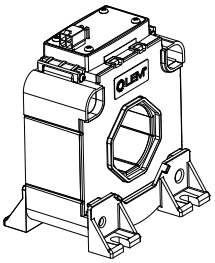
Current Transducer LTC 1000-SF/SP26

I_{PN} = 1300 A

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



Electrical data

I_{PN}	Primary nominal current RMS		1300		A
I_{PM}	Primary current, measuring range @ ±24 V		0 ... ±3000		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ±15 V	@ ±1000 A $_{max}$	0	22	Ω
		@ ±1500 A $_{max}$	0	7	Ω
	with ±24 V	@ ±1000 A $_{max}$	0	55	Ω
		@ ±3000 A $_{max}$	0	3	Ω
I_{SN}	Secondary nominal current RMS		325		mA
N_P/N_S	Turns ratio		1 : 4000		
U_C	Supply voltage (±5 %)		±15 ... 24		V
I_C	Current consumption		< 33 (@ ±24 V) + I_S		mA

Accuracy - Dynamic performance data

ε_{tot}	Total error @ I_{PN}, T_A = 25 °C		±0.8	%
ε_L	Linearity error		< 0.1	%
			Max	
I_O	Offset current @ I_P = 0, T_A = 25 °C		±0.5	mA
I_{OT}	Temperature variation of I_O	−40 °C ... +70 °C	±0.8	mA
$t_{D\,90}$	Delay time to 90 % of the final output value for I_{PN} step [1]		< 1	µs
BW	Frequency bandwidth (−1 dB)		DC ... 100	kHz

General data

T_A	Ambient operating temperature	−40 ... +70	°C
T_{Ast}	Ambient storage temperature	−50 ... +85	°C
R_S	Secondary coil resistance @ T_A = 70 °C	26	Ω
m	Mass	825	g
	Standards	EN 50155: 2021 [2]	
		EN 50121-3-2: 2016	

Notes: [1] For a di/dt = 100 A/µs

[2] Additional information available on request.

Features

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

Special features

- I_{PM} = 0 ... ±3000 A
- N_P/N_S = 1 : 4000
- T_A = −40 °C ... +70 °C
- Molex Mini-Fit. Jr. connector.

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

- Single or three phase inverters
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

Application domain

- Railway (fixed installations and onboard).

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Chemin des Aulx 8
1228 PLAN-LES-OUATES Switzerland
www.lem.com

Current Transducer LTC 1000-SF/SP26

Insulation coordination

U_d	RMS voltage for AC insulation test, 50 Hz, 1 min	12 [1)]	kV
		1 [2)]	kV
U_{Ni}	Impulse withstand voltage 1.2/50 µs	8	kV
U_t	Partial discharge RMS test voltage (q_m < 10 pC)	2.8 [3)]	kV
		Min	
d_{Cp}	Creepage distance	66.7	mm
d_{Cl}	Clearance	45.9	mm
CTI	Comparative tracking index (group I)	600	

Notes: [1)] Between primary and secondary + shield
[2)] Between secondary and shield
[3)] With a centered round primary bar ⌀ 40 mm.

Safety

This transducer 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.

