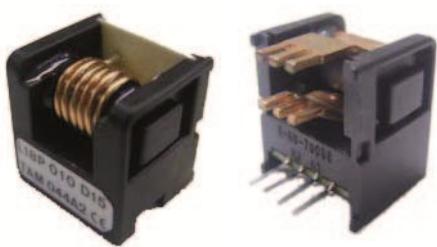


Hall Effect Current Sensors L18P***S05R Series



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

Advantages:

- 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

$T_A=25^\circ\text{C}$, $V_{CC}=+5\text{V}$, $R_L=10\text{k}\Omega$

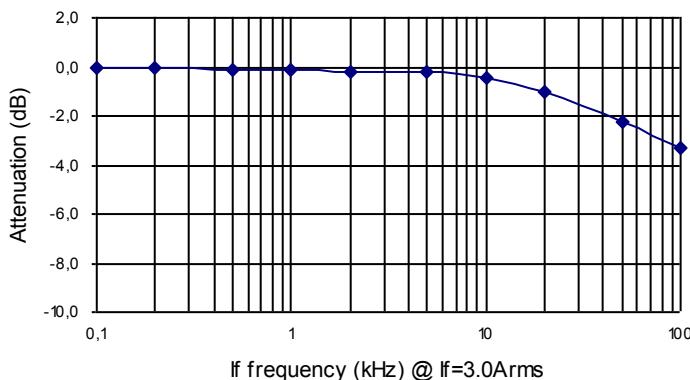
Parameters	Symbol	L18P003S05R	L18P005S05R	L18P010S05R	L18P015S05R	L18P020S05R	L18P025S05R	L18P030S05R	L18P040S05R	L18P050S05R	L18P060S05R
Rated current	I_f	3A	5A	10A	15A	20A	25A	30A	40A	50A	60A
Maximum Current	$I_{f\max}$										$I_f \times 3$
Output Voltage	V_{OUT}										$V_{OE} \pm 0.625\text{V} \pm 0.045\text{V} @ \pm I_f$
Offset Voltage ¹	V_{OE}										$2.5\text{V} \pm 0.035\text{V} @ I_f = 0\text{A}$
Accuracy ² @ I_f	X										$\pm 1\%$
Output Linearity	ϵ_L										$\leq \pm 1\% @ I_f$
Power Supply	V_{CC}										$+5\text{V} \pm 5\%$
Consumption Current	I_c										$\leq 15\text{mA}$
Response Time ³	t_r										$\leq 5\mu\text{s} (@ dI/dt = I_f / \mu\text{s})$
Output Temperature Characteristic ²	TCV_{OUT}										$\leq \pm 2.0\text{mV}/^\circ\text{C}$
Offset Temperature Characteristic	TCV_{OE}										$\leq \pm 2.0\text{mV}/^\circ\text{C}$
Hysteresis error	V_{OH}										$\leq 25\text{mV} (0\text{A} \Leftrightarrow I_f)$
Withstand Voltage	V_d										AC 3000V for 1minute (sensing current 0.5mA), primary pin \Leftrightarrow secondary pin
Insulation Resistance	R_{IS}										$> 500\text{M}\Omega$ (500V DC), primary pin \Leftrightarrow secondary pin
Frequency Bandwidth ⁴	f										DC .. 50kHz
Operating Temperature	T_A										$-10^\circ\text{C} \sim +80^\circ\text{C}$
Storage Temperature	T_s										$-20^\circ\text{C} \sim +85^\circ\text{C}$

¹ V_{OE} is fixed (independent of V_{CC}) — ² Without offset — ³ Time between 10% input current full scale and 90% of sensor output full scale —

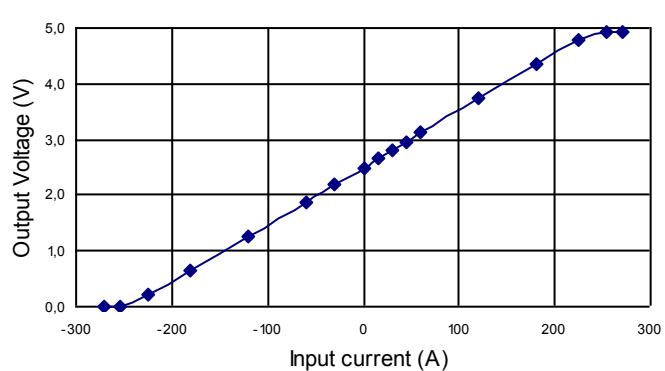
⁴ Small signal only to avoid excessive heating of magnetic core

