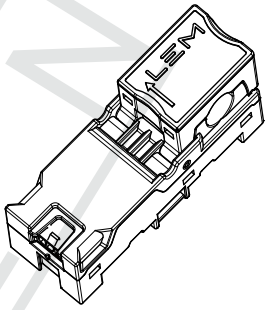
HTRS 10 ... 50 -SBI

I_{PN} = 10 ... 50 A

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



Electrical data

	Type	Primary nominal RMS current I_{PN} (A)	Primary current measuring range [1] I_{PM} (A)	
	HTRS 10 -SBI	10	±20	
	HTRS 30 -SBI	30	±60	
	HTRS 50 -SBI	50	±100	
I_{out}	Output current	@ I_P = 0 A	12	mA
I_{out}	Output current	@ I_P = $-I_{PN}$	8	mA
I_{out}	Output current	@ I_P = $+I_{PN}$	16	mA
I_{out}	Output current	@ I_P = $-I_{PM}$	4	mA
I_{out}	Output current	@ I_P = $+I_{PM}$	20	mA
R_M	Measuring resistance		50 … 250	Ω
U_C	Supply voltage [1]		+11.5 … +26	V
$I_{C\,max}$	Maximum current consumption [2]		50	mA

Accuracy - Dynamic performance data

ε_{tot}	Total error [3] [4] @ I_{PN}, T_A = +25 °C, U_C = +24 V	< ±2.0	% of I_{PN}
	Position sensitivity relative to center reading (max)	< ±2.0	% of I_{PN}
ε_L	Linearity error (0 … ±I_{PM})	< ±1.0	% of I_{PM}
I_{OE}	Electrical offset current referred to primary	< ±7.5	% of I_{PN}
I_{OM}	Magnetic offset current referred to primary after an overload of 3 × I_{PN}	< ±1.0	% of I_{PN}
I_{OT}	Temperature variation of I_O	0.002	mA/°K
TCS	Temperature coefficient of S	0.027	%/°K
$t_{D\,90}$	Delay time to 90 % of the final output value for I_{PN} step [5]	< 20	µs
BW	Frequency bandwidth (−3 dB)	DC … 5	kHz

General data

T_A	Ambient operating temperature	−40 … +85	°C
$T_{A\,st}$	Ambient storage temperature	−40 … +85	°C
m	Mass	35	g
IPxx	Protection degree	IP40	
Standards:	UL	UL508 : 2010	
	EMC	EN 50121-4 : 2015	
	Insulation	EN 50124-1 : 2017	
	Environemental	EN 50125-3 : 2003	

Notes: [1] Reverse polarity protection

[2] Including I_{out}

[3] Excludes electrical offset

[4] Includes linearity with the conductor in the center of the aperture

[5] For a di/dt = 50 A/µs.

Features

- Open loop current transducer using the Hall effect
- Panel mounting
- Split core design for easy installation
- Insulating plastic case recognized according to UL 94-V0
- Reverse polarity protected.

Advantages

- Easy mounting
- Small size and space saving
- No insertion losses
- Non-contact measurement (does not need a safety case).

Applications

- Points condition monitoring
- Signal light indication
- Battery supplied applications
- Uninterruptable Power Supplies (UPS).

Application Domain

- Track side.

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Current Transducer HTRS 10 ... 50 -SBI

Insulation coordination

U_d	RMS voltage for AC insulation test, 50 Hz, 1 min	TBD	V
U_{Ni}	Impulse withstand voltage 1.2/50 µs	TBD	kV
U_t	Partial discharge RMS test voltage (q_m < 10 pC)	TBD	V
		Min	
d_{Cp}	Creepage distance	12.7	mm
d_{Cl}	Clearance	12.7	mm
CTI	Comparative tracking index (group IIIa)	TBD	

Note: Overvoltage category III, Pollution degree 2.

