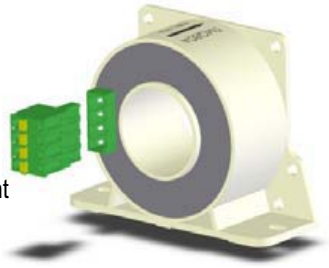
# Topstek True RMS Current Transducer TMQ80A..1000A-CL420

## TMQ80A~1000A-CL420



### Features

- ♦ Highly reliable Open Loop Hall Effect device
- ♦ 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

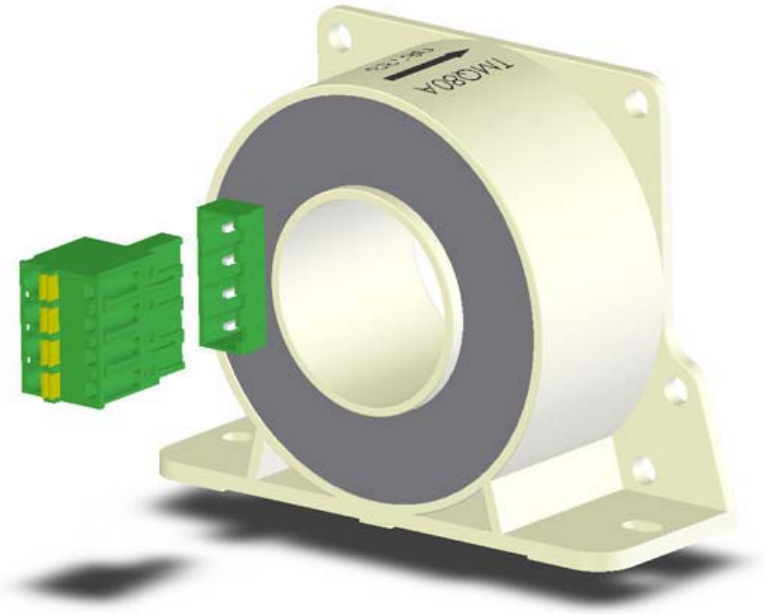
- ♦ Plastic case material:
  PBT+30%GF(white) standard and PC(blue) option
- ♦ Operating temperature range:
  70°C standard and option 85°C available
- ♦ Connector type: specify –E or –M. If other types of connector required, please contact factory for other possibilities.

