

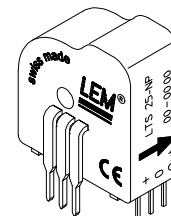
## Current Transducer LTS 25-NP

$I_{PN} = 8 - 12 - 25 \text{ A}$

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



Preliminary



### Electrical data

$I_{PN}$	Primary nominal r.m.s. current	25	At
$I_P$	Primary current, measuring range	0 .. $\pm 80$	At
$V_{OUT}$	Analog output voltage @ $I_P$	$2.5 \pm (0.625 \cdot I_P / I_{PN}) \text{ V}$	
	$I_P = 0$	$2.5^{1)}$	V
$N_S$	Number of secondary turns ( $\pm 0.1 \%$ )	2000	
$R_L$	Load resistance	$\geq 2$	k $\Omega$
$R_{IM}$	Internal measuring resistance ( $\pm 0.5 \%$ )	50	$\Omega$
$TCR_{IM}$	Thermal drift of $R_{IM}$	$< 50$	ppm/K
$V_C$	Supply voltage ( $\pm 5 \%$ )	5	V
$I_C$	Current consumption @ $V_C = 5 \text{ V}$	Typ $20 + I_S^{(2)} + (V_{OUT} / R_L) \text{ mA}$	
$V_d$	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn	3	kV
$V_b$	R.m.s. rated voltage	$525^{3)}$	V

### Accuracy - Dynamic performance data

$X$	Accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.2$	%
	Accuracy with $R_{IM}$ @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.7$	%
$\mathcal{E}_L$	Linearity	$< 0.1$	%
$TCV_{OUT}$	Thermal drift of $V_{OUT}$ @ $I_P = 0$	-10 $^\circ\text{C}$ .. +85 $^\circ\text{C}$	Typ 50   Max 100 ppm/K
$TCE_G$	Thermal drift of the gain	-10 $^\circ\text{C}$ .. +85 $^\circ\text{C}$	50 $^{4)}$ ppm/K
$V_{OM}$	Residual voltage @ $I_P = 0$ , after an overload of $3 \times I_{PN}$		$\pm 0.5$ mV
	$5 \times I_{PN}$		$\pm 2.0$ mV
	$10 \times I_{PN}$		$\pm 2.0$ mV
$t_{ra}$	Reaction time @ 10 % of $I_{PN}$	$< 50$	ns
$t_r$	Response time @ 90 % of $I_{PN}$	$< 200$	ns
$di/dt$	di/dt accurately followed	$> 100$	A/ $\mu\text{s}$
$f$	Frequency bandwidth (0 .. -0.5 dB)	DC .. 100	kHz
	(-0.5 .. 1 dB)	DC .. 200	kHz

### General data

$T_A$	Ambient operating temperature	-10 .. +85	$^\circ\text{C}$
$T_S$	Ambient storage temperature	-25 .. +100	$^\circ\text{C}$
$m$	Mass	10	g
	Standards	EN 50178	

- Notes : 1) Absolute value @  $T_A = 25^\circ\text{C}$ ,  $2.475 < V_{OUT} < 2.525$   
 2) Please see the operation principle on the other side  
 3) Pollution class 2, Overvoltage category III  
 4) Only due to  $TCR_{IM}$

### Features

- Closed loop (compensated) multi-range current transducer using the Hall effect
- Unipolar voltage supply
- Insulated plastic case recognized according to UL 94-V0
- Compact design for PCB mounting
- Incorporated measuring resistance
- Extended measuring range.

