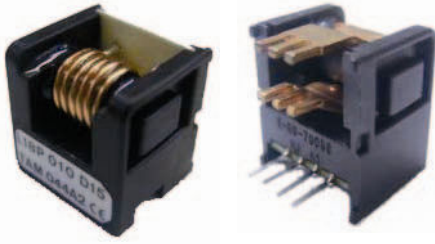


Hall Effect Current Sensors RAL18P***S05 Series



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

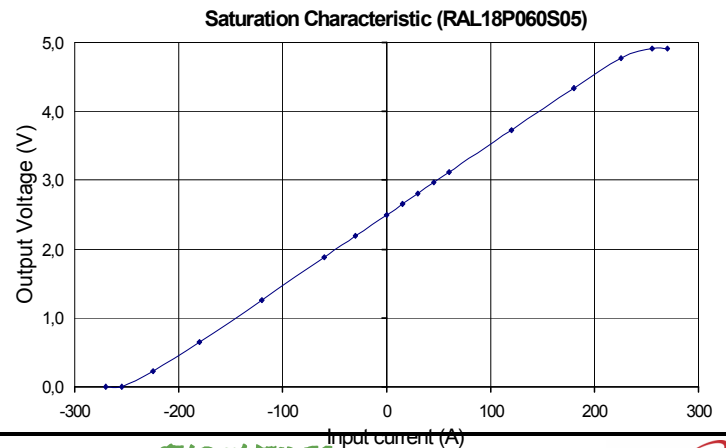
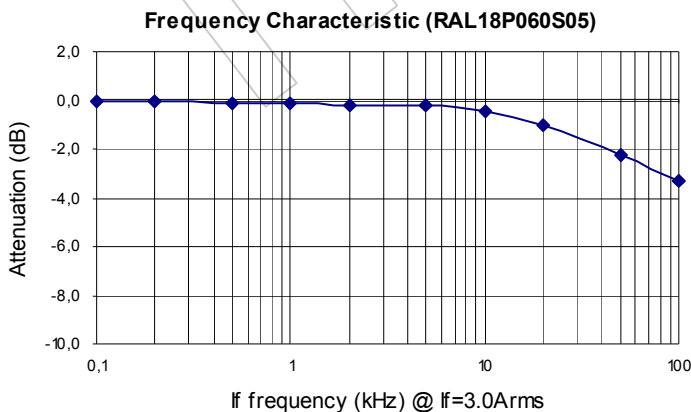
Specifications

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

Parameters	Symbol	RAL18P003S05	RAL18P005S05	RAL18P010S05	RAL18P015S05	RAL18P020S05	RAL18P025S05	RAL18P030S05	RAL18P040S05	RAL18P050S05	RAL18P060S05
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 ¹	V_{OE}	$2.5V \pm 0.035V @ I_f = 0A$									
Accuracy ² @ I_f	X	$\pm 1\%$									
Output Linearity	ϵ_L	$\leq \pm 1\% @ I_f$									
Power Supply	V_{CC}	$+5V \pm 5\%$									
Consumption Current	I_c	$\leq 15\text{mA}$									
Response Time	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}	$\leq 25\text{mV} (0A \leftrightarrow I_f)$									
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 ³	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 Small signal only to avoid excessive heating of magnetic core

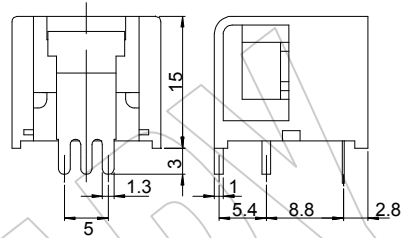
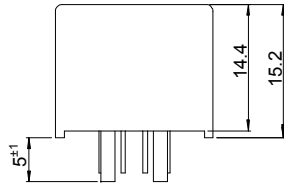
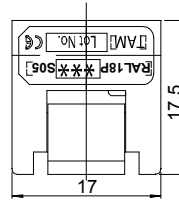
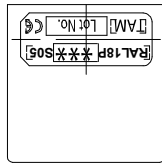
Electrical Performances



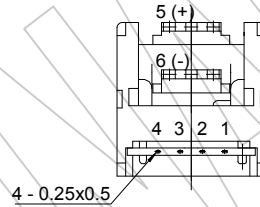
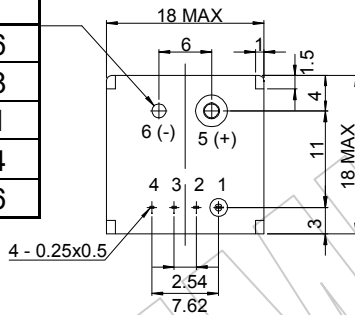
Mechanical dimensions in mm

Terminal Pin Identification

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



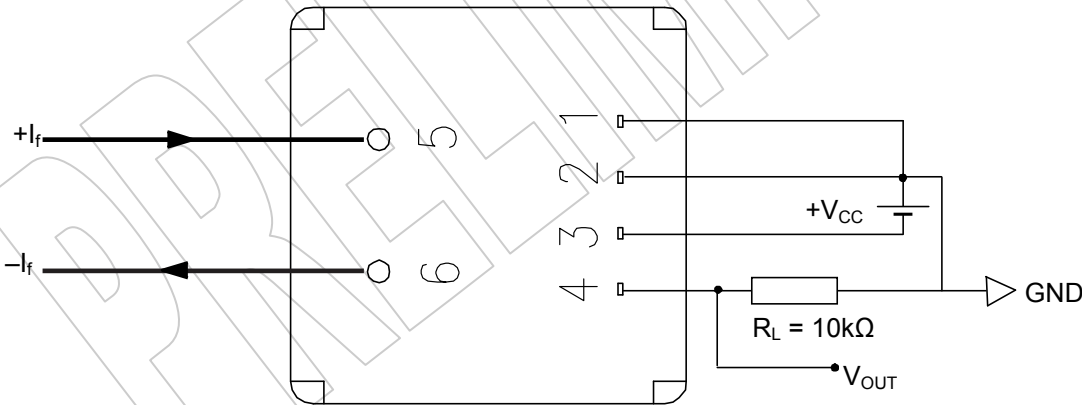
A	φD
3A	φ0.6
5A	φ0.8
10A	φ1.1
15A	φ1.4
20A~30A	φ1.6



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