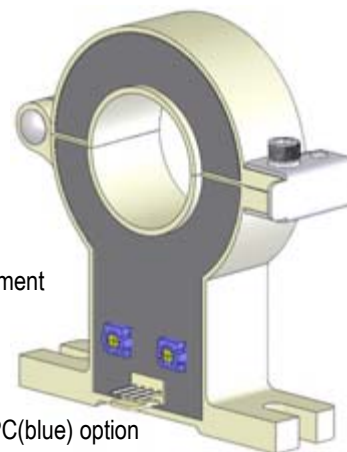


# Topstek True RMS Current Transducer TFC30P80A..TFC1500A-CL420

## TFC30P80A~1500A-CL420



### Features

- ◆ Highly reliable Open Loop Hall Effect 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
- ◆ True RMS output
- ◆ 4-20mA 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:  
PBT+30%GF(white) 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: Molex 5045 type (2.54mm pitch)  
-E: Euro type connector (5.08mm pitch)

### Specifications

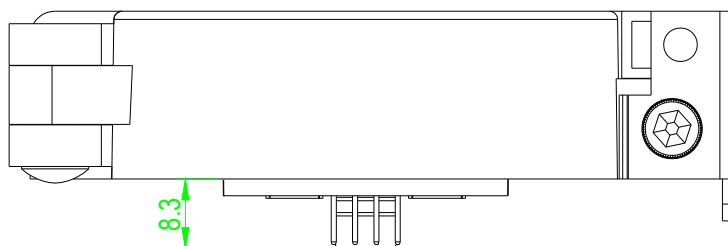
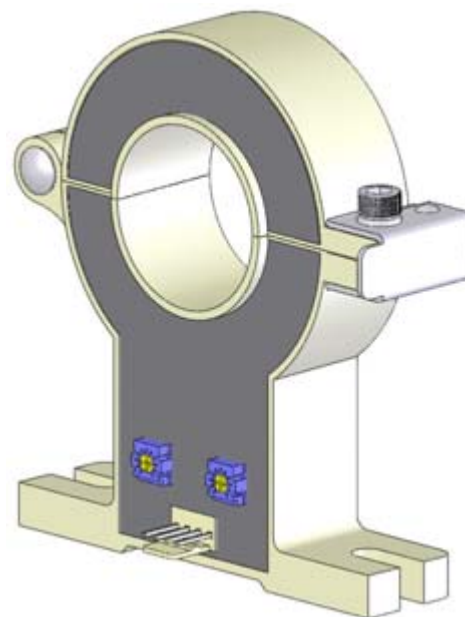
| Parameter                            | Symbol     | Unit             | 80A  | 100A | 200A | 300A  | 400A  | 500A  | 600A  | 1000A | 1500A |
|--------------------------------------|------------|------------------|--|------|------|-------|-------|-------|-------|-------|-------|
| Nominal Input Current                | $I_{PN}$   | A <sub>RMS</sub> | 80   | 100  | 200  | 300   | 400   | 500   | 600   | 1000  | 1500  |
| Max Primary Current Peak             | $I_{PMax}$ | A                | ±400   | ±400 | ±800 | ±1200 | ±1600 | ±2000 | ±2400 | ±3000 | ±3000 |
| 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               | <32 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        | <150 msec  |      |      |       |       |       |       |       |       |
| Frequency bandwidth (±1dB)           | $f_{BW}$   | Hz               | DC to 6kHz   |      |      |       |       |       |       |       |       |
| Thermal Drift of Output              | -          | %/°C             | Within ±0.1 %/°C @ $I_{PN}$                                  |      |      |       |       |       |       |       |       |
| Thermal Drift of Zero Current Offset | -          | $\mu$ A/°C       | < ±3 $\mu$ A/°C(0-60°C), < ±6 $\mu$ A/°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                | 240 g  |      |      |       |       |       |       |       |       |



