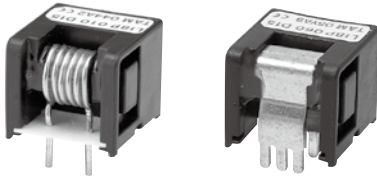


Magnetic Proportion System

L18P D15-OP SERIES



RoHS

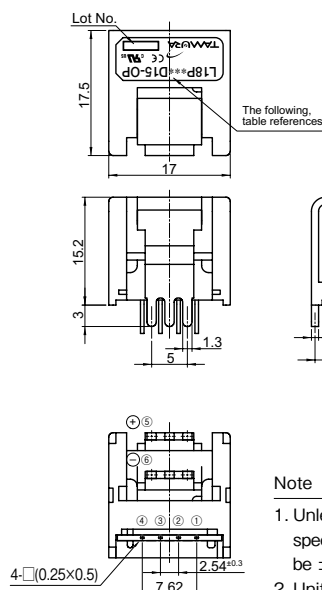
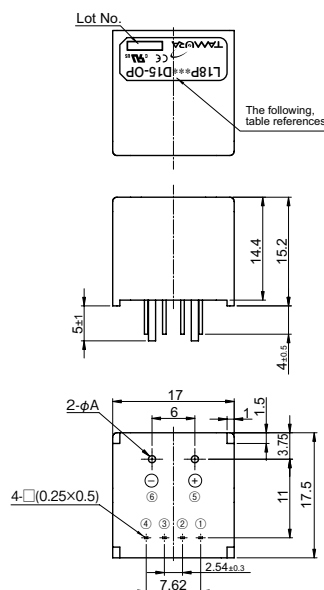
SPECIFICATIONS

Ta=25°C, RL=10kΩ, Vcc= ±15V

Spec		Types	L18P***D15-OP ***: Priamary current code									
		*** :	003	005	010	015	020	025	030	040	050	060
Primary nominal current		If	3A	5A	10A	15A	20A	25A	30A	40A	50A	60A
Primary wire		φ	0.6mm	0.8mm	1.1mm	1.4mm	1.6mm			bus-bar 1.0 × 6.3		
Saturation current		If max	If × 3*1									
Rated output voltage		Vo	4V ± 0.040V (at If)							4V ± 0.050V (at If)		
Offset voltage*2		Vof	≒± 0.040V (at If = 0A)							≒± 0.050V (at If = 0A)		
Output linearity (without offset)		ε _L	≒± 1% (at If)									
Power supply voltage		Vcc	± 12V (± 5%) ~ ± 15V (± 5%)									
Consumption current		Icc	± 14mA (typ) , ≒± 18mA									
di/dt Response time		tr	≒ 5μs (di/dt = If / μs)									
Thermal drift of gain		T _c Vo	≒± 0.1% / °C (Without Tc Vof)									
Thermal drift of offset		T _c Vof	≒± 1.5mV / °C									
Hysteresis error		V _{OH}	≒ 25mV (at If = 0A → If → 0A)							≒ 40mV (at If = 0A → If → 0A)		
Insulation voltage		Vd	AC3000V for 1 minute (Sensing current 0.5mA) Primary ⇔ Secondary									
Insulation resistance		R _{IS}	≧ 500M Ω (at DC500V) Primary ⇔ Secondary									
Ambient Operating temperature		T _A	- 30°C~+ 80°C									
Ambient storage temperature		T _S	- 40°C~+ 85°C									

* 1 Also operate at Vcc = ± 12V power supplies, measuring range reduced to 2.5 x If. * 2 Offset voltage value is after removal of core hysteresis.
* Please refer to the another sheet about conditions of UL Recognition.

DIMENSIONS (mm)



Terminal number

- ① - Vcc (- 15V)
- ② GND
- ③ + Vcc (+ 15V)
- ④ Vout
- ⑤ Primary input current (+)
- ⑥ Primary input current (-)

Current	***	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
40A	040	Busbar
50A	050	Busbar
60A	060	Busbar

Weight:

8g

Note

1. Unless otherwise specified, tolerances shall be ± 0.5mm
2. Unit is [mm]

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1. The content of this information is subject to change without prior notice for the purpose of improvements, etc. Ensure that you are in possession of the most up-to-date information when using this product.
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 - *Use that involves exposure to direct sunlight, outdoor exposure, or dusty conditions.*
 - *Use in locations where corrosive gases such as sea winds, Cl₂, H₂S, NH₃, SO₂, or NO₂, are present. (Some product improves durability)*
 - *Use in environments with strong static electricity or electromagnetic radiation.*
 - *Use that involves placing inflammable material next to the product.*
 - *Use of this product either sealed with a resin filling or coated with resin.*
 - *Use of water or a water soluble detergent for flux cleaning.*
 - *Use in locations where condensation is liable to occur.*
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Application notes

<General Considerations>

1. The sensor uses polar electronic components. When the polarity of the power supply is mistaken, the sensor is damaged.
2. Static electricity or excessive voltage can increase an offset voltage in the Hall element, and cause offset voltage to change. Please exercise care in handling and application.
3. In order to prevent the influence of noise, the use of twisted cable or shielded cable for the output line is recommended
4. If using this device within a magnetic field generated by other devices, the specified accuracy may not be obtainable.
5. Our products (several models are excluded) are adjusted with the trimming method by the measurement condition (Load resistance, Power supply voltage) of specification sheets. Therefore, characteristics (Offset, Output, etc.) and its deviation may be changed in different circuit conditions from the measurement condition. All change characteristic items are not indicated on specification sheets.
6. The performance of current sensors with through-hole (aperture) is dependent on the position of the primary conductor. Tamura specifications are based on a primary conductor completely filling the through-hole (aperture) area.
7. The current sensor rated current in DC Amps.
8. Please use mating connector with equivalent terminal plating material to insure proper operation and avoid possibility of 'galvanic corrosion' .
9. Please do not store in high-temperature and high-humidity storage environment. Please use it after confirming soldering when it is kept for six months or more. (product soldered with substrate)
10. We recommend performing a zero offset adjustment by measuring the offset voltage at startup. In continuously operation for a few months, or at change of ambient temperature or humidity is large, we recommend regularly performing a zero offset adjustment at being idling (it is clear that the current is not apply) .

<Open loop>

1. High frequency primary current may result in excessive heating in iron magnetic core and cause damage to internal circuitry; for high frequency applications select current sensor with ferrite core material.
2. If the measured current exceeds the rated current, magnetic core saturation will occur and the output voltage signal will not be linearly proportional to the measured current.

<Closed Loop>

1. For closed loop current sensors please insure the power supply voltage is balanced, symmetrical, and, applied simultaneously to avoid potential increase in DC offset error.
2. Maximum rated current measurement duration is timedependent. Maximum rated current applied in excess of the time limit can result in damage to internal electronic circuitry; please consult Tamura for assistance.
3. When using a measurement resistor to convert current output to voltage output select a resistor with stable temperature characteristic to insure accuracy of the output voltage.
4. Compensation current supplied to the secondary winding varies in proportion to the measured current based on the conversion ratio. (If/ KN ; KN = secondary turns) Please insure the PSU has required current capacity to supply compensation current to the secondary winding.

<Flux-Gate>

1. Compensation current supplied to the secondary winding varies in proportion to the measured current. Please insure the PSU has required current capacity to supply compensation current to the secondary winding.
2. There is 450kHz ripple voltage present on the output and reference output voltage signals . An external capacitor maybe added if necessary.