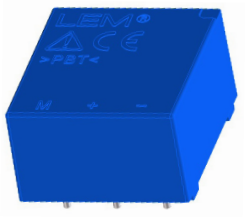
Current Transducer LA 25-NP

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic separation between the primary circuit and the secondary circuit.

I_{PN} = 25 At



Electrical data

I_{PN}	Primary nominal RMS current			25			At
I_{PM}	Primary current, measuring range			0 … ±36			At
R_M	Measuring resistance @		T_A = 70 °C		T_A = 85 °C		
			$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
	with ±15 V	@ ±25 At $_{max}$	100	320	100	315	Ω
		@ ±36 At $_{max}$	100	190	100	185	Ω
I_{SN}	Secondary nominal RMS current			25			mA
N_P/N_S	Turns ratio			1-2-3-4-5 : 1000			
U_C	Supply voltage (±5 %)			±15			V
				Typ		Max	
I_C	Current consumption			10 + I_S		11 + I_S	mA

Accuracy - Dynamic performance data

ε_{tot}	Total error @ I_{PN}, T_A = 25 °C		±0.5		%
ε_L	Linearity error		< 0.2		%
			Typ	Max	
I_{OE}	Electrical offset current [1] @ I_P = 0, T_A = 25 °C		±0.05	±0.15	mA
I_{OM}	Magnetic offset current [2] @ I_P = 0 and specified R_M, after an overload of 3 × I_{PN}		±0.05	±0.15	mA
I_{OT}	Temperature variation of I_O	0 °C … +25 °C	±0.06	±0.25	mA
		+25 °C … +70 °C	±0.10	±0.35	mA
		−25 °C … +85 °C		±0.5	mA
		−40 °C … +85 °C		±1.2	mA
$t_{D\,90}$	Delay time [3] to 90 % of the final output value for I_{PN} step		< 1		µs
BW	Frequency bandwidth (−1 dB)		DC ... 150		kHz

General data

T_A	Ambient operating temperature		−40 ... +85	°C
$T_{A\,st}$	Ambient storage temperature		−45 ... +90	°C
R_P	Resistance of primary (winding)	@ T_A = 25 °C	< 1.25	mΩ
R_S	Resistance of secondary winding	@ T_A = 70 °C	110	Ω
		@ T_A = 85 °C	115	Ω
R_{INS}	Insulation resistance @ 500 V, T_A = 25 °C		> 1500	MΩ
m	Mass		22	g
	Standards		EN 50178: 1997 UL 508: 2010	

Notes: [1] Measurement carried out after 15 mn functioning
[2] The result of the coercive field of the magnetic circuit
[3] For a di/dt = 100 A/µs.

Features

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

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.

Application domain

- Industrial.

LEM International SA
Route du Nant-d'Avril, 152
1217 Meyrin
www.lem.com

Current Transducer LA 25-NP

Insulation coordination

U_d	RMS voltage for AC insulation test, 50 Hz, 1 min	2.5	kV
U_{Ni}	Impulse withstand voltage 1.2/50 µs	9 Min	kV
d_{Cp}	Creepage distance	10.63	mm
d_{Cl}	Clearance	10.63	mm
CTI	Comparative tracking index (group IIIa)	175	

Applications examples

According to **EN 50178 and IEC 61010-1** *standards* and following conditions:

- Over voltage category OV 3
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
d_{Cp}, d_{Cl}, U_{Ni}	Rated insulation voltage	Nominal voltage
Basic insulation	1000 V	1000 V
Reinforced insulation	500 V	300 V

Safety

This tran*sducer* must be used in limited-energy secondary circuits according to IEC 61010-1.



