



DATA SHEET

Hall Effect Current Sensor

PN:PTCHB_LTC15D_SF/SP2

$I_{PN}=500\sim 1000A$

Feature

- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC $\pm 15\sim 24V$

Advantages

- High accuracy
- Easy installation
- Low temperature drift
- Optimized response time
- High immunity to external interference
- Very good linearity
- Can be customized



Applications

- The application of variable frequency electrical appliances
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications



RoHS



Electrical data: ($T_a=25^\circ C$, $V_c=\pm 15VDC$)

Ref	PTCHB500LTC15D100SF/SP2	PTCHB1000LTC15D250SF/SP2	PTCHB1000LTC15D200SF/SP2
Parameter			
Rated input $I_{pn}(A)$	500	1000	1000
Measuring range $I_p(A)$	0 ~ ± 1500	0 ~ ± 3000	0 ~ ± 2400
Turns ratio $N_p/N_s (T)$	1:5000	1:4000	1:5000
Output current rms $I_S(mA)$	I_p/N_s	I_p/N_s	I_p/N_s
Rated output (I_s) (mA)	$\pm 100 * I_p / I_{PN}$	$\pm 250 * I_p / I_{PN}$	$\pm 200 * I_p / I_{PN}$
Secondary coil resistance $R_S (\Omega)$	45	26	45
Inside resistance $R_M (\Omega)$	$R_{M\max} = N_s \frac{V_{c\min} - 0.5V}{I_p} - R_{S\max} - 1.1 \Omega$		
Supply voltage $V_C(V)$	$(\pm 15 \sim \pm 24) \pm 5\%$		
Accuracy $XG(\%)$	@ $I_{PN}, T=25^\circ C$	< ± 0.4	
Offset current $I_{OE}(mA)$	@ $I_p=0, T=25^\circ C$	< ± 0.5	
Temperature variation of I_{OE} $I_{OT}(mA/^\circ C)$	@ $I_p=0, -40 \sim +85^\circ C$	< ± 0.5	



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Linearity error ϵ_r (%FS)		< 0.1
Di/dt (A/ μ s)		> 100
Response time τ_{ra} (μ s)	@90% of I_{PN}	< 1.0
Power consumption I_c (mA)		< 32+ I_s
Bandwidth BW(KHZ)	@-1dB, I_{PN}	DC-100
Insulation voltage V_d (KV)	@50/60Hz, 1min, AC	10.0

General data:

Parameter	Value
Operating temperature T_A ($^{\circ}$ C)	-50~ +85
Storage temperature T_S ($^{\circ}$ C)	-55~ +90
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):

	<p>Connection</p>
	<p>General tolerance</p> <p>General tolerance: <math>\pm 0.5\text{mm}</math> Primary through-hole: 42mm Through-hole clamp(bus bar): 40*8mm</p>

Remarks:

- When the current goes through the primary pin of a sensor, the voltage will be measured at the output end.
- Custom design is available for the different rated input current and the output voltage.
- The dynamic performance is the best when the primary hole is fully filled with.
- The primary conductor should be <math>< 100^{\circ}\text{C}</math>.

WARNING : Incorrect wiring may cause damage to the sensor.

