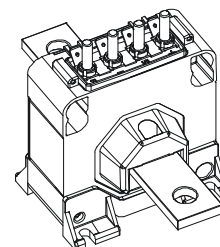


# Current Transducer LTC 500-TF

$I_{PN} = 500 \text{ A}$

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	500	A		
$I_P$	Primary current, measuring range @ 24 V	0 .. $\pm 1200$	A		
$R_M$	Measuring resistance	$R_{Mmin}$	$R_{Mmax}$		
				with $\pm 15 \text{ V}$	@ $\pm 500 \text{ A}_{max}$
		@ $\pm 900 \text{ A}_{max}$	0	7	$\Omega$
	with $\pm 24 \text{ V}$	@ $\pm 500 \text{ A}_{max}$	0	110	$\Omega$
	@ $\pm 1200 \text{ A}_{max}$	0	20	$\Omega$	
$I_{SN}$	Secondary nominal r.m.s. current	125	mA		
$K_N$	Conversion ratio	1 : 4000			
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 15 \dots 24$	V		
$I_C$	Current consumption	$< 35 (@\pm 24V) + I_S$	mA		

## Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0
- Transducer delivered with feet.

## 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.

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$< \pm 0.6$	%
$e_L$	Linearity error	$< 0.1$	%
		Max	
$I_O$	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	$\pm 0.5$	mA
$I_{OT}$	Thermal drift of $I_O$ - $40^\circ\text{C} \dots + 85^\circ\text{C}$	$\pm 0.8$	mA
$t_r$	Response time <sup>1)</sup> @ 90 % of $I_{PN}$	$< 1$	$\mu\text{s}$
$di/dt$	$di/dt$ accurately followed	$> 100$	A/ $\mu\text{s}$
$f$	Frequency bandwidth (-1 dB)	DC .. 100	kHz

## Applications

- Single or three phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

## General data

$T_A$	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$
$T_S$	Ambient storage temperature	- 45 .. + 90	$^\circ\text{C}$
$R_S$	Secondary coil resistance @ $T_A = 85^\circ\text{C}$	47	$\Omega$
$m$	Mass	650	g
	Standards	EN 50155 : 2001	

## Application Domain

- Traction.

Note : <sup>1)</sup> With a  $di/dt$  of 100 A/ $\mu\text{s}$ .

**Current Transducer LTC 500-TF****Isolation characteristics**

$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	12 <sup>2)</sup>	kV
		1.5 <sup>3)</sup>	kV
		Min	
<b>dCp</b>	Creepage distance	63.20	m m
<b>dCl</b>	Clearance distance	48.80	m m
<b>CTI</b>	Comparative Tracking Index (Group I)	600	

Notes : <sup>2)</sup> Between primary and secondary + shield

<sup>3)</sup> Between secondary and shield.

**Safety**

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.



Caution, risk of electrical shock

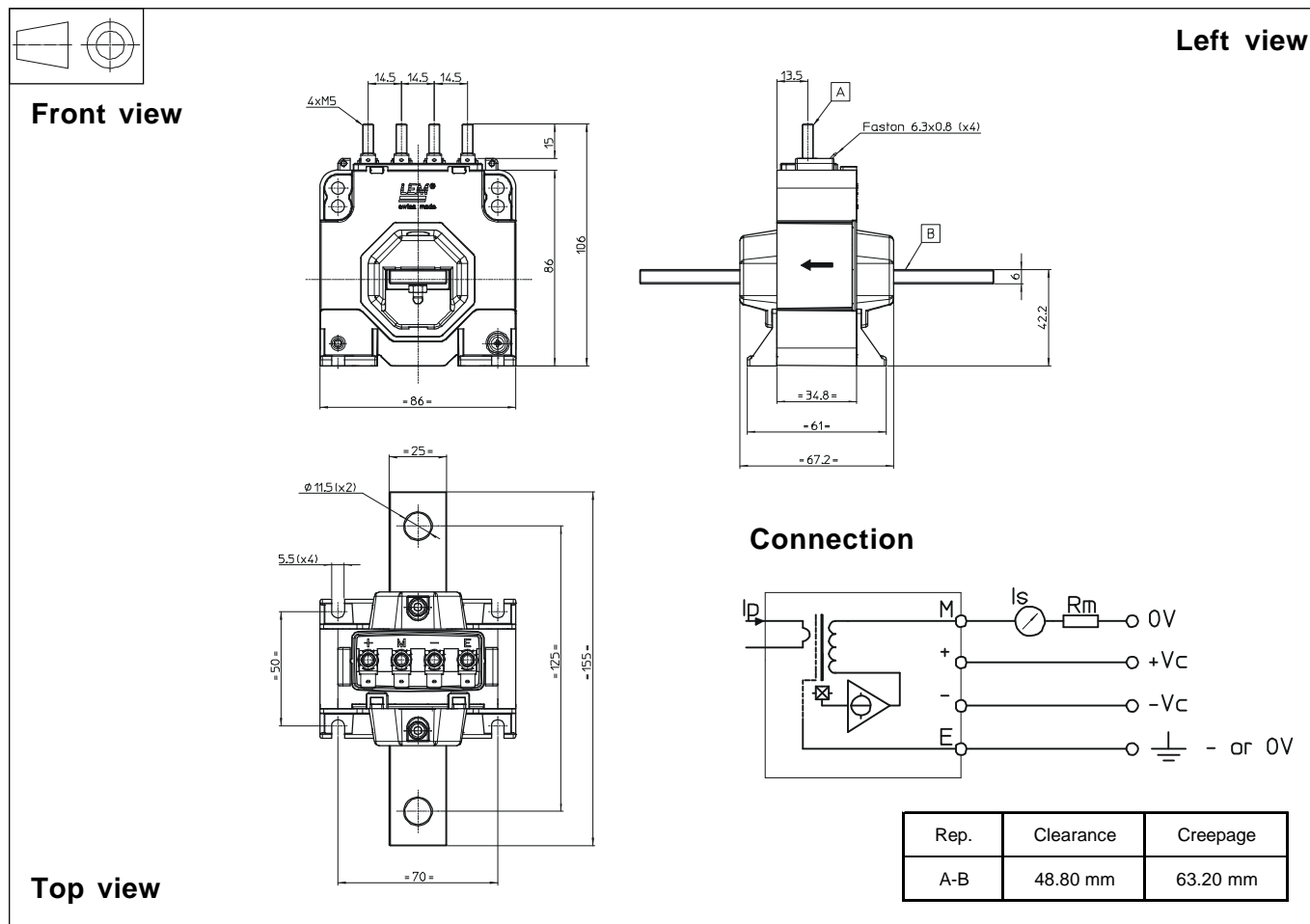
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

## Dimensions LTC 500-TF (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 1$  mm
- Transducer fastening
  - By the primary 2 holes  $\varnothing 11.5$  mm
  - Or by using the mounting feet 4 slots  $\varnothing 5.5$  mm
  - 4 M5 steel screws
  - Recommended fastening torque 3.4 Nm or 2.51 Lb. - Ft.
- Primary through-hole  $\varnothing 27.5$  mm
- Connection of secondary 4 M5 threaded studs
- Recommended fastening torque 2.2 Nm or 1.62 Lb.-Ft.
- 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  $100^\circ\text{C}$ .
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.