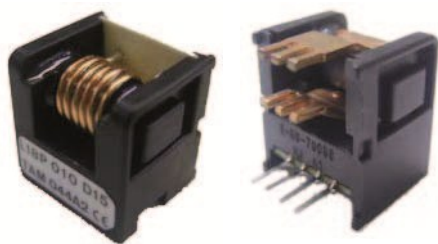


## Hall Effect Current Sensors L18P\*\*\*S05R Series



### 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

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

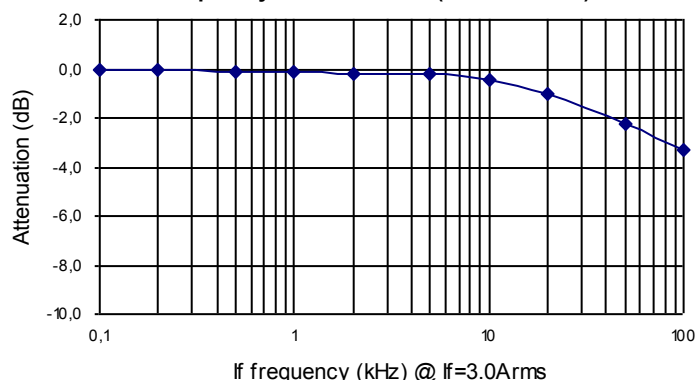
Parameters	Symbol	L18P003S05R	L18P005S05R	L18P010S05R	L18P015S05R	L18P020S05R	L18P025S05R	L18P030S05R	L18P040S05R	L18P050S05R	L18P060S05R
Rated current	$I_f$	3A	5A	10A	15A	20A	25A	30A	40A	50A	60A
Maximum Current	$I_{fmax}$	$I_f \times 3$									
Output Voltage	$V_{OUT}$	$V_{OE} \pm 0.625V \pm 0.045V @ \pm I_f$									
Offset Voltage <sup>1</sup>	$V_{OE}$	$2.5V \pm 0.035V @ I_f = 0A$									
Accuracy <sup>2</sup> @ $I_f$	$X$	$\pm 1\%$									
Output Linearity	$\epsilon_L$	$\leq \pm 1\% @ I_f$									
Power Supply	$V_{CC}$	$+5V \pm 5\%$									
Consumption Current	$I_C$	$\leq 15\text{mA}$									
Response Time <sup>3</sup>	$t_r$	$\leq 5\mu\text{s} (@ di/dt = I_f / \mu\text{s})$									
Output Temperature Characteristic <sup>2</sup>	$TCV_{OUT}$	$\leq \pm 2.0\text{mV}/^\circ\text{C}$									
Offset Temperature Characteristic	$TCV_{OE}$	$\leq \pm 2.0\text{mV}/^\circ\text{C}$									
Hysteresis error	$V_{OH}$	$\leq 25\text{mV} (0A \leftrightarrow I_f)$									
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 <sup>4</sup>	$f$	DC .. 50kHz									
Operating Temperature	$T_A$	$-10^\circ\text{C} \sim +80^\circ\text{C}$									
Storage Temperature	$T_S$	$-20^\circ\text{C} \sim +85^\circ\text{C}$									

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

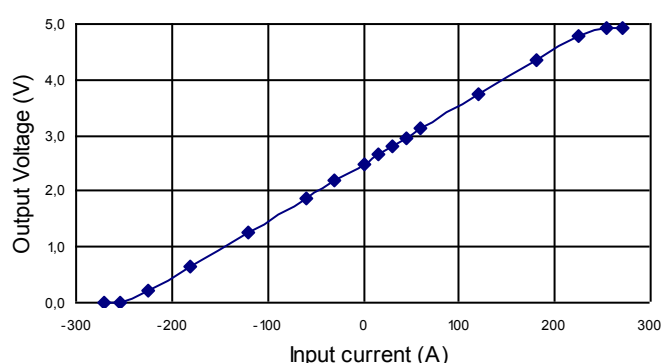
<sup>4</sup> Small signal only to avoid excessive heating of magnetic core

## Electrical Performances

Frequency Characteristic (L18P060S05R)



Saturation Characteristic (L18P060S05R)

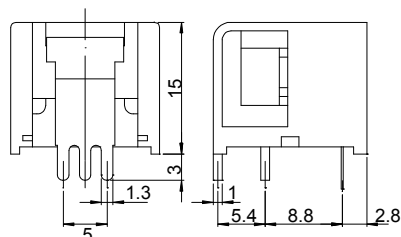
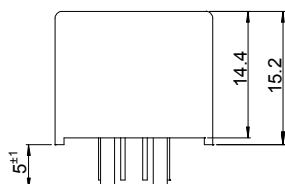
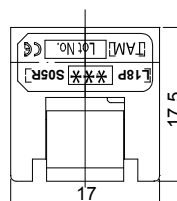
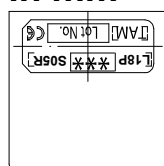


## Hall Effect Current Sensors L18P\*\*\*S05R Series

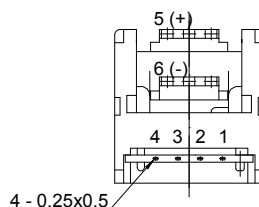
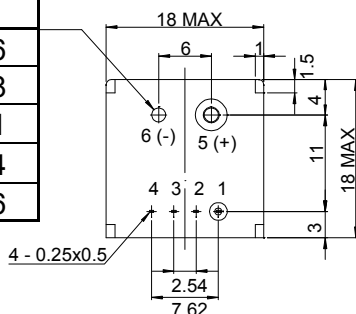
### Mechanical dimensions in mm

## Terminal Pin Identification

- 1: GND  
2: GND  
3: +V<sub>CC</sub>  
4: Output  
5: Primary input current (+)  
6: Primary input current (-)



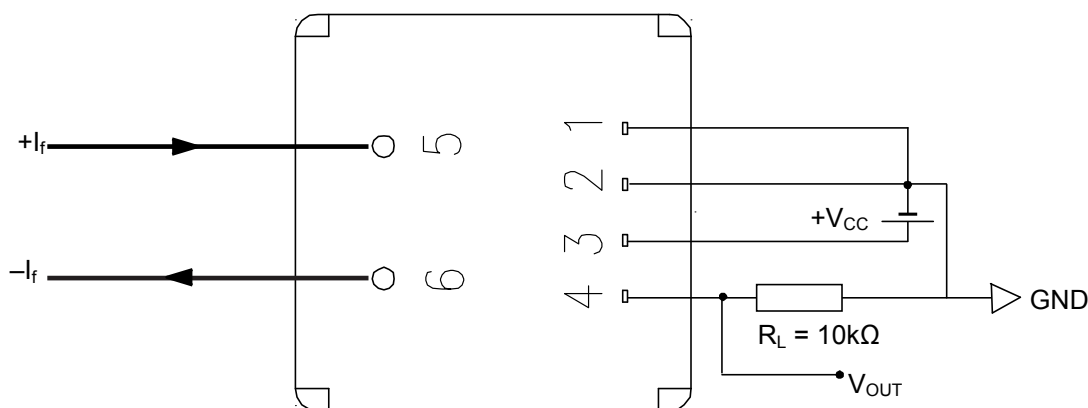
A	φD
3A	φ0.6
5A	φ0.8
10A	φ1.1
15A	φ1.4
20A~30A	φ1.6



## 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