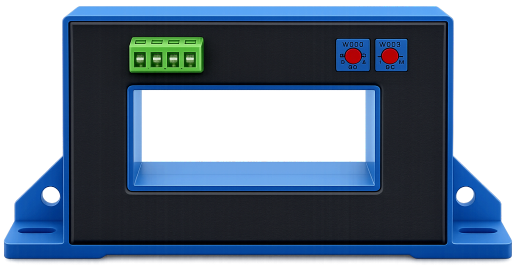
Open-Loop Current Transducer :

OLT1500-04V-303 is an open-loop current sensor designed for accurate measurement of **DC, AC, and pulsed currents up to ±4500 A**. It provides **galvanic isolation** between the primary and measurement circuits greater than **3 kVAC**.

It features an **analog voltage output** proportional to the measured primary current (**4 V output means 1500 A at IPN**). The OLT1500-04V-303 delivers **bandwidth up to 50 kHz**, enabling accurate capture of fast-changing signals for responsive monitoring.

It features **high linearity (±0.5% IPN at RL = 10 kΩ, TA = 25 °C)** to ensure precise measurement across the operating range. With **very low hysteresis voltage (±10 mV at IPN = 0)**, it provides stable, repeatable readings and high-performance sensing solutions.



3 YEAR WARRANTY

Product Coding :

The reference is split into four fields that identify the sensor family, rated current, output voltage, and connector variant:

WWW	XXXX	YYY	ZZZ
OLT	**1500**	**04V**	**303**
Family	Rated primary current	Secondary voltage output	Index & connector variant.

Each product series may use its own coding scheme. However, the coding rules shall remain consistent across all references within the same product series.

For the complete and most up-to-date list of product references and available variants, please refer to our official product catalog.

Important data :

Key features

- Wide current range.
- High accuracy.
- Fast response time.
- Galvanic isolation.
- Compact and lightweight design.
- High resistance material.
- Operating temperature range from -40 °C to +125 °C.

Applications

- Electrical vehicles.
- Energy sources.
- Switching power supply.
- Welding machine power supply.
- Battery and UPS.
- Servo motor traction.
- Energy monitoring.

Alternative products :

- OLT2000-04V-303.
- OLT2500-04V-303.
- OLT1000-04V-303.

Standards :

- GB/T 7665-2005.
- JB/T 7490-2007.
- JB/T 25480-2010.
- JB/T 9473-2020.
- SJ 20792-2000.
- CE.
- ROHS.
- FC.

Technical specifications :

1. Electrical Features

The table below lists the sensor's key electrical characteristics and information on the sensor's performance consistency and measurement reliability under normal operating conditions.

Parameter	Symbol	Unit	Min.	Typ.	Max.	Conditions
Primary current	IP	Arms	-4500	1500	+4500	@ Ta = 25 °C
Output voltage	VS	Vrms	±3.96	±4	+4.04	@ RL = 10 kΩ, Ta = 25 °C and IPN
Offset voltage	VSO	mV	-	±10	±20	@ Ta = 25 °C
Hysteresis voltage	VSH	mV	-	±10	±20	@ Ta = 25 °C and IP = 0
Load resistance	RL	kΩ	1	10	-	
Output internal resistance	RS	Ω	-	102	-	
Supply voltage	UC	VDC	±11	±15	±18	See comments 1 and 5
Current consumption	IC	mA	-	±15	±20	
Frequency bandwidth (-3 dB)	BW	kHz	-	50	-	Small signal bandwidth
Linearity	L	%	-	±0.5	±1	@ RL = 10 kΩ and Ta = 25 °C
Accuracy	XG	%	-	±1	-	@ IPN and Ta = 25 °C
Reaction time @ 10%	tra	µs	-	1	-	
Response time @ 90%	tr	µs	-	3	5	@ 0 to IPN

Comments

1. If the supply voltage UC is below the minimum, the measurement is limited and may saturate. If the supply voltage is above the maximum, the sensor may be damaged.
2. Electrical values are specified under nominal test conditions unless another condition is stated in the table.
3. Accuracy and linearity values describe the transducer performance and do not include external acquisition chain errors.
4. The load resistance shall remain within the specified range to preserve the expected output signal and response behavior.
5. The output voltage is defined by:

