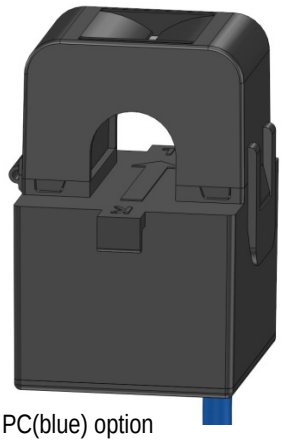
# Topstek True RMS Current Transducer TU12P5A..TU12P150A-CL420

## TU12P 5A~150A-CL420



## Features

- ♦ Highly reliable True RMS current measurement device
- ♦ Clamp on split core structure
- ♦ Faster response time than temperature sensing
- ♦ Excellent linearity of the output voltage over a wide input range
- ♦ VFD and SCR type waveforms current measurement
- ♦ 4-20mA True RMS current loop output
- ♦ High isolation voltage between the measuring circuit and the current-carrying conductor (AC3KV)
- ♦ Flame-Retardant plastic case and silicone encapsulant, using UL classified materials, ensures protection against environmental contaminants and vibration over a wide temperature and humidity range

## Applications

- ♦ Power measurement, power panel
- ♦ True RMS AC+DC current measurement

## Options

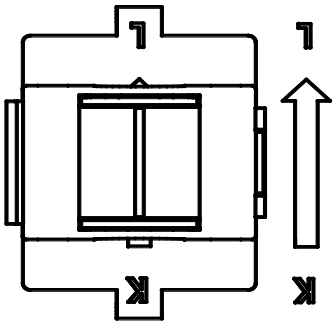
- ♦ Plastic case material:
  UL94V0 Nylon 66 (black) standard and PC(blue) option
- ♦ Operating temperature range:
  70°C standard and option 85°C available
- ♦ Connector type: specify –E or –M. If other types of connector required, please contact factory for other possibilities.
  –M: UL 1017 AWG22, Length:150±10mm with Molex 5045 type female connector (2.54mm pitch)
  –Y: UL 1017 AWG18 Wire, Length:3000±50mm, Two Y4.3 Terminals with PVC Tube

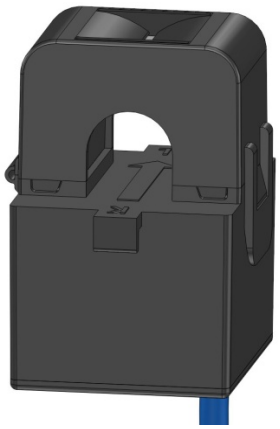
## Specifications

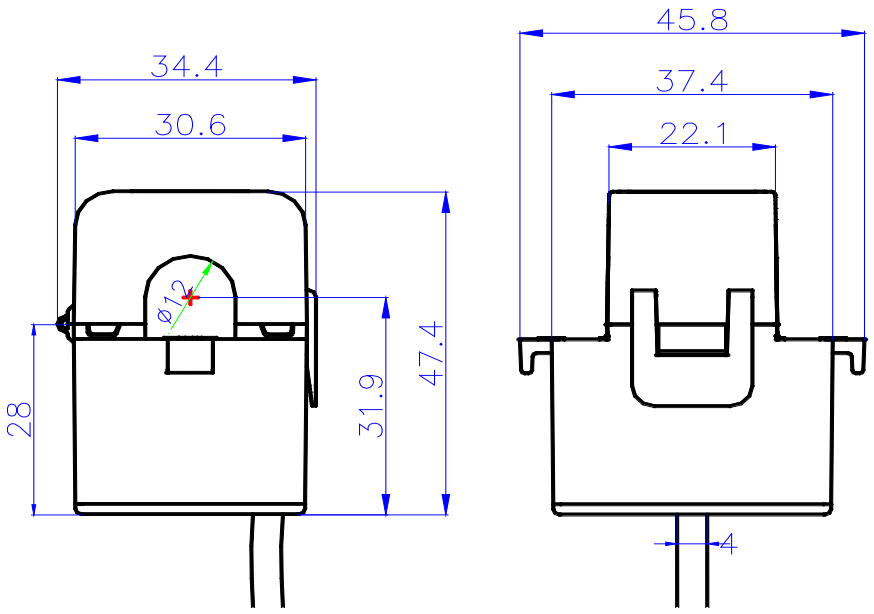
| Parameter | Symbol | Unit | 5A | 10A | 20A | 30A | 50A | 75A | 100A | 150A |
|---|---|---|---|---|---|---|---|---|---|---|
| Full Scale Input Current | $I_{PN}$ | A RMS | 5 | 10 | 20 | 30 | 50 | 75 | 100 | 150 |
| Max Primary Current Peak | $I_{PMax}$ | A | ±30 | ±60 | ±120 | ±180 | ±300 | ±450 | ±450 | ±450 |
| Input Crest Factor (Peak/Average Ratio) | CF | | 6 | 6 | 6 | 6 | 6 | 6 | 4.5 | 3 |
| Current Output Protocol | $I_{OUT}$ | mA | 4-20 mA Current Loop, 4mA@ $I_P$ =0A, 20mA@ $I_P$ = $I_{PN}$ | | | | | | | |
| Output Offset Current | $I_{OS}$ | mA | +4 mA | | | | | | | |
| Over-Scale Output Current | $I_{OL}$ | mA | <+23 mA | | | | | | | |
| Load Resistance | $R_L$ | Ω | <300 Ω | | | | | | | |
| Supply Voltage | $V_{CC}$ | V | +20V .. +32V | | | | | | | |
| Accuracy @ $I_{PN}$ | | % | Within ±1% of $I_{PN}$ @25°C(excluding offset) | | | | | | | |
| Linearity | ρ | % | Within ±1% of $I_{PN}$ | | | | | | | |
| Consumption Current | $I_{CC}$ | mA | 4-20 mA (= $I_{OUT}$) | | | | | | | |
| Response Time (90% $I_{PN}$ Step) | $T_r$ | μsec | <200 msec | | | | | | | |
| Frequency bandwidth (±1dB) | $f_{BW}$ | Hz | 20 to 6kHz | | | | | | | |
| Thermal Drift of Output | - | %/°C | Within ±0.1 %/°C @ $I_{PN}$ | | | | | | | |
| Thermal Drift of Zero Current Offset | - | μA/°C | < ±3μA/°C(0-60°C), < ±6μA/°C(-40 .. 70°C) | | | | | | | |
| Dielectric Strength | - | V | AC3.5KV X 60 sec | | | | | | | |
| Isolation Resistance @ 1000 VDC | $R_{IS}$ | MΩ | >1000 MΩ | | | | | | | |
| Operating Temperature | $T_a$ | °C | -40°C to 70°C | | | | | | | |
| Storage Temperature | $T_s$ | °C | -45°C to 85°C | | | | | | | |
| Mass | W | g | 80 g | | | | | | | |

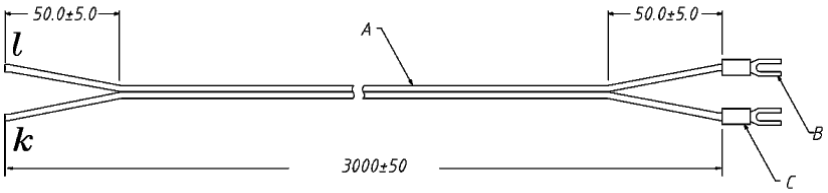
## Appearance, dimensions and pin identification of TU16P-CL420

All dimensions in mm ±0.5, holes –0, +0.2 except otherwise noted.








k (white) : +24V
I (black) : IOUT

Option Y Terminal

## Application Connection