

# Topstek True RMS Current Transducer TU20P5A..TU20P250A-CL420

## TU20P 5A~250A-CL420

### Features

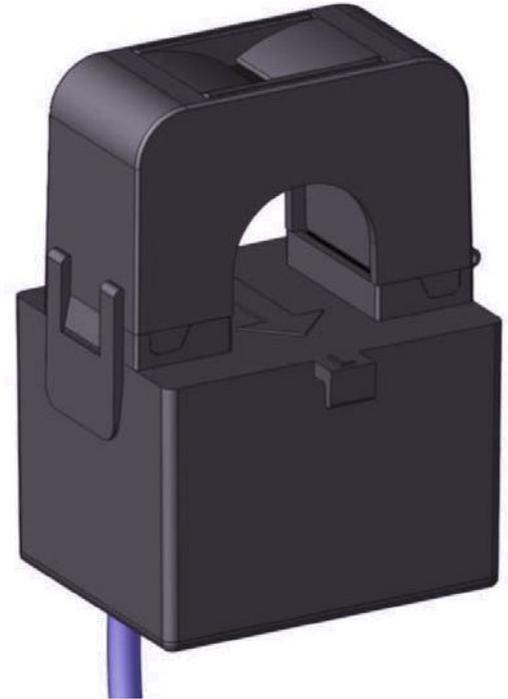
- ◆ Highly reliable True RMS current measurement device
- ◆ Clamp on split core structure
- ◆ Faster response time than temperature sensing
- ◆ Excellent linearity of the output voltage over a wide input range
- ◆ VFD and SCR type waveforms current measurement
- ◆ 4-20mA True RMS current loop output
- ◆ 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

- ◆ 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



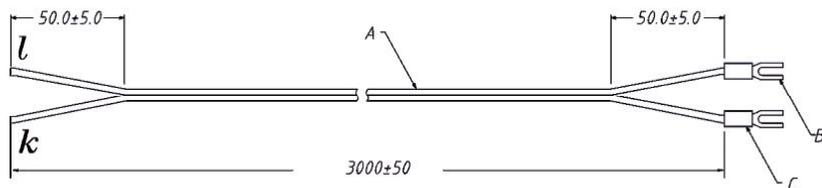
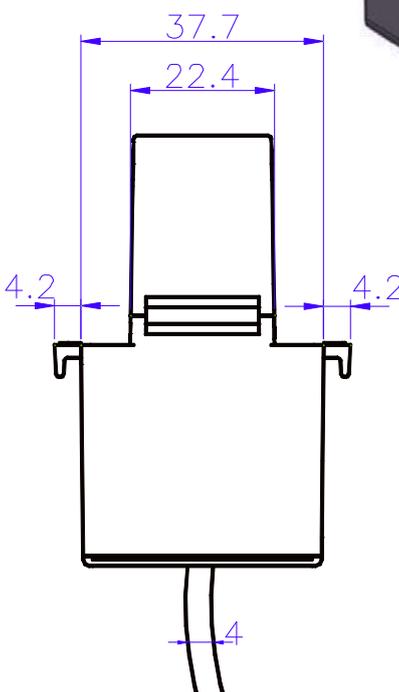
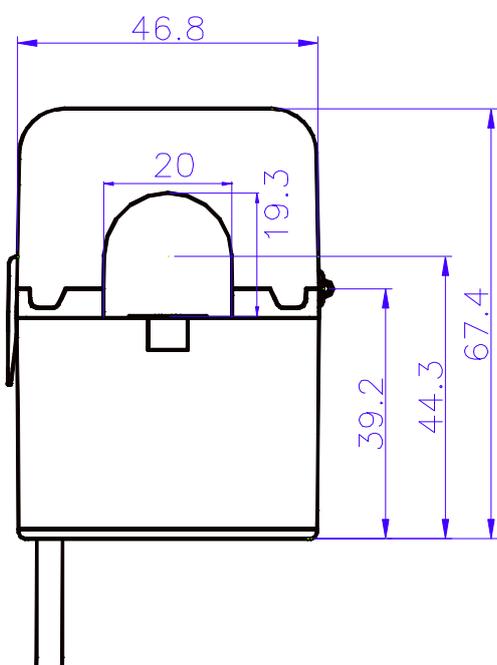
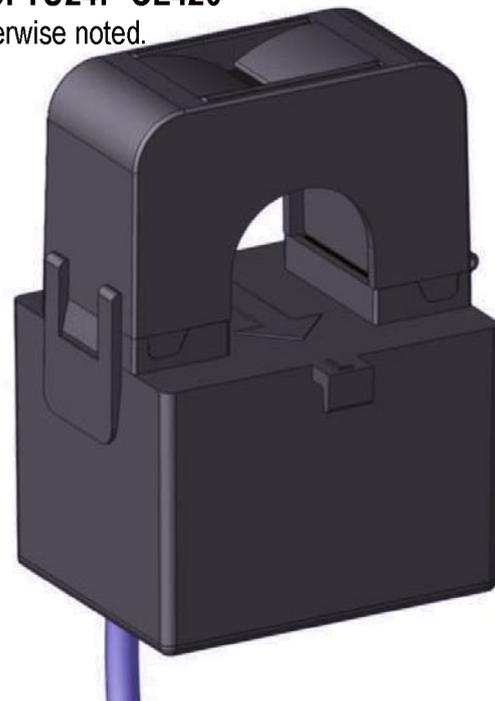
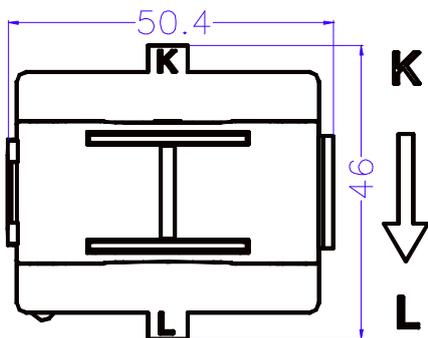
### Specifications

