

Hall Effect Current Sensors L18P***S12 Series

Features:

- Open Loop type
- Printed circuit board mounting
- Integrated primary
- Unipolar power supply
- Busbar version from 40A to 60A
- Insulated plastic case according to UL94V0
- Regulated offset voltage
- UL Recognition

Advantage:

- Excellent accuracy and linearity
- Wide nominal current range
- Low temperature drift
- Wide frequency bandwidth
- No insertion loss
- High Immunity To External Interference
- Optimised response time
- Current overload capability

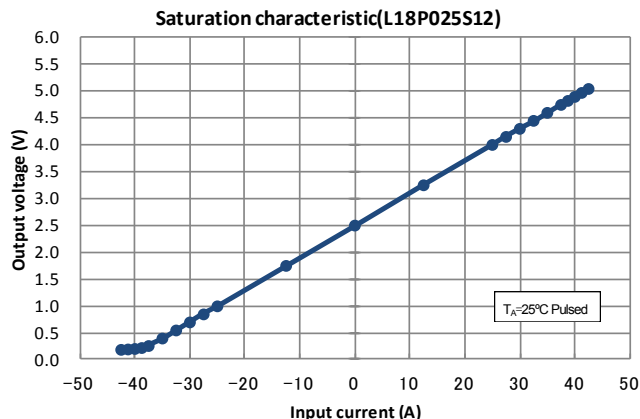
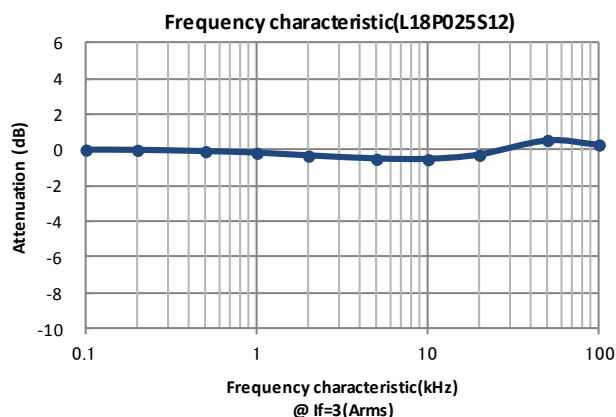
Specifications

 $T_A=25^{\circ}\text{C}$, $V_{CC}=+12\text{V}$, $R_L=10\text{k}\Omega$

Parameters	Symbol	L18P003 S12	L18P005 S12	L18P010 S12	L18P015 S12	L18P020 S12	L18P025 S12	L18P030 S12	L18P040 S12	L18P050 S12	L18P060 S12
Primary nominal current	I_f	3A	5A	10A	15A	20A	25A	30A	40A	50A	60A
Saturation current	I_{fmax}	$\geq \pm I_f \times 1.25$									
Rated output voltage	V_o	$V_{of} + 1.5\text{V} \pm 0.045\text{V}$ (at I_f)									
Offset voltage ¹	V_{of}	$2.5\text{V} \pm 0.035\text{V}$ (at $I_f=0\text{A}$)									
Output linearity ² (0A~ I_f)	ϵ_L	$\leq \pm 1\%$ (at I_f)									
Power supply voltage	V_{CC}	$+12\text{V} \pm 5\%$									
Consumption current	I_{CC}	$\leq 15\text{mA}$									
Response time ³	t_r	$\leq 5\mu\text{s}$ (at $di/dt = I_f / \mu\text{s}$)									
Thermal drift of gain ⁴	TcV_o	$\leq \pm 2.0\text{mV}/^{\circ}\text{C}$									
Thermal drift of offset	TcV_{of}	$\leq \pm 2.0\text{mV}/^{\circ}\text{C}$									
Hysteresis error	V_{OH}	$\leq 25\text{mV}$ (at $I_f=0\text{A} \rightarrow I_f \rightarrow 0\text{A}$)									
Insulation voltage	V_d	AC3000V for 1minute (sensing current 0.5mA), primary $\leftrightarrow$ secondary									
Insulation resistance	R_{IS}	$\geq 500\text{M}\Omega$ (at DC500V), primary $\leftrightarrow$ secondary									
Ambient operation temperature	T_A	$-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$									
Ambient storage temperature	T_s	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$									

