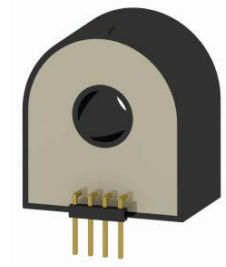


# NF50A0U05AP1T0KBI



## Main characteristics:

- Nominal current measurement: from  $\pm 50\text{A}$  DC, AC
- Excellent linearity: 15 ppm
- High resolution
- Very low offset drift
- Overall accuracy at  $I_{PN}$  @  $+25^\circ\text{C}$ :  $\leq \pm 0.1\%$
- Wide frequency bandwidth up to 300 kHz (-1 dB)
- ROHS Compliant

## Features:

- DC, AC pulse currents' measurements with galvanic isolation
- Nano Crystal Fluxgate technology
- Electrostatic shield between primary and secondary circuit
- Single Power supply +5 Volt
- Operating temperature range from  $-20$  to  $+85^\circ\text{C}$
- Wire Connector Type
- Current output
- Really quick response time ( $< 300\text{ ns}$ )

## 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 ( $I_{PN}$ )	$\pm 50$	A r.m.s.
Measuring range @ +5V ( $\pm 5\%$ )	$\pm 70$	A peak
Max. measuring resistance @ $I_p$ max & +5V ( $\pm 5\%$ )	5	$\Omega$
Min. measuring resistance @ $I_{PN}$ & +5V ( $\pm 5\%$ )	1	$\Omega$
Turn number	1000	turn
Secondary current at $I_{PN}$	50/1000	A
Accuracy at $I_{PN}$ @ +25°C	$\leq \pm 0.1$	%
Accuracy at $I_{PN}$ @ -5 ~ +85°C	$\leq \pm 0.2$	%
Accuracy at $I_{PN}$ @ -20 ~ +85°C	$\leq \pm 0.5$	%
Offset current @ +25°C	$\leq \pm 100$	$\mu A$
Linearity	$\leq \pm 0.05$	%
Thermal drift coefficient @ -5 ~ +85°C	$\leq 2$	$\mu A/^\circ C$
Thermal drift coefficient @ -20 ~ +85°C	$\leq 5$	$\mu A/^\circ C$
Delay time	$\leq 0.5$	$\mu s$
di/dt correctly followed	$\leq 60$	A/ $\mu s$
Bandwidth @ -1dB	$\leq 300$	kHz
Max. no-load consumption current @ +5V ( $\pm 5\%$ )	$\leq 20$	mA
Secondary resistance @ +85°C	$\leq 45$	$\Omega$
Dielectric strength Primary/Secondary @ 50Hz, 1min	3	kV
Supply voltage @ $\pm 5\%$	+5	V dc
Voltage drop	$\leq 0.5$	V
Mass	0.019	kg
Operating temperature	-20 ~ +85	°C
Storage temperature	-25 ~ +125	°C

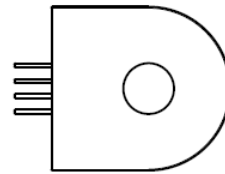
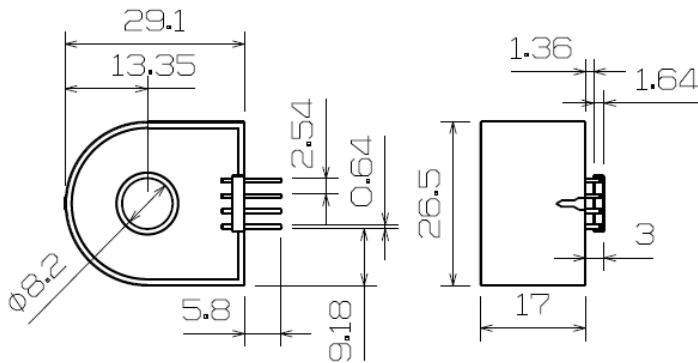
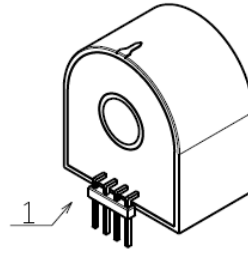
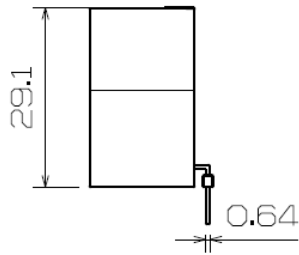
**General data**

- 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  $C_{OUT}$ .

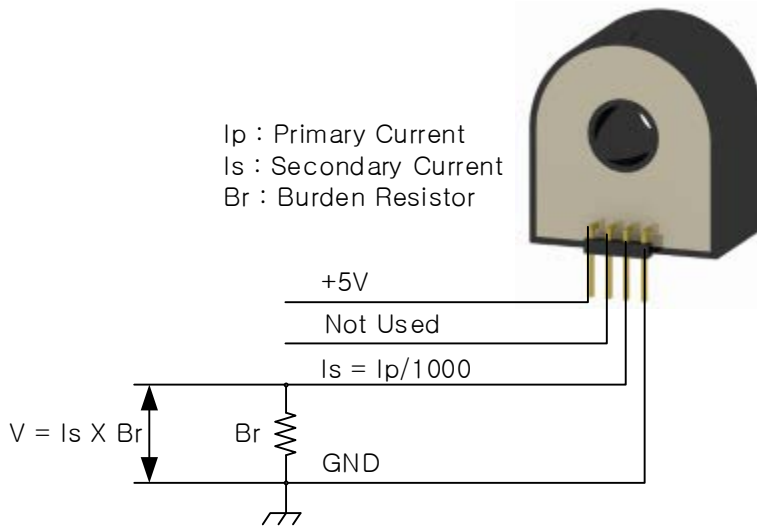
- 2/3 -

**Dimensions**

- 1 : +5V
- 2 : NC
- 3 : Cout
- 4 : GND



**Installation**



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

$$(Secondary\_Resistance + Measuring\_Resistance) \times Max\_Secondary\_Current + 1V = 4.5V$$

$$Measuring\_Resistance = (4.5 - 1) / Max\_Secondary\_Current - Secondary\_Resistance$$

$$\text{Therefore, Measuring\_Resistance} = 3.5 / (70/1000) - 45 = 5 \Omega$$

**Caution**

Be careful not to exceed 5.5V. The current sensor is damaged.