Current Transducer LTS 25-NP

I_{PN} = 8 - 12 - 25 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).

Electrical data

I_{PN}	Primary nominal r.m.s. current		25	A t
I_P	Primary current, measuring range		0 .. ± 80	A t
V_{OUT}	Analog output voltage @ I_P		2.5 ± (0.625·I_P/I_{PN})	V
	I_P = 0		2.5 [1]	V
N_S	Number of secondary turns (± 0.1 %)		2000	
R_L	Load resistance		≥ 2	kΩ
R_{IM}	Internal measuring resistance (± 0.5 %)		50	Ω
TCR_{IM}	Thermal drift of R_{IM}		< 50	ppm/K
V_C	Supply voltage (± 5 %)		5	V
I_C	Current consumption @ V_C = 5 V	Typ	23+I_S [2]+(V_{OUT}/R_L)	mA
V_d	R.m.s. voltage for AC isolation test, 50/60 Hz, 1 mn		3	kV
V_e	R.m.s. voltage for partial discharge extinction @ 10 pC		> 1.5	kV
V_w	Impulse withstand voltage 1.2/50 µs		> 8	kV

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C			± 0.2	%
	Accuracy with R_{IM} @ I_{PN}, T_A = 25°C			± 0.7	%
ε_L	Linearity			< 0.1	%
			Typ	Max	
TCV_{OUT}	Thermal drift of V_{OUT} @ I_P = 0	- 10°C .. + 85°C	50	100	ppm/K
$TC\varepsilon_G$	Thermal drift of the gain	- 10°C .. + 85°C		50 [3]	ppm/K
V_{OM}	Residual voltage @ I_P = 0, after an overload of 3 x I_{PN}			± 0.5	mV
	5 x I_{PN}			± 2.0	mV
	10 x I_{PN}			± 2.0	mV
t_{ra}	Reaction time @ 10 % of I_{PN}			< 50	ns
t_r	Response time @ 90 % of I_{PN}			< 400	ns
di/dt	di/dt accurately followed			> 60	A/µs
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	°C
T_S	Ambient storage temperature	- 25 .. + 100	°C
	Insulating material group	III a	
m	Mass	10	g
	Standards	EN 50178 (97.10.01)	
		CEI 60950-1(01.10.26)	

Notes : [1] Absolute value @ T_A = 25°C, 2.475 < V_{OUT} < 2.525

[2] Please see the operation principle on the other side

[3] 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.

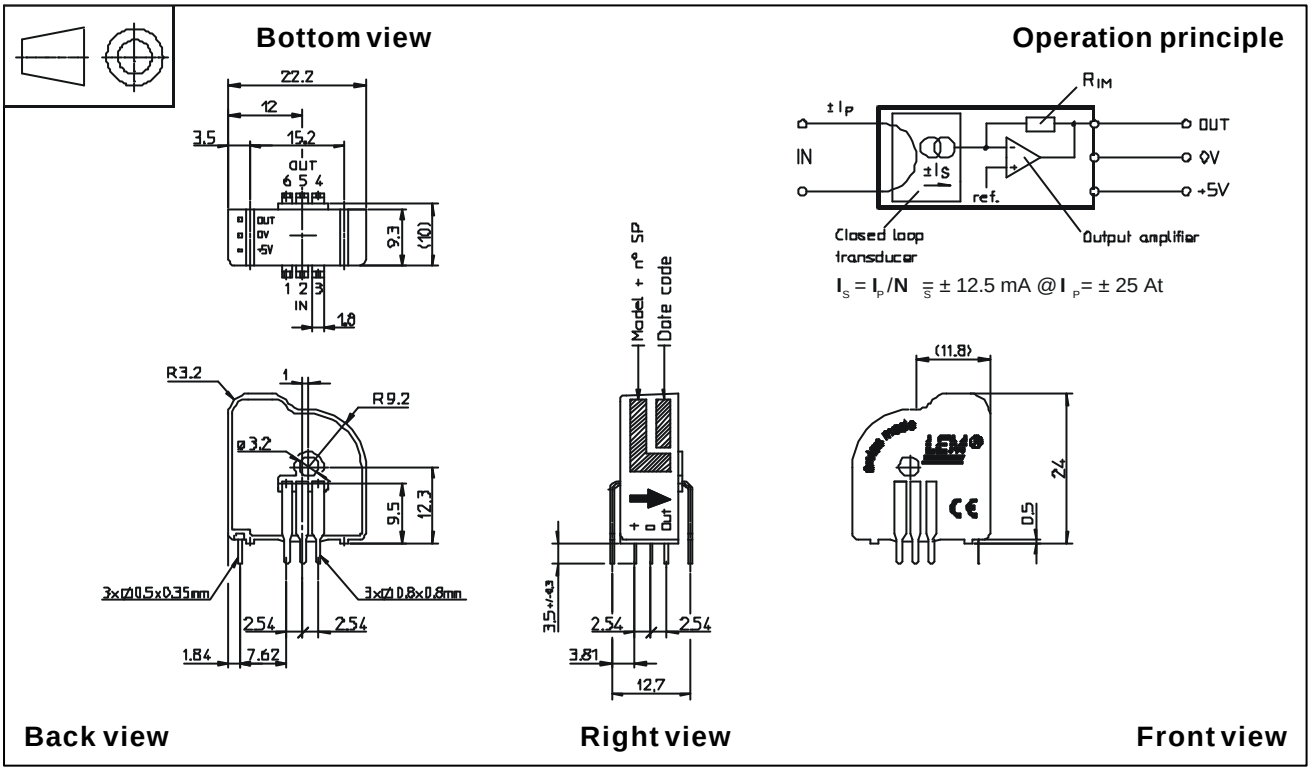
Applications

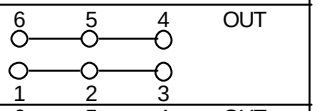
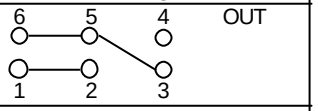
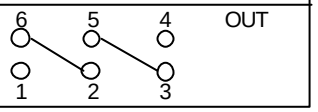
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Copyright protected.

030815/13

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 ± 0.625	0.18	0.013	
2	± 12	2.5 ± 0.600	0.81	0.05	
3	± 8	2.5 ± 0.600	1.62	0.12	

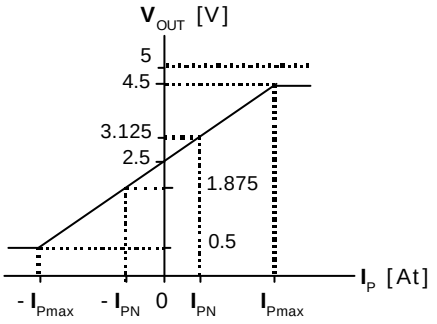
Mechanical characteristics

- General tolerance ± 0.2 mm
- Fastening & connection of primary 6 pins 0.8 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 ∅ 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



LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.