^\circ C$	$\leq 180$	$\Omega$
Dielectric strength Primary/Secondary @ 50Hz, 1min	3	kV
Supply voltage @ $\pm 20\%$	$\pm 15V$	V dc
Mass	0.2	kg
Operating temperature	$-40 \sim +85$	$^\circ C$
Storage temperature	$-45 \sim +125$	$^\circ C$

**General data**

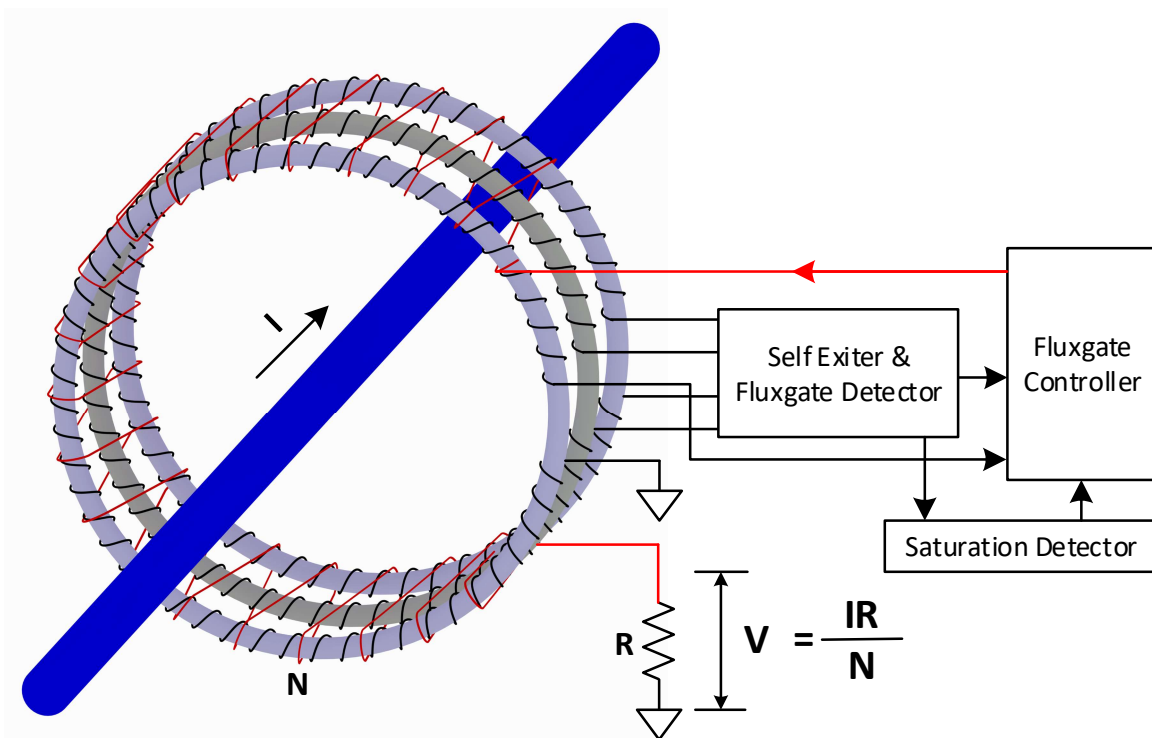
- Plastic case and insulating resin are self-extinguishing.
- Fixing holes in the case molding for two positions at right angles
- Direction of the current: A primary current flowing in the direction of the arrow results in a positive secondary output current from terminal  $C_{OUT}$ .

**Dimensions**

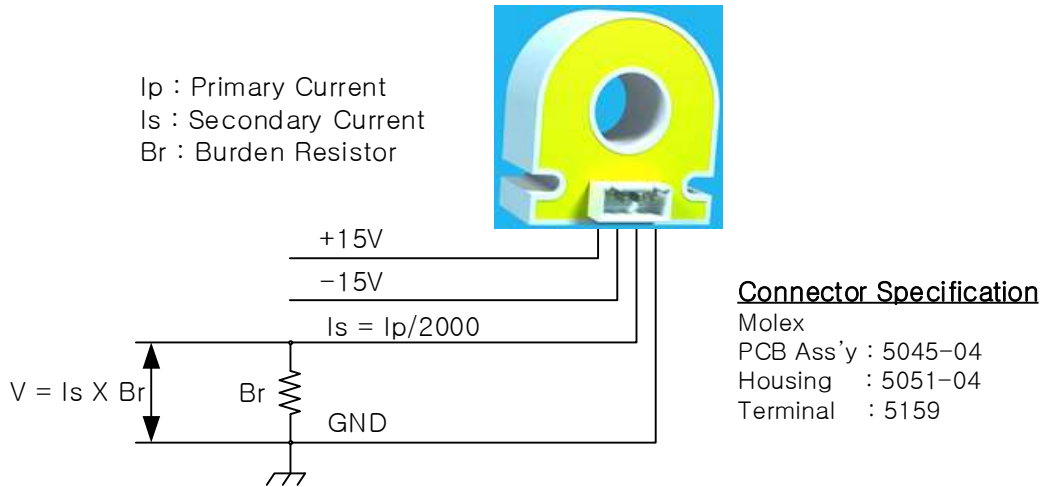
- 1: +15V
- 2: -15V
- 3: Cout
- 4: GND



**Block diagram**



## Installation



\* The positive direction of the current from the front to the rear of the head (the front of the contactor).

$$(\text{Secondary\_Resistance} + \text{Measuring\_Resistance}) \times \text{Max\_Secondary\_Current} + 3V = 15V$$

$$\text{Measuring\_Resistance} = (15 - 3) / \text{Max\_Secondary\_Current} - \text{Secondary\_Resistance}$$

$$\text{Therefore, Measuring\_Resistance} = 12 / (120 / 2000) - 180 = 20 \Omega$$

## Caution

Be careful not to operate under  $1\Omega$  burden resistor. The current sensor is damaged.