Current Transducer LT 4000-T/SP37

I_{PN} = 4000 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).

CE

RoHS COMPLIANT 2002/95/EC

0708

Electrical data

I_{PN}	Primary nominal r.m.s. current		4000		A
I_P	Primary current, measuring range		0 .. ± 5650		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ± 24 V	@ ± 4000 A_{max}	0	11	Ω
		@ ± 5650 A_{max}	0	3.5	Ω
I_{SN}	Secondary nominal r.m.s. current		800		mA
K_N	Conversion ratio		1 : 5000		
V_C	Supply voltage (± 5 %)		± 24		V
I_C	Current consumption		35 + I_S		mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn		9 [1]		kV
			1 [2]		kV
V_e	R.m.s. voltage for partial discharge extinction @ 10 pC		8.35		kV
$\hat{V}_i$	Impulse voltage (1.2 / 50 µs)		41		kV
LS	Clearance distance		> 62		mm
KS	Creepage distance		> 106		mm

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C		± 0.2		%
ε_L	Linearity error		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.8	mA
I_{OT}	Thermal drift of I_O	- 25°C .. + 70°C	± 0.6	± 0.8	mA
t_r	Response time [3] @ 90 % of I_{PN}		< 1		µs
di/dt	di/dt accurately followed		> 50		A/µs
f	Frequency bandwidth (- 1 dB)		DC .. 100		kHz

General data

T_A	Ambient operating temperature		- 25 .. + 70	°C
T_S	Ambient storage temperature		- 40 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 70°C		15	Ω
m	Mass		12.1	kg
	Standards		EN 50178: 1997	

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

Features

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

Special features

- I_P = 0 .. ± 5650 A
- Internal shield linked to the external shield
- Shield around the secondary connection
- Primary busbar with cylindric mid-section ∅ 60 mm.

Advantages

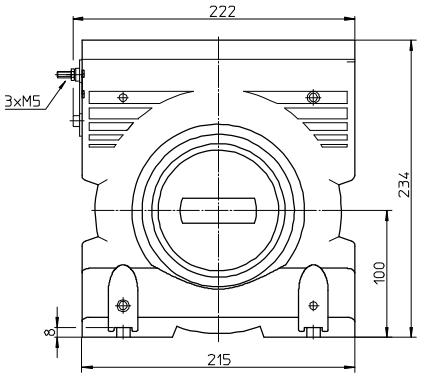
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

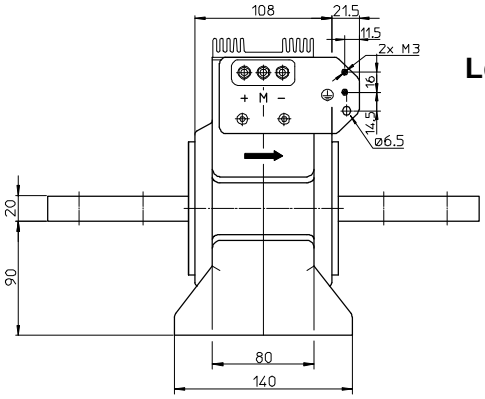
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

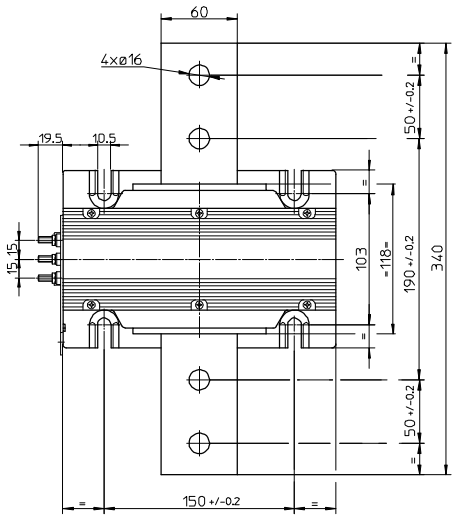
Dimensions LT 4000-T/SP37 (in mm. 1 mm = 0.0394 inch)

Front view



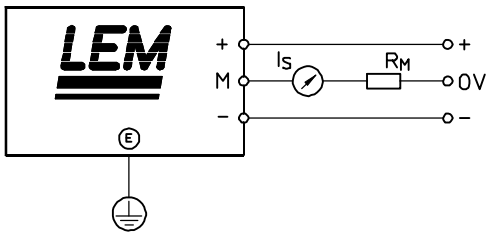
Left view





Top view

Connection



Mechanical characteristics

• General tolerance	± 1 mm
• Transducer fastening	using primary bar or 4 slots ∅ 10.5 mm 4 M10 steel screws
Recommended fastening torque	11.5 Nm or 8.48Lb - Ft
• Connection of primary	4 holes ∅ 16 mm 4 M12 steel screws
Recommended fastening torque	24.5 Nm or 18 Lb - Ft
• Connection of secondary	M5 threaded studs
Recommended fastening torque	2.2 Nm or 1.62 Lb - Ft
• Earth connection	holes ∅ 6.5 mm and/ or 2 screws M3

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.

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 vunerabilities. 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.