| Parameter                               | Symbol     | Unit             | 5A  | 10A | 20A  | 30A  | 50A  | 75A  | 100A | 150A | 200A | 250A |
|---|------------|------------------|---|-----|------|------|------|------|------|------|------|------|
| Full Scale Input Current                | $I_{PN}$   | $A_{RMS}$        | 5   | 10  | 20   | 30   | 50   | 75   | 100  | 150  | 200  | 250  |
| Max Primary Current Peak                | $I_{PMax}$ | A                | ±30   | ±60 | ±120 | ±180 | ±300 | ±450 | ±450 | ±450 | ±600 | ±600 |
| Input Crest Factor (Peak/Average Ratio) | CF         |                  | 6   | 6   | 6    | 6    | 6    | 6    | 4.5  | 3    | 3    | 2.4  |
| 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                         | $R_L$      | $\Omega$         | <300 $\Omega$   |     |      |      |      |      |      |      |      |      |
| Supply Voltage                          | $V_{CC}$   | V                | +20V .. +32V  |     |      |      |      |      |      |      |      |      |
| Accuracy @ $I_{PN}$                     |            | %                | Within ±1% of $I_{PN}$ @25°C(excluding offset)                      |     |      |      |      |      |      |      |      |      |
| Linearity                               | $\rho$     | %                | Within ±1% of $I_{PN}$  |     |      |      |      |      |      |      |      |      |
| Consumption Current                     | $I_{CC}$   | mA               | 4-20 mA (= $I_{OUT}$ )  |     |      |      |      |      |      |      |      |      |
| Response Time (90% $I_{PN}$ Step)       | $T_r$      | $\mu$ sec        | <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    | -          | $\mu A/^\circ C$ | < ±3 $\mu A/^\circ C$ (0-60°C), < ±6 $\mu A/^\circ C$ (-40 .. 70°C) |     |      |      |      |      |      |      |      |      |
| Dielectric Strength                     | -          | V                | AC3KV X 60 sec  |     |      |      |      |      |      |      |      |      |
| Isolation Resistance @ 1000 VDC         | $R_{IS}$   | M $\Omega$       | >1000 M $\Omega$  |     |      |      |      |      |      |      |      |      |
| Operating Temperature                   | $T_a$      | °C               | -40°C to 70°C   |     |      |      |      |      |      |      |      |      |
| Storage Temperature                     | $T_s$      | °C               | -45°C to 85°C   |     |      |      |      |      |      |      |      |      |
| Mass                                    | W          | g                | 225 g   |     |      |      |      |      |      |      |      |      |

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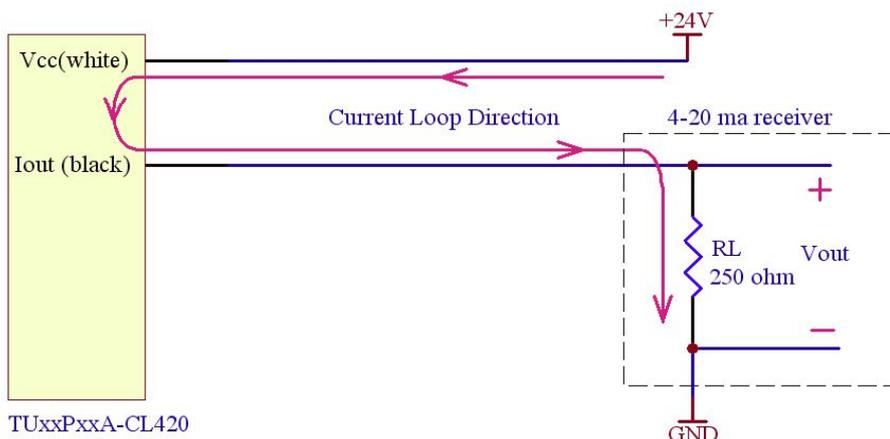
## Appearance, dimensions and pin identification of TU24P-CL420

All dimensions in mm  $\pm 0.5$ , holes  $-0, +0.2$  except otherwise noted.



Option Y Terminal

### Application Connection



TUxxPxxA-CL420