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

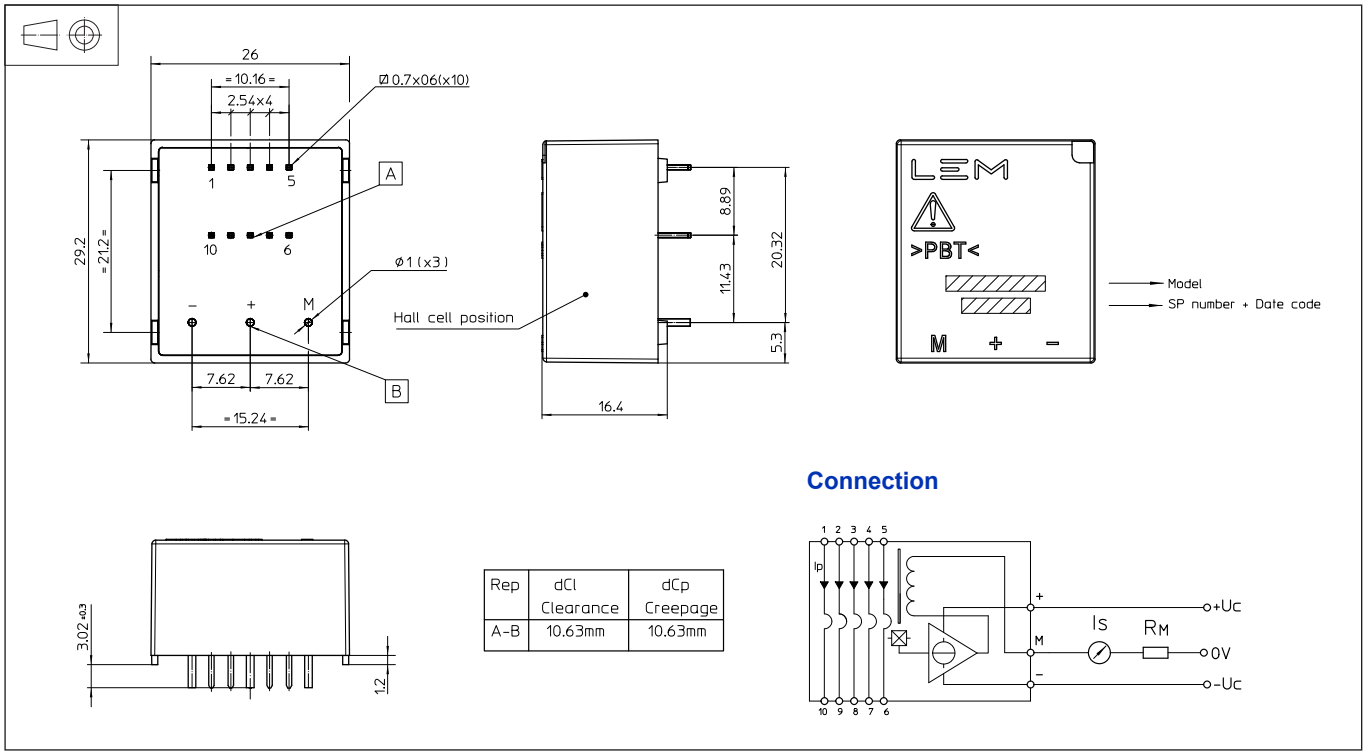


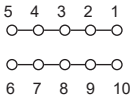
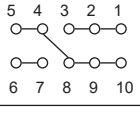
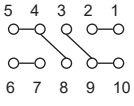
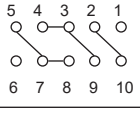
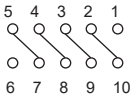
Caution, risk of electrical shock

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 build-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.

LEM International SA
Route du Nant-d'Avril, 152
1217 Meyrin
www.lem.com

Dimensions LA 25-NP (in mm)



Number of primary turns	Primary current		Nominal output current	Turns ratio	Primary resistance	Primary insertion inductance	Recommended connections
	nominal I_{PN} [A]	maximum I_P [A]	I_{SN} [mA]	N_P/N_S	R_P [mΩ]	L_P [µH]	
1	25	36	25	1 / 1000	0.3	0.023	
2	12	18	24	2 / 1000	1.1	0.09	
3	8	12	24	3 / 1000	2.5	0.21	
4	6	9	24	4 / 1000	4.4	0.37	
5	5	7	25	5 / 1000	6.3	0.58	