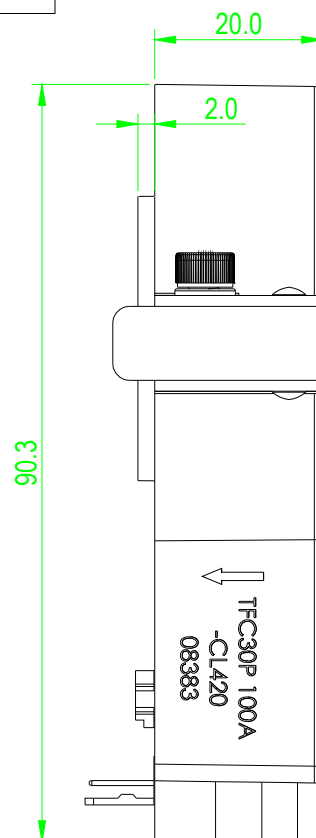
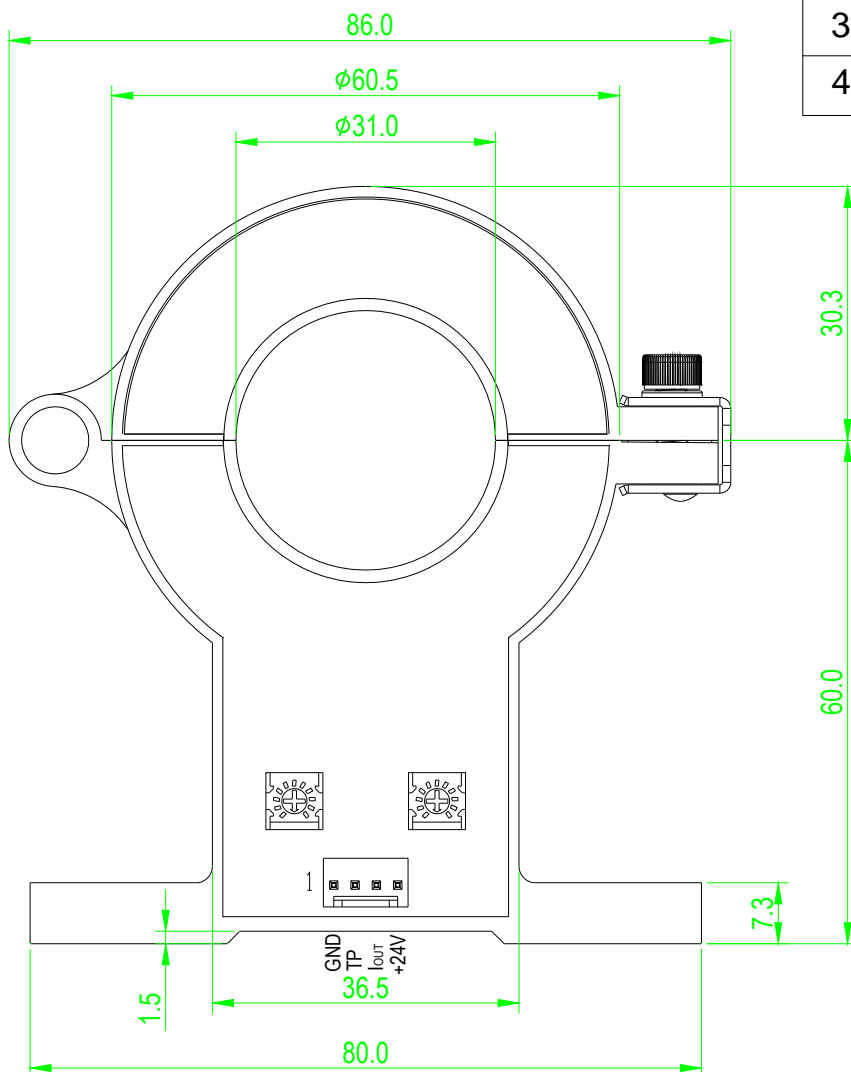
# Topstek True RMS Current Transducer TFC30P80A..TFC1500A-CL420