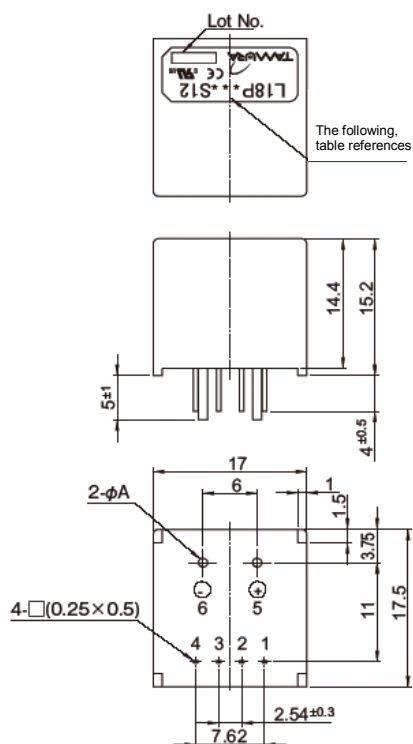
¹ V_{of} is fixed (independent of V_{CC}). After removal of core hysteresis — ² Without offset — ³ Time between 10% input current full scale and 90% of sensor output full scale — ⁴ Without Thermal drift of offset

Electrical Performances



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Mechanical dimensions



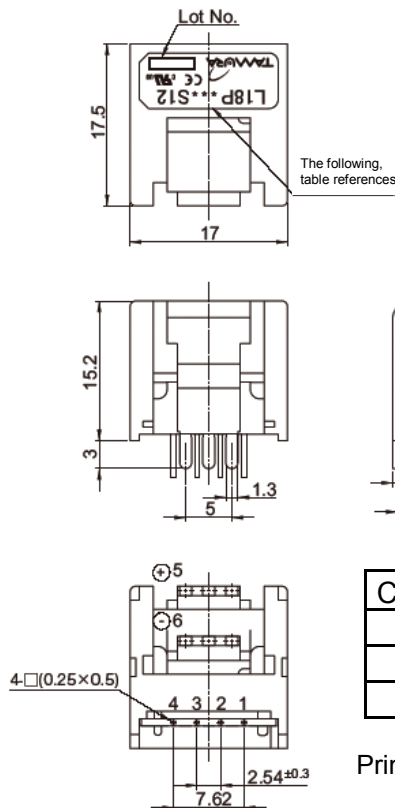
Terminal Number:

- 1: GND
- 2: GND
- 3: +V_{CC}(+12V)
- 4: V_{OUT}
- 5: Primary input current (+)
- 6: Primary input current (-)

Current	XXX	φA
3A	003	φ0.6
5A	005	φ0.8
10A	010	φ1.1
15A	015	φ1.4
20A	020	φ1.6
25A	025	φ1.6
30A	030	φ1.6

NOTES

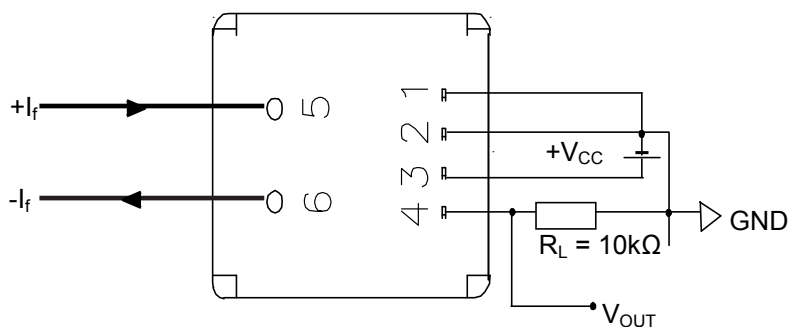
1. Unit is mm
2. Tolerance is 0.5mm



Current	XXX
40A	040
50A	050
60A	060

Primary :Busbar

Electrical connection diagram



UL Standard

UL 508 , CSA C22.2 No.14
(UL FILE No.E243511)

- For use in Pollution Degree 2 Environment.
- Maximum Surrounding air temperature rating, 80°C.

Package & Weight Information

nominal current	Weight	Pcs/box	Pcs/carton	Pcs/pallet
10A..60A	8g	100	600	12000
3A , 5A	8g	50	1200	28800

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Tamura:

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