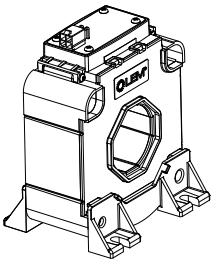
Current Transducer LTC 1000-SF/SP26

I_{PN} = 1300 A

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic isolation 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	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 [1] to 90 % of I_{PN} step		< 1	µs
BW	Frequency bandwidth (−1 dB)		DC ... 100	kHz

General data

T_A	Ambient operating temperature	−40 ... +70	°C
T_S	Ambient storage temperature	−50 ... +85	°C
R_S	Secondary coil resistance @ T_A = 70°C	26	Ω
m	Mass	825	g
	Standard	EN 50155: 2001	

Note: [1] For a di/dt > 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_{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

- Traction.

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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_e	Partial discharge extinction voltage RMS @ 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.

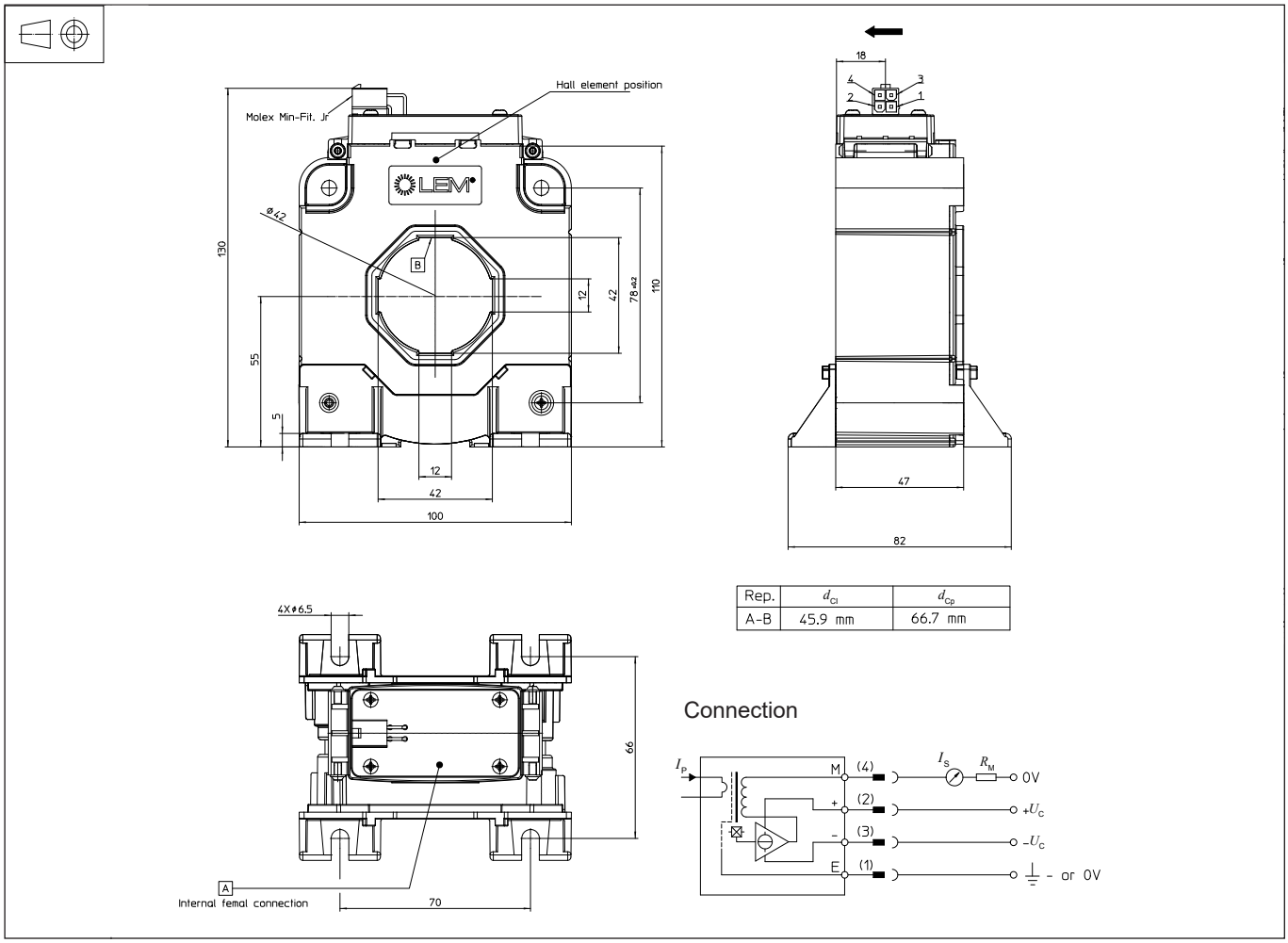
Safety

This transducer must be used in 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.

Dimensions LTC 1000-SF/SP26 (in mm)



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.