## Appearance, dimensions and pin identification of TFC30P-CL420-M

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



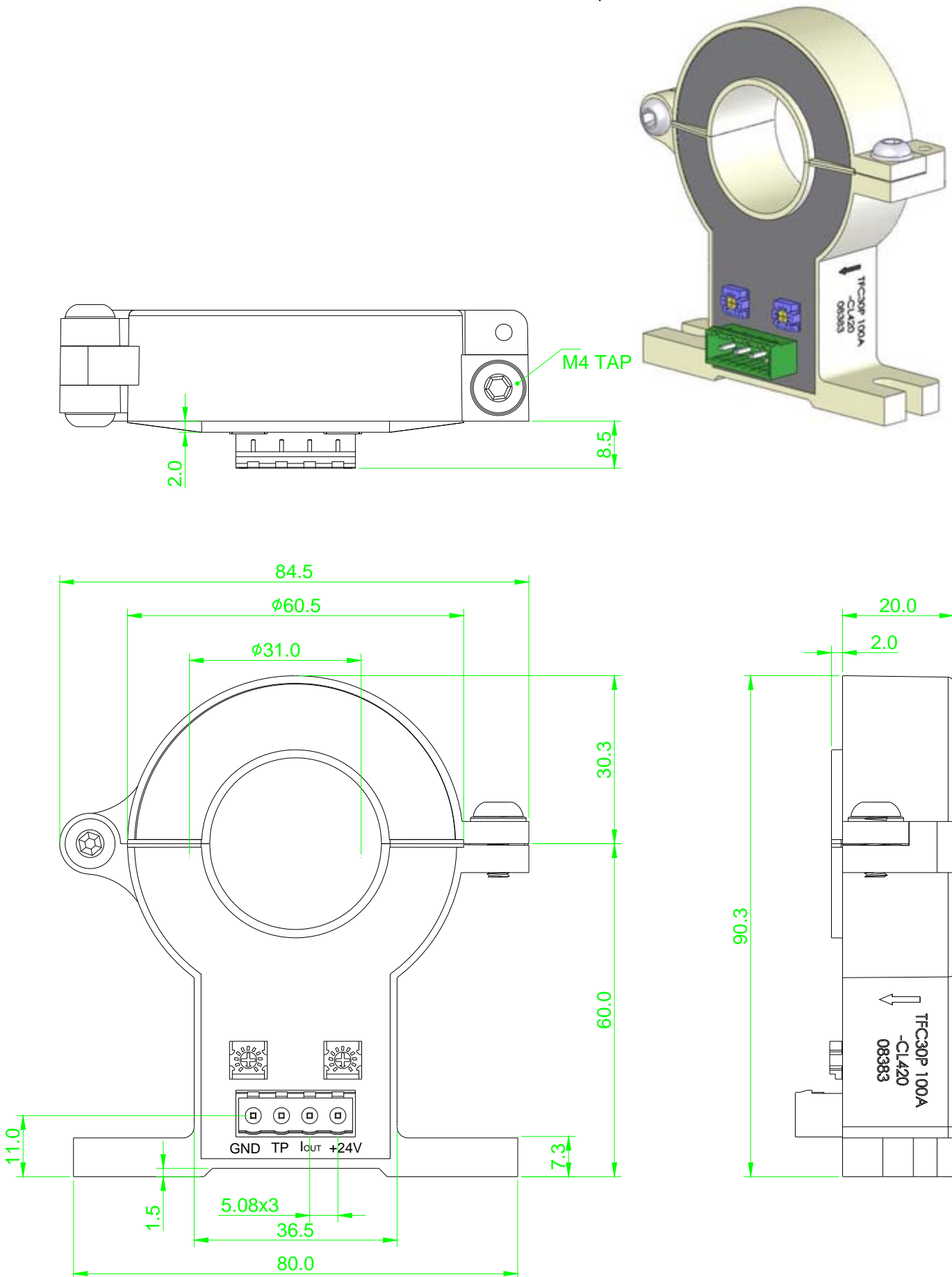
| Pin Assignment |      |
|----------------|------|
| 1              | 0V   |
| 2              | TP   |
| 3              | Iout |
| 4              | +24V |



# Topstek True RMS Current Transducer TFC30P80A..TFC1500A-CL420

## Appearance, dimensions and pin identification of TFC30P-CL420-E

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



# Topstek True RMS Current Transducer TFC30P80A..TFC1500A-CL420

## Application Connections

TFC30P-CL420 can be used with two types of connections. In both cases, the GND pin have no internal connection, and TP Pin is for factory calibration only.

### Connection 1:

The power supply is on the receiver side. Only two connector pins are used.

### Connection 2:

The power supply is on the CT side. Make sure you have a proper ground connection to prevent grounding noise.