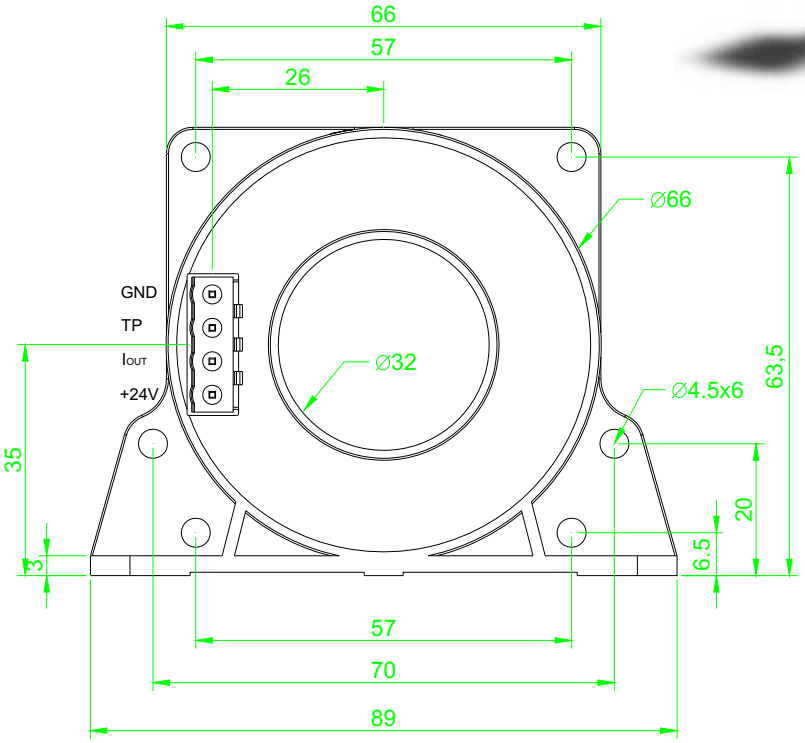
### Specifications

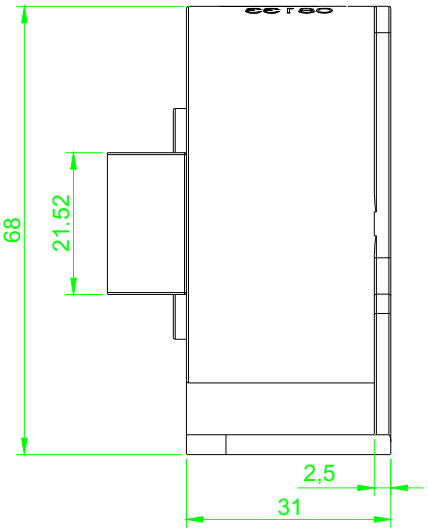
| Parameter | Symbol | Unit | 80A | 100A | 200A | 300A | 400A | 500A | 600A | 1000A |
|---|---|---|---|---|---|---|---|---|---|---|
| Nominal Input Current | $I_{PN}$ | A RMS | 80 | 100 | 200 | 300 | 400 | 500 | 600 | 1000 |
| Max Primary Current Peak | $I_{PMax}$ | A | ±400 | ±400 | ±800 | ±1200 | ±1600 | ±2000 | ±2400 | ±2400 |
| 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 | $R_L$ | 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 | <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 | - | μA/°C | < ±3μA/°C(0-60°C), < ±6μA/°C(-40 .. 70°C) | | | | | | | |
| Dielectric Strength | - | V | AC3KV 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 | 240 g | | | | | | | |

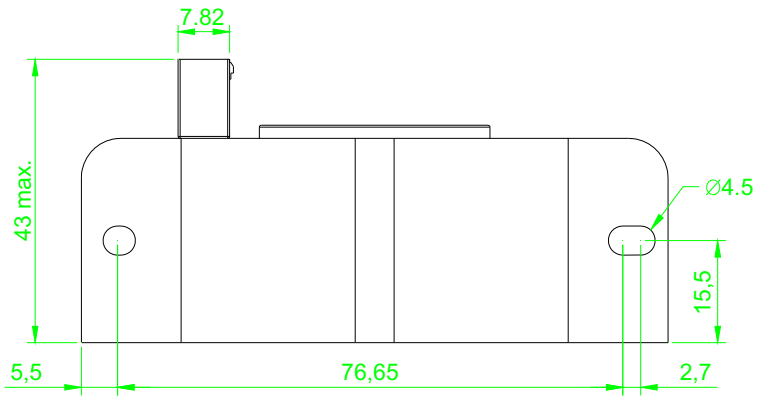
## Appearance, dimensions and pin identification of TMQ-CL420-E

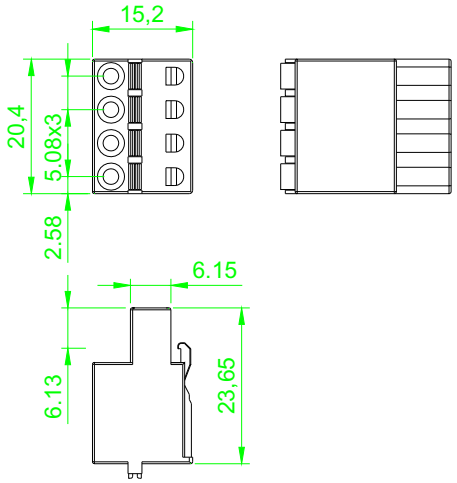
All dimensions in mm ±0.2, holes –0, +0.2 except otherwise noted.





