# Current Transducer LTC 1000-T

$I_{PN}$ = 1000 A

For the electronic measurement of currents : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

## Electrical data

| | | | | | |
|---|---|---|---|---|---|
| $I_{PN}$ | Primary nominal r.m.s. current | | 1000 | | A |
| $I_P$ | Primary current, measuring range @ 24 V | | 0 .. ± 2400 [1] | | A |
| $\hat{I}_P$ | Max overload not measurable | | 10 / 10 | | kA/ms |
| $R_M$ | Measuring resistance | | $R_{M\,min}$ | $R_{M\,max}$ | |
| | with ± 15 V | @ ± 1000 A $_{max}$ | 0 | 15 | Ω |
| | | @ ± 1200 A $_{max}$ | 0 | 7 | Ω |
| | with ± 24 V | @ ± 1000 A $_{max}$ | 0 | 50 | Ω |
| | | @ ± 2000 A $_{max}$ | 0 | 7 | Ω |
| $I_{SN}$ | Secondary nominal r.m.s. current | | 200 | | mA |
| $K_N$ | Conversion ratio | | 1 : 5000 | | |
| $V_C$ | Supply voltage (± 5 %) | | ± 15 .. 24 | | V |
| $I_C$ | Current consumption | | < 30 (@±24V)+$I_S$ | | mA |
| $V_d$ | R.m.s. voltage for AC isolation test, 50 Hz, 1 mn | | 13.4 [2] | | kV |
| | | | 1.5 [3] | | kV |
| $V_e$ | R.m.s. voltage for partial discharge extinction | | > 2.8 | | kV |



## Accuracy - Dynamic performance data

| | | | | | |
|---|---|---|---|---|---|
| $X_G$ | Overall accuracy @ $I_{PN}$, $T_A$ = 25°C | | < ± 0.4 | | % |
| | @ $I_{PN}$, $T_A$ = - 40°C .. + 85°C | | < ± 1 | | % |
| $\varepsilon_L$ | Linearity | | < 0.1 | | % |
| | | | Max | | |
| $I_O$ | Offset current @ $I_P$ = 0, $T_A$ = 25°C | | ± 0.5 | | mA |
| $I_{OT}$ | Thermal drift of $I_O$ | - 40°C .. + 85°C | ± 1 | | mA |
| $t_r$ | Response time [4] @ 90 % of $I_{PN}$ | | < 1 | | µs |
| di/dt | di/dt accurately followed | | > 100 | | A/µs |
| f | Frequency bandwidth (- 1 dB) | | DC .. 100 | | kHz |

## General data

| | | | | |
|---|---|---|---|---|
| $T_A$ | Ambient operating temperature | | - 40 .. + 85 | °C |
| $T_S$ | Ambient storage temperature | | - 45 .. + 90 | °C |
| $R_S$ | Secondary coil resistance @ $T_A$ = 85°C | | 44 | Ω |
| m | Mass | | 1270 | g |
| | Standards | | EN 50155 (01.12.20) | |

Notes : [1] With a di/dt of > 5 A/µs
[2] Between primary and secondary + shield
[3] Between secondary and shield
[4] With a di/dt of 100 A/µs.

## Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0
- Railway equipment.

## Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

## Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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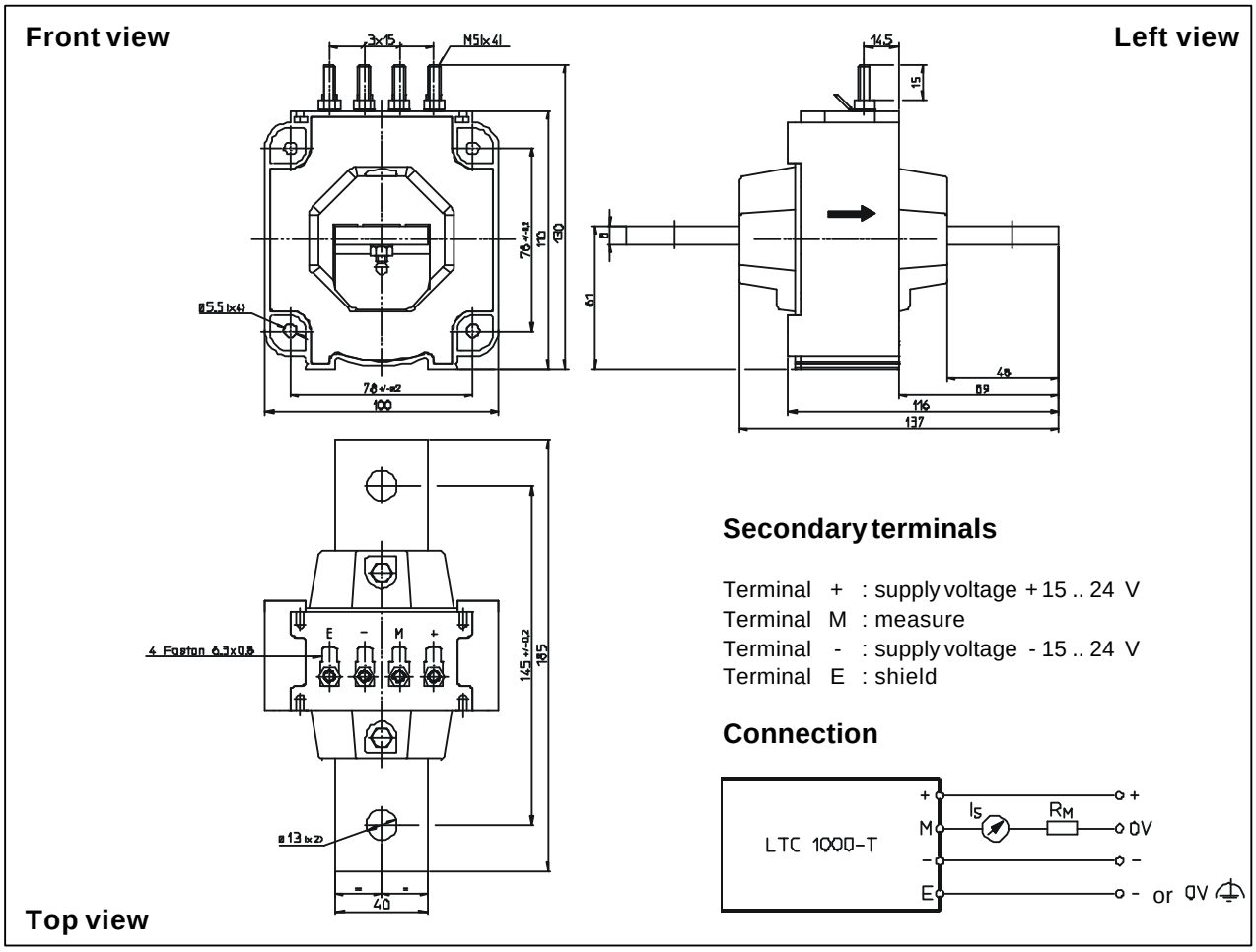
## Dimensions LTC 1000-T (in mm. 1 mm = 0.0394 inch)




## Mechanical characteristics

| | |
|---|---|
| • General tolerance | ± 1 mm |
| • Fixing the transducer | 2 holes ∅ 13 mm<br>or by the primary bar<br>2 steel screws M12 |
| Fastening torque max | 24.5 Nm |
| • Connection of secondary | M5 threaded studs |
| Fastening torque max | 2.2 Nm or 1.62 Lb.-Ft.<br>Faston 6.3 x 0.8 mm |

## Remarks

- $I_S$ is positive when $I_P$ flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.