

# **Current Transducer LTC 200-SF/SP2**

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







**R**ØHS

# **Electrical data**

$I_{\scriptscriptstyle{PN}}$	Primary nominal rms cur	rent		200		Α
$I_{\scriptscriptstyle{PM}}$	Primary current, measuri	ng range @	) ± 24 V	0 ±	400	Α
$R_{\rm M}$	Measuring resistance			$R_{\text{M min}}$	$R_{\text{M max}}$	
	with ± 15 V	@ ± 200	A max	0	40	Ω
			A max	0	20	Ω
		@ ± 400	A max	0	9	Ω
	with ± 18 V	@ ± 200	A max	0	55	Ω
		@ ± 300		0	29	Ω
			A max	0	17	Ω
	with ± 24 V	@ ± 200	A max	10	84	Ω
		@ ± 300	A max	10	48	Ω
		@ ± 400	A max	10	31	Ω
$I_{\scriptscriptstyle{SN}}$	Secondary nominal rms	current	··········	200		mΑ
$K_{\rm N}$	Conversion ratio			1:10	00	
$U_{\rm c}$	Supply voltage (± 5 %)			± 15 .	. 24	V
$I_{_{ m C}}$	Current consumption			< 35 (@	②±24V)+I	<sub>s</sub> mA

# **Accuracy - Dynamic performance data**

$X_{_{\mathrm{G}}}$	Overall accuracy @ $I_{PN}$ , $T_{\Delta}$ = 25 °C	< ± 0.5	%
ε, ຶ	Linearity error	< 0.1	%
-		Max	
$I_{_{ m O}}$	Offset current @ $I_P$ = 0, $T_A$ = 25 °C	± 0.5	mA
$I_{_{ m O} au}$	Temperature variation of $I_{\odot}$ - 40 °C + 70 °C	± 0.8	mA
$t_{r}$	Step response time $^{1)}$ to 90 % of $I_{PN}$	< 1	μs
di/dt	di/dt accurately followed	> 100	A/µs
BW	Frequency bandwidth (- 1 dB)	DC 100	kHz

#### General data

_			40 . 70	0.0
I <sub>A</sub>	Ambient operating temperature		- 40 + 70	°C
$T_{\rm s}$	Ambient storage temperature		- 45 + 85	°C
$R_{\rm s}$	Resistance of secondary winding	@ $T_A = 70 ^{\circ}\text{C}$	20	Ω
m	Mass		340	g
	Standards		EN 50155: 20	07
			EN 50121-3-2: 2006	





#### **Features**

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

# **Special features**

- Secondary connection on 4 M5 threaded studs + Faston
- Customer No. 3EST000230-9954 on the case.

# **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 choppers
- Propulsion converters
- · Auxiliary converters
- Battery chargers.

# **Application Domain**

Traction.

Note: 1) With a di/dt of 100 A/µs.

24September2014/version 0 LEM reserves the right to carry out modifications on its transducers, in order to improve them, without prior notice



#### **Current Transducer LTC 200-SF/SP2**

Insulation coordination				
$U_{d}$	Rms voltage for AC insulation test, 50 Hz, 1 min	12 ¹)	kV	
u		1.5 <sup>2)</sup>	kV	
		Min		
$d_{_{\mathrm{Cp}}}$	Creepage distance	50.2	mm	
$oldsymbol{d}_{ extsf{CP}}$	Clearance	44.7	mm	
CTI	Comparative tracking index (group I)	600		

Notes: 1) Between primary and secondary + shield

# **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.

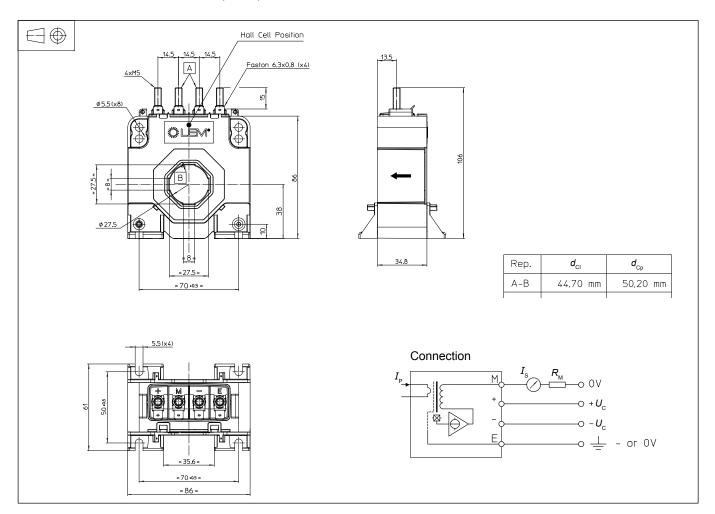
A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

<sup>&</sup>lt;sup>2)</sup> Between secondary and shield.



# Dimensions LTC 200-SF/SP2 (in mm)



# **Mechanical characteristics**

- General tolerance
- Transducer fastening

Recommended fastening torque 3.4 N·m

- Primary through-hole
- Connection of secondary Recommended fastening torque 2.2 N·m
- ± 1 mm
- 4 slots ø 5.5 mm
- 4 M5 steel screws
- ø 27.5 mm
  - 4 M5 threaded studs

Faston 6.3 × 0.8 mm

# **Remarks**

- $\bullet \ \ I_{\rm S}$  is positive when  $I_{\rm P}$  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: **Products/Product Documentation.**
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.