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 (e.g. 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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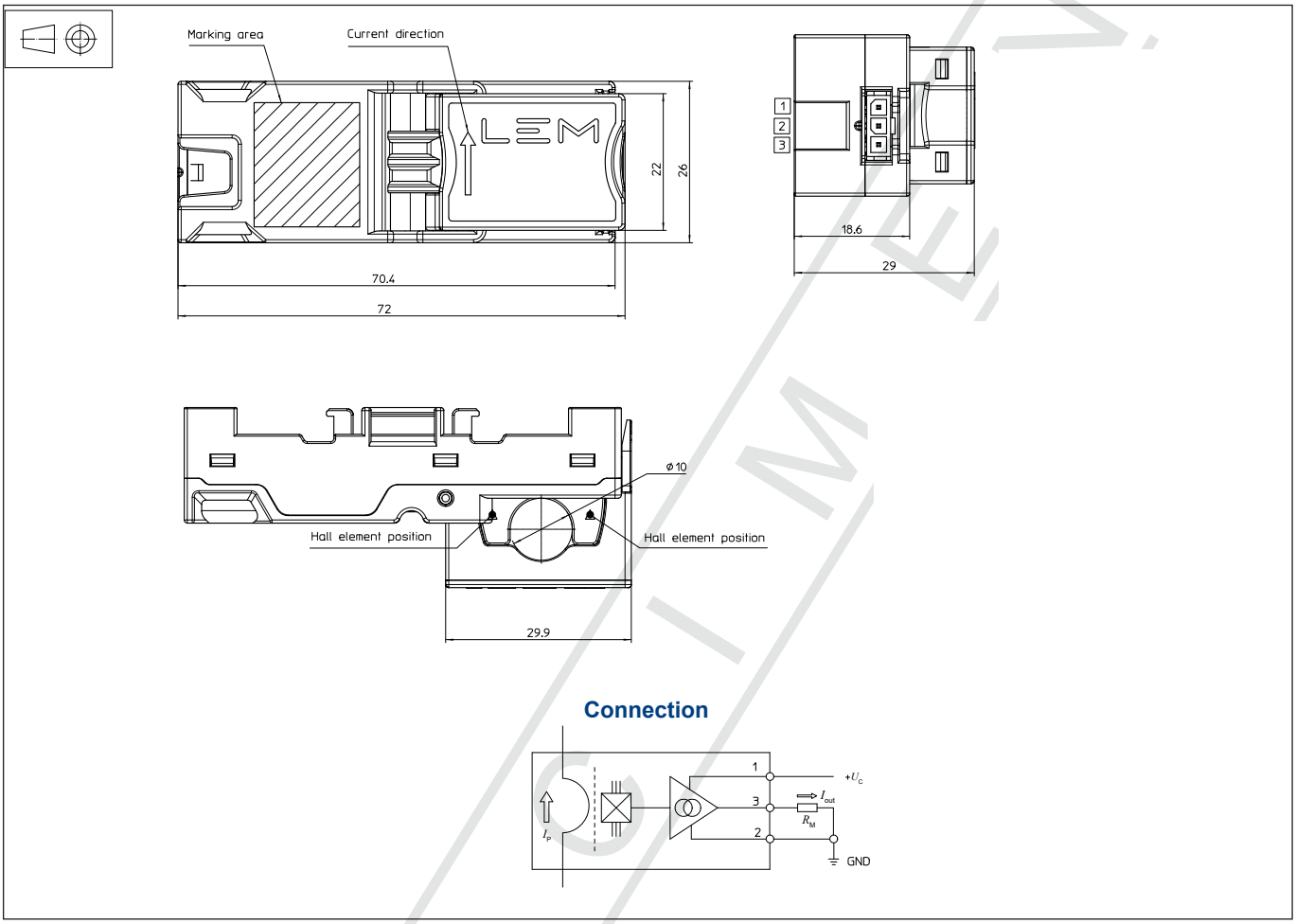
Dimensions HTRS 10 ... 50 -SBI (in mm)

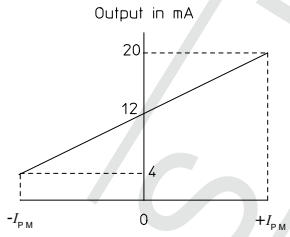


Connection

Mechanical characteristics

• General tolerance	±0.5 mm
• Connection of secondary	MOLEX 436500300
• Primary through hole	⌀ 10 mm

Transfer characteristics



Remarks

- I_{out} 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/.**
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

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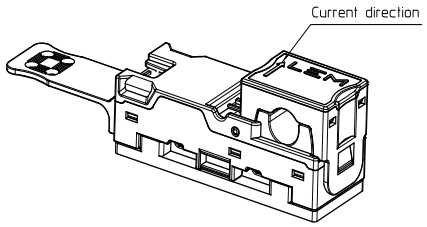
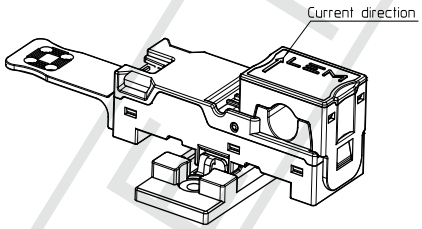
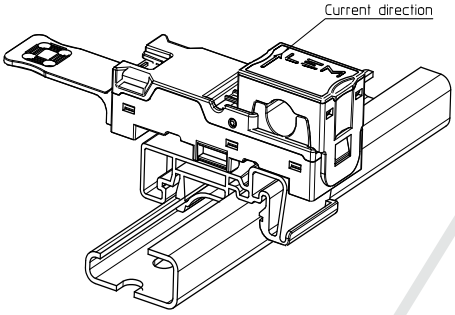
Installation information

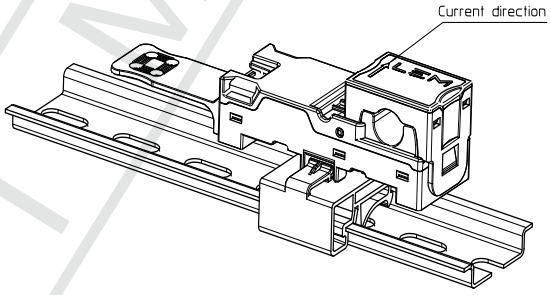
Assembly recommendation :
HTRS assembly with screw plate. The plate could fix product in 2 alternative directions (in parallel or vertical of the current direction)





Screw plate fastening: 2 holes or notches ø 9mm (2 steel screws M4)
- Recommended fastening torque (±10%): 1.5 N.m





Assembly recommendation :
HTRS assembly with DIN adapter. The adapter could fix product in 2 alternative directions
(in parallel or vertical of the current direction)
The DIN category : NS 32/15 and NS 35/7.5

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