Mechanical characteristics

- General tolerance ±0.2 mm
- Fastening & connection of primary 10 pins 0.7 × 0.6 mm
- Fastening & connection of secondary 3 pins ∅ 1 mm
- Recommended PCB hole 1.2 mm

Remarks

- I_S is positive when I_P flows from terminals 1, 2, 3, 4, 5 to terminals 10, 9, 8, 7, 6.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

4November2026/Version 18 (Public datasheet)

LEM International SA
Route du Nant-d'Avril, 152
1217 Meyrin
www.lem.com

IMPORTANT NOTICE

The information in this document is considered accurate and reliable. However, LEM International SA and any company directly or indirectly controlled by LEM Holding SA ("LEM") do not provide any guarantee or warranty, expressed or implied, regarding the accuracy or completeness of this information and are not liable for any consequences resulting from its use. LEM shall not be responsible for any indirect, incidental, punitive, special, or consequential damages (including, but not limited to, lost profits, lost savings, business interruption, costs related to the removal or replacement of products, or rework charges) regardless of whether such damages arise from tort (including negligence), warranty, breach of contract, or any other legal theory.

LEM reserves the right to update the information in this document, including specifications and product descriptions, at any time without prior notice. Information in this document replaces any previous versions of this document. No license to any intellectual property is granted by LEM through this document, either explicitly or implicitly. Any Information and product described herein is subject to export control regulations.

LEM products may possess either unidentified or documented vulnerabilities. It is the sole responsibility of the purchaser to design and operate their applications and products in a manner that mitigates the impact of these vulnerabilities. LEM disclaims any liability for such vulnerabilities. Customers must select products with security features that best comply with applicable rules, regulations, and standards for their intended use. The purchaser is responsible for making final design decisions regarding its products and for ensuring compliance with all legal, regulatory, and security-related requirements, irrespective of any information or support provided by LEM.

LEM products are not intended, authorized, or warranted for use in life support, life-critical, or safety-critical systems or equipment, nor in applications where failure or malfunction of an LEM product could result in personal injury, death, or significant property or environmental damage. LEM and its suppliers do not assume liability for the inclusion and/or use of LEM products in such equipment or applications; thus, this inclusion and/or use is at the purchaser's own and sole risk. Unless explicitly stated that a specific LEM product is automotive qualified, it should not be used in automotive applications. LEM does not accept liability for the inclusion and/or use of non-automotive qualified products in automotive equipment or applications.

Applications that are described herein are for illustrative purposes only. LEM makes no representation or warranty that LEM products will be suitable for a particular purpose, a specified use or application. The purchaser is solely responsible for the design and operation of its applications and devices using LEM products, and LEM accepts no liability for any assistance with any application or purchaser product design. It is purchaser's sole responsibility to determine whether the LEM product is suitable and fit for the purchaser's applications and products planned, as well as for the planned application and use of purchaser's third-party customer(s).

Stressing and using LEM products at or above limiting values will cause permanent damage to the LEM product and potentially to any device embedding or operating with LEM product. Limiting values are stress ratings only and operation of the LEM product at or above conditions and limits given in this document is not warranted. Continuous or repeated exposure to limiting values will permanently and irreversibly affect the quality and reliability of the LEM product.

LEM products are sold subject to the general terms and conditions of commercial sale, as published at www.lem.com unless otherwise agreed in a specific written agreement. LEM hereby expressly rejects the purchaser's general terms and conditions for purchasing LEM products by purchaser. Any terms and conditions contained in any document issued by the purchaser either before or after issuance of any document by LEM containing or referring to the general terms and conditions of sale are explicitly rejected and disregarded by LEM, and the document issued by the purchaser is wholly inapplicable to any sale or licensing made by LEM and is not binding in any way on LEM.

© 2025 LEM INTERNATIONAL SA – All rights reserved

LEM International SA
Route du Nant-d'Avril, 152
1217 Meyrin
www.lem.com