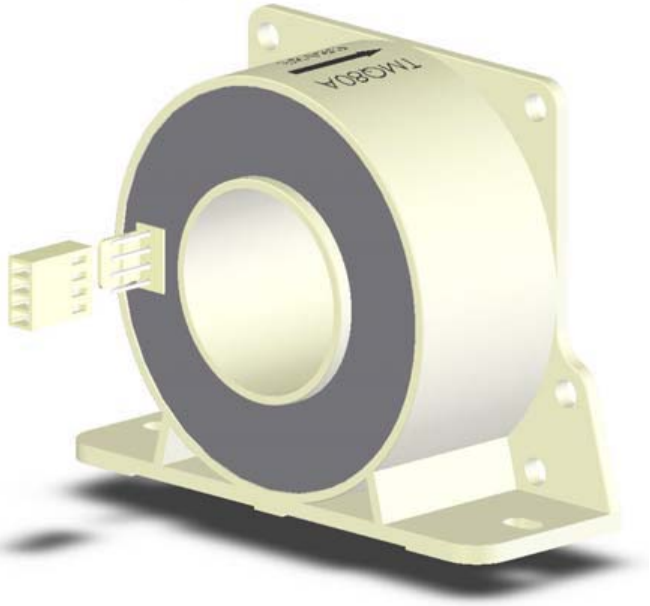



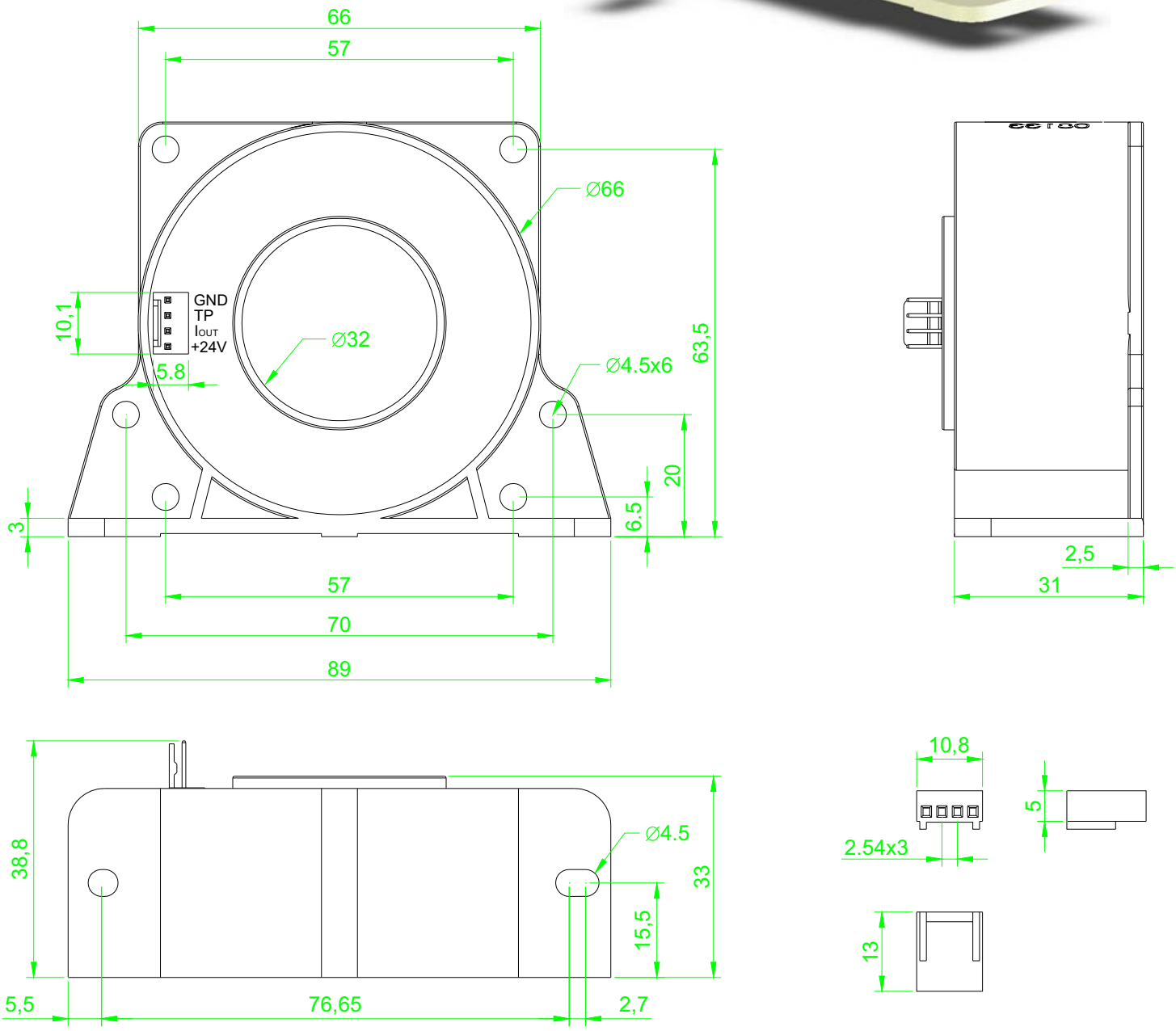



## Appearance, dimensions and pin identification of TMQ-CL420-M

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



## Application Connections

TMQ-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.