Electrical Performances

Frequency Characteristic (L18P060S05R)



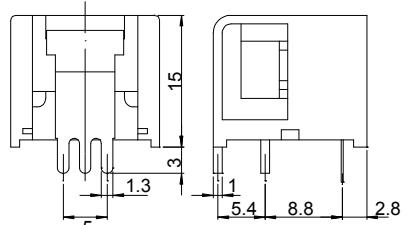
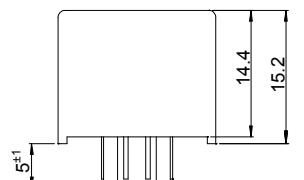
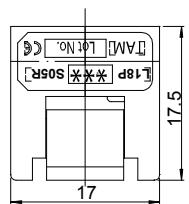
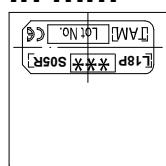
Saturation Characteristic (L18P060S05R)



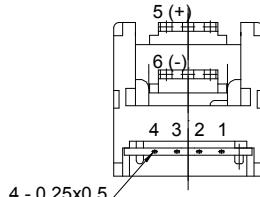
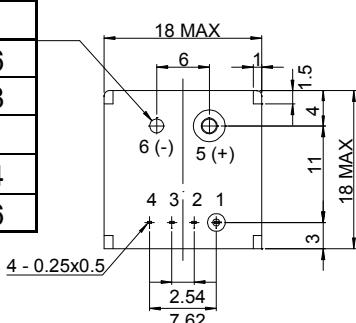
Mechanical dimensions in mm

Terminal Pin Identification

- 1: GND
 - 2: GND
 - 3: $+V_{CC}$
 - 4: Output
 - 5: Primary input current (+)
 - 6: Primary input current (-)



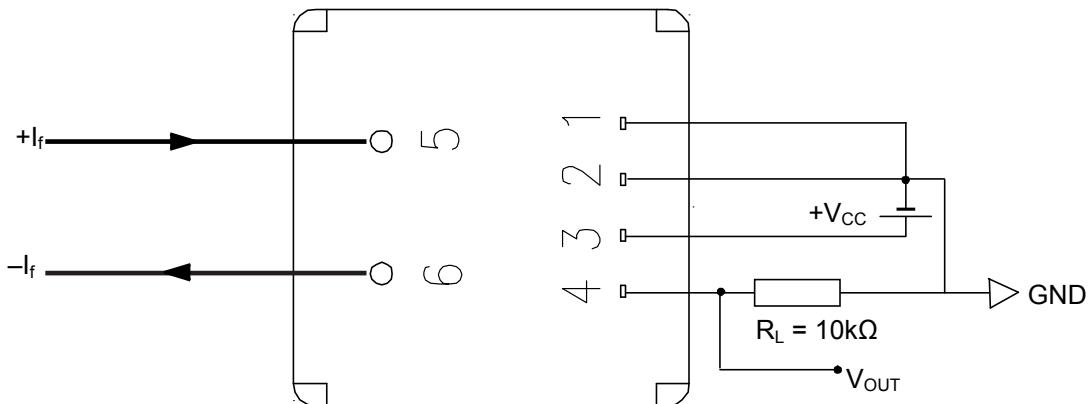
A	ϕD
3A	$\phi 0.6$
5A	$\phi 0.8$
10A	$\phi 1.1$
15A	$\phi 1.4$
20A~30A	$\phi 1.6$



NOTES

1. Unit is mm
 2. Tolerance is 0.5mm
 3. Cover is optional

Electrical connection diagram



Package & Weight Information

Weight	Pcs/box	Pcs/carton	Pcs/pallet
8g	100	600	9600

