Current Transducer LA 03 .. 20-PB

I_{PN} = 3 .. 20 A

For the electronic measurement of currents: DC, AC, pulsed, mixed, with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

Preliminary

Electrical data

Primary nominal r.m.s. current I_{PN} (A)	Primary current measuring range I_P (A)	Primary Conductor Diameter (mm)	Type
3	± 4.5	0.5	**LA 03-PB**
5	± 7.5	0.5	**LA 05-PB**
10	± 15	0.65	**LA 10-PB**
15	± 22.5	0.8	**LA 15-PB**
20	± 30	1.0	**LA 20-PB**

V_C	Supply voltage (± 5 %)	± 15	V
I_C	Current consumption	app. 20mA+ I_{PN}/1200	mA
V_d	R.m.s. voltage for AC isolation test, 50/60Hz,1mn	2.5	kV
R_{IS}	Isolation resistance @ 500 VDC	> 500	MΩ
V_{OUT}	Output voltage @ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C	± 4	V
R_L	Load resistance	> 10	kΩ

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (without offset)		< ± 1.5	% of I_{PN}
ε_L	Linearity (0 .. ± I_{PN})		< ± 1	% of I_{PN}
V_{OE}	Electrical offset voltage, T_A = 25°C		< ± 30	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0; after an excursion of 1 x I_{PN}		< ± 15	mV
V_{OT}	Thermal drift of V_{OE}	max.	± 1	mV/K
$TC\varepsilon_G$	Thermal drift(% of reading)		< 0.04	%/K
t_r	Response time @ 90% of I_P		< 3	µs
f	Frequency bandwidth (- 1dB)[1)]		DC .. 150	kHz

General data

T_A	Ambient operating temperature	- 10 .. + 80	°C
T_S	Ambient storage temperature	- 15 .. + 85	°C
m	Mass	< 12	g

Notes : EN 50178 approval pending

[1)] Derating is needed to avoid excessive core heating at high frequency.

Features

- Closed loop (compensation) current transducer using the Hall effect
- Voltage output
- Printed circuit board mounting

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 capacity

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)
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- Power supplies for welding applications

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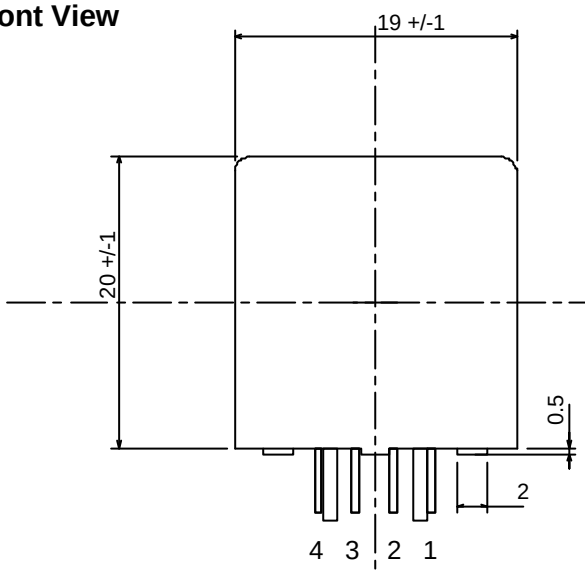
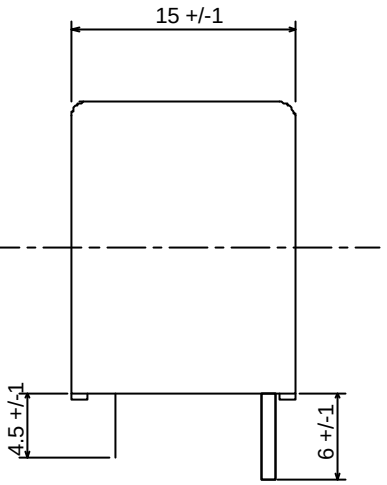
LA 03 ... 20-PB

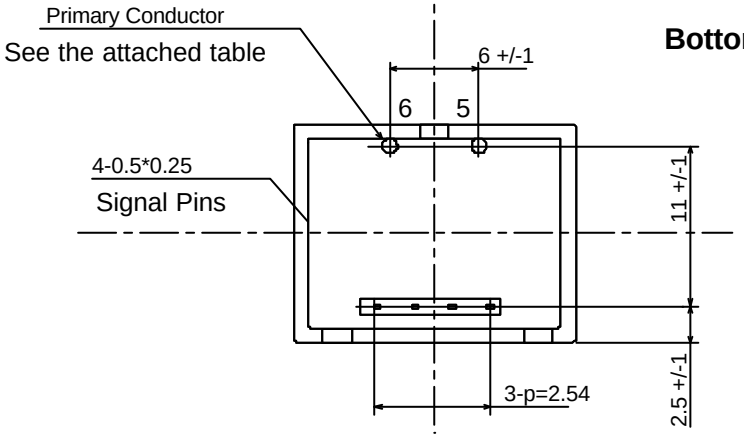
Front View



Right View



Bottom View



Terminal Pin Identification

Primary Conductor

Part No.	Diameter
LA 03-PB	0.5 d
LA 05-PB	0.5 d
LA 10-PB	0.65 d
LA 15-PB	0.8 d
LA 20-PB	1.0 d

Signal Pins

1	-Vcc
2	0V
3	+Vcc
4	Output

Direction of Current Flow

5 (+) → 6 (-)

UNIT : mm