$$V_S = 4 \times \frac{R_L}{102 + R_L} \times \frac{I_P}{I_{PN}} + V_{SO}$$

2. Safety and Isolation

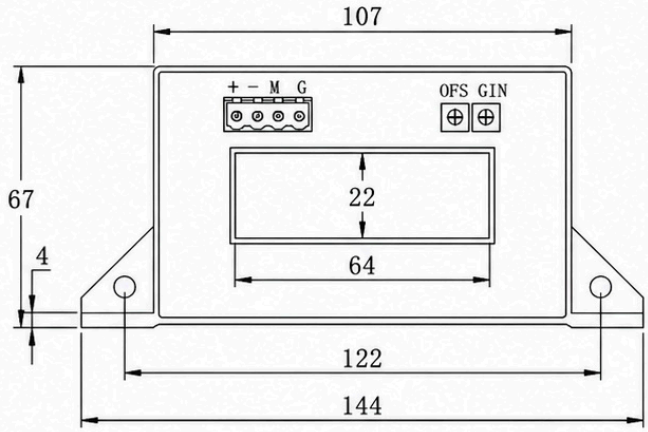
The following parameters define the sensor's isolation capability and compliance with safety standards.

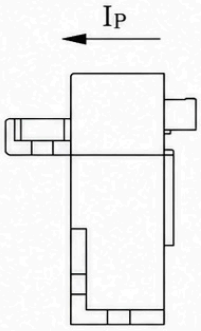
Parameter	Symbol	Unit	Min.	Typ.	Max.	Conditions
AC insulation voltage	UPS	VAC	3000	-	-	@ 50 Hz, 60 s and 0.1 mA
Withstand resistance	RPS	MΩ	1000	-	-	@ 500 VDC
Ambient storage temperature	TS	°C	-40	+25	+125	
Ambient operating temperature	TO	°C	-40	+25	+125	
Temperature coefficient of offset voltage	TCVSO	mV/°C	-	±0.5	±1	
Output voltage temperature coefficient	TCVS	%/°C	-	±0.05	±0.1	
Weight	m	g	-	490	-	

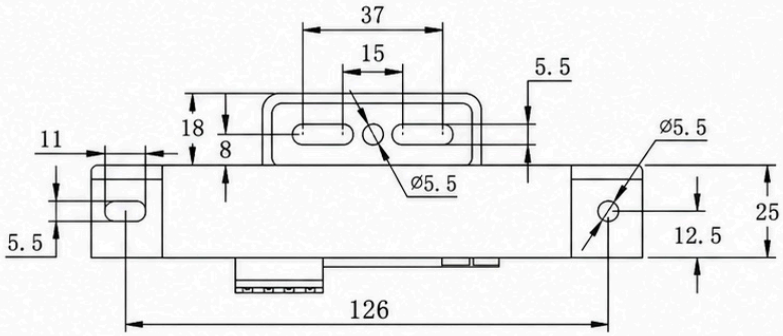
Safety notes

1. Insulation ratings are valid only when the sensor is installed according to the recommended mechanical layout and applicable creepage and clearance requirements.
2. The primary conductor temperature and surrounding airflow shall be considered during integration to avoid local overheating.
3. The sensor shall be mounted on a clean, dry, and mechanically stable surface to preserve insulation performance.
4. High-voltage parts and low-voltage signal circuits shall remain physically separated according to the final equipment safety standard.
5. Any pollution, condensation, conductive dust, or mechanical damage may reduce insulation performance and shall be avoided.
6. The final equipment manufacturer remains responsible for validating insulation, thermal behavior, EMC performance, and safety compliance in the complete system.

Mechanical characteristics

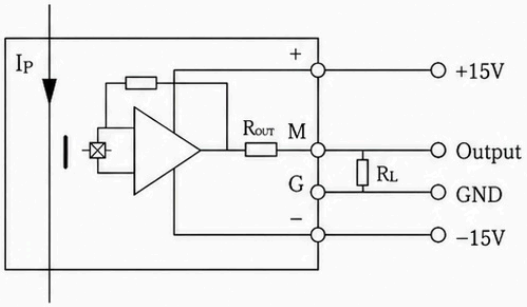






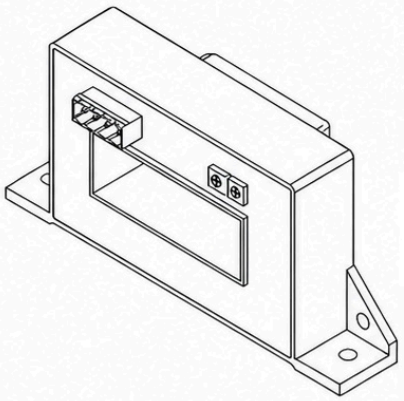
Unit: mm

Pin No.	Mark	Description
1	+	+15V
2	−	−15V
3	M	Output
4	G	0V



output terminal: 2EDGVC-5. 08−4P

mating plug: 2EDGK-5. 08−4P



Notes

- Size error: ±1 