### Advantages

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

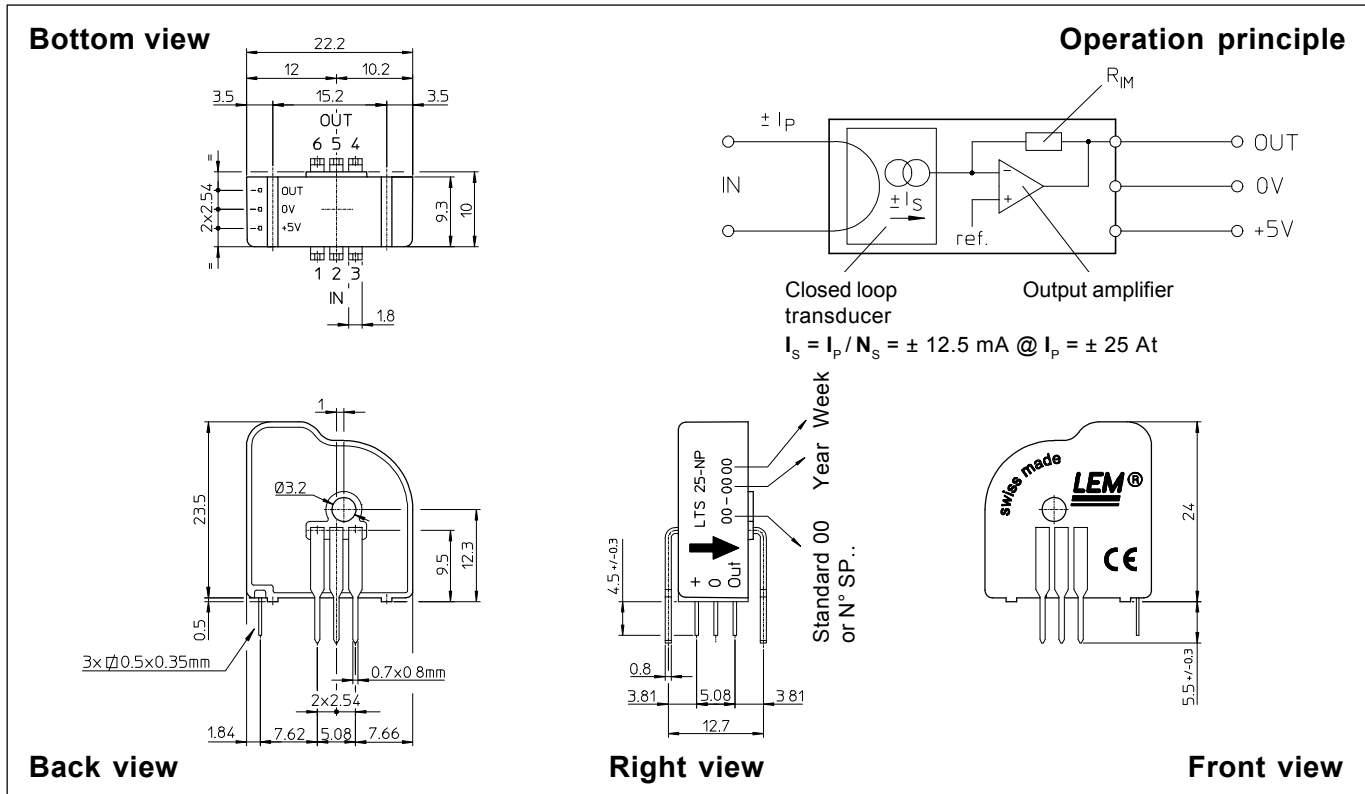
### Applications

- 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 LTS 25-NP (in mm. 1 mm = 0.0394 inch)



Number of primary turns	Primary nominal r.m.s. current $I_{PN}$ [A]	Nominal output voltage $V_{OUT}$ [V]	Primary resistance $R_p$ [mΩ]	Primary insertion inductance $L_p$ [μH]	Recommended connections
1	± 25	$2.5 \pm 0.625$	0.18	0.013	
2	± 12	$2.5 \pm 0.600$	0.81	0.05	
3	± 8	$2.5 \pm 0.600$	1.62	0.12	

### Mechanical characteristics

- General tolerance: ± 0.2 mm
- Fastening & connection of primary: 6 pins 0.7 x 0.8 mm  
Recommended PCB hole: 1.3 mm
- Fastening & connection of secondary: 3 pins 0.5 x 0.35 mm  
Recommended PCB hole: 0.8 mm
- Additional primary through-hole: Ø 3.2 mm

### Remark

- $V_{OUT}$  is positive when  $I_p$  flows from terminals 1, 2, 3 to terminals 6, 5, 4

### Output Voltage - Primary Current