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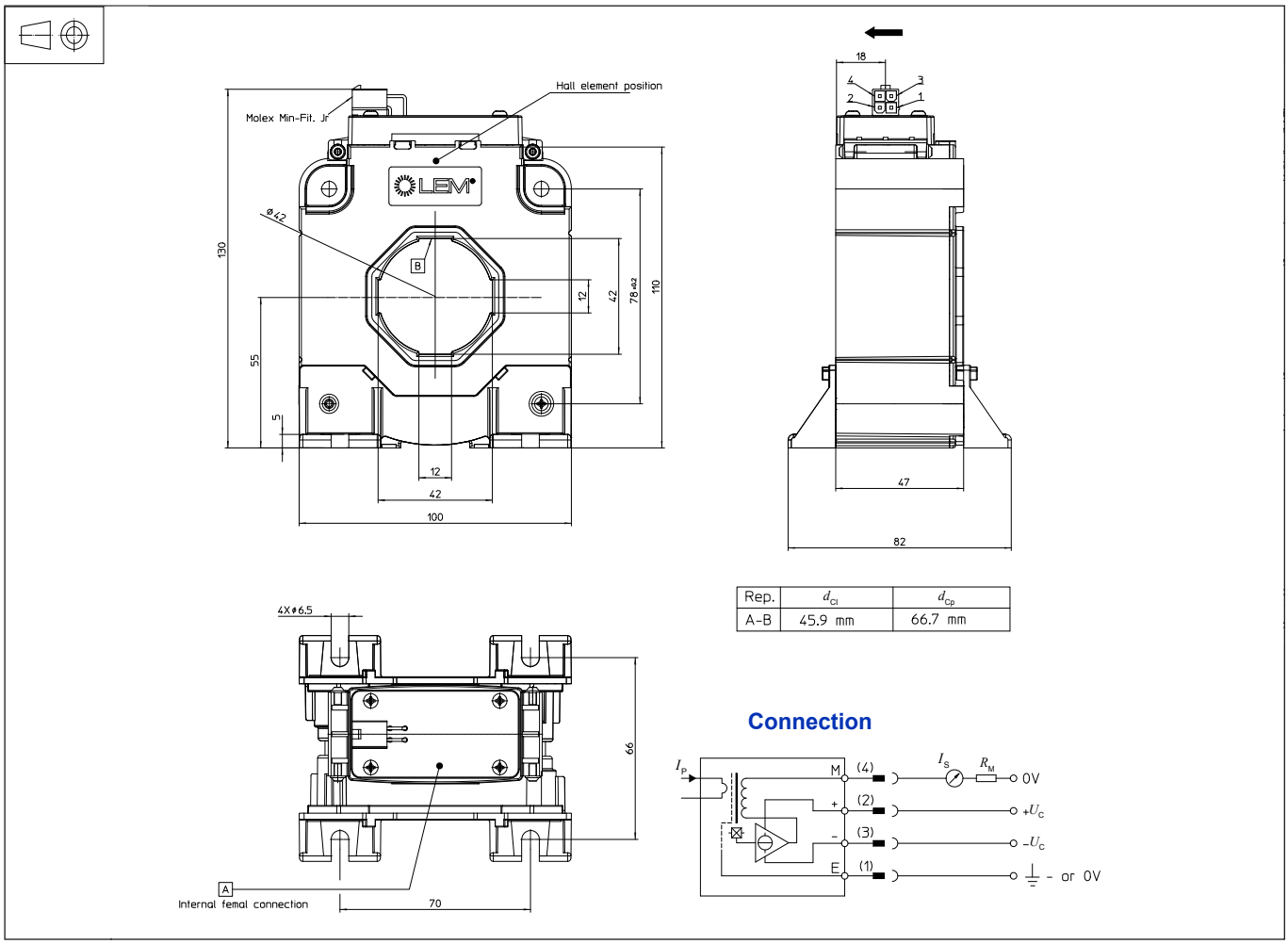
Dimensions LTC 1000-SF/SP26 (in mm)



Rep.	d_{Cl}	d_{Cp}
A-B	45.9 mm	66.7 mm

Connection

Mechanical characteristics

- General tolerance ±1 mm
- Transducer fastening 4 slots ⌀ 6.5 mm
  4 M6 steel screws
  Recommended fastening torque 4.7 N m
- Primary through-hole ⌀ 42 mm
- Connection of secondary Molex Mini-Fit. Jr. connector

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.
- Installation of the transducer must be done unless otherwise specified on the datasheet, according to LEM Transducer Generic Mounting Rules. Please refer to LEM document N°ANE120504 available on our Web site: **https://www.lem.com/en/file/3137/download/**.
- Dynamic performances (di/dt and delay time) are best with a single bar completely filling the primary hole.

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