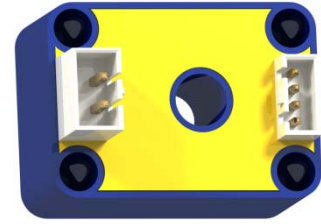


# NF500VB15LY



## Main characteristics:

- Nominal current measurement: from  $\pm 500V$  DC, AC Voltage Sensor
- Excellent linearity: 15 ppm
- High resolution
- Very low offset drift
- Overall accuracy at  $I_{PN}$  @  $+25^{\circ}C$ :  $\leq \pm 0.1$  %
- Wide frequency bandwidth up to 200 kHz (- 1 dB)
- ROHS Compliant

## Features:

- DC, AC pulse voltage's measurements with galvanic isolation
- Nano Crystal Fluxgate technology
- Electrostatic shield between primary and secondary circuit
- Unipolar Power supply  $\pm 15$  Volt
- Operating temperature range from  $-40$  to  $+85^{\circ}C$
- Wire Connector Type
- Current output
- Really quick response time ( $< 300$  ns)

## Standard compliance:

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

## Remarks:

- Voltage overload capability
- Additional output indicating the transducer state

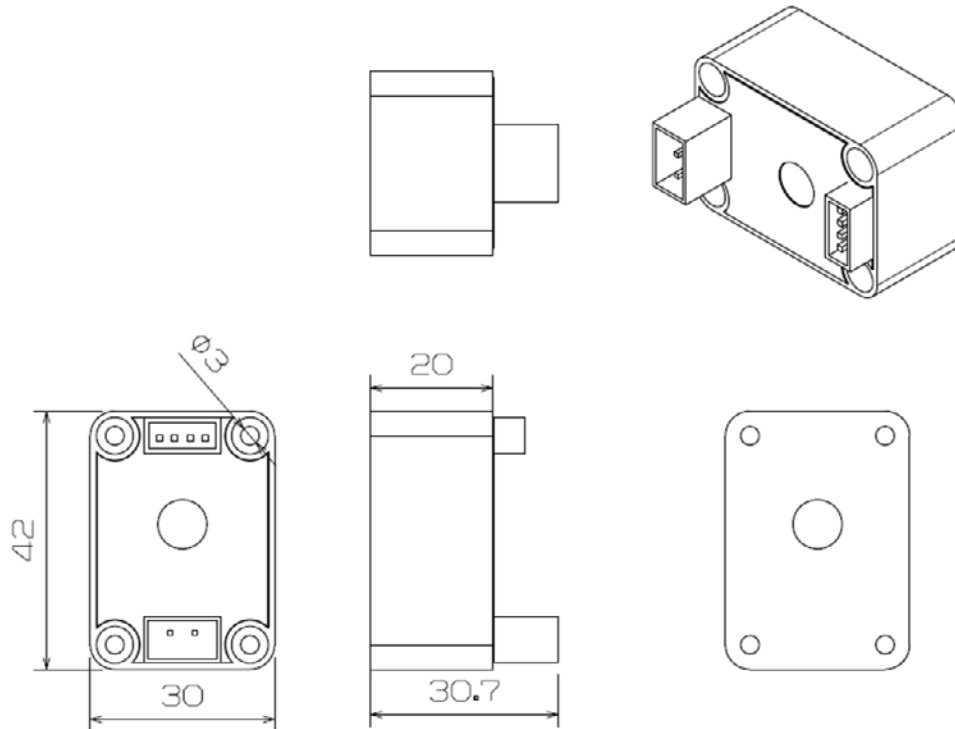
**Specification**

Nominal primary Voltage ( $V_{PN}$ )	$\pm 500$	V r.m.s.
Measuring range @ $\pm 15V$ ( $\pm 5\%$ )	$\pm 600$	V peak
Max. measuring resistance @ $V_p$ max & $\pm 15V$ ( $\pm 5\%$ )	695	$\Omega$
Min. measuring resistance @ $V_{PN}$ & $\pm 15V$ ( $\pm 5\%$ )	50	$\Omega$
Turn number	200 : 50	turn
Secondary current at $V_{PN}$	$200 \cdot (500/100K)/50$	A
Accuracy at $I_{PN}$ @ $+25^\circ C$	$\leq \pm 0.1$	%
Accuracy at $I_{PN}$ @ $-5 \sim +85^\circ C$	$\leq \pm 0.2$	%
Accuracy at $I_{PN}$ @ $-40 \sim +85^\circ C$	$\leq \pm 0.5$	%
Offset current @ $+25^\circ C$	$\leq \pm 100$	$\mu A$
Linearity	$\leq \pm 0.05$	%
Thermal drift coefficient @ $-5 \sim +85^\circ C$	$\leq 2$	$\mu A/^\circ C$
Thermal drift coefficient @ $-20 \sim +85^\circ C$	$\leq 5$	$\mu A/^\circ C$
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 voltage @ $\pm 15V$ ( $\pm 5\%$ )	$\leq 20$	mA
Secondary resistance @ $+85^\circ C$	$\leq 5$	$\Omega$
Dielectric strength Primary/Secondary @ 50Hz, 1min	3	kV
Supply voltage @ $\pm 20\%$	$\pm 15V$	V dc
Voltage drop	$\leq 3$	V
Mass	0.06	kg
Operating temperature	$-40 \sim +85$	$^\circ C$
Storage temperature	$-45 \sim +125$	$^\circ C$

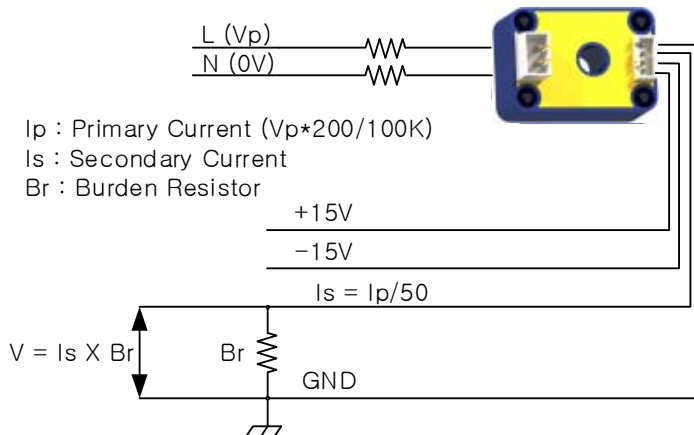
**General data**

- Plastic case and insulating resin are self-extinguishing.
- Fixing holes in the case molding for two positions at right angles

**Dimensions**



**Installation**



**Connector Specification**

Yeonho Electronics  
 PCB Ass'y : SMAW250-04  
 Housing : SMH250-04  
 Terminal : YST025

Molex  
 PCB Ass'y : 0532580329  
 Housing : 0510670300  
 Terminal : 0502178000

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

$$(Secondary\_Resistance + Measuring\_Resistance) \times Max\_Secondary\_Current + 1V = 15V$$

$$Measuring\_Resistance = (15 - 1) / Max\_Secondary\_Current - Secondary\_Resistance$$

$$\text{Therefore, Measuring\_Resistance} = 14 / (200 * (500 / 100K) / 50) - 5 = 695 \Omega$$

**Caution**

Be careful not to operate under 50Ω burden resistor. The current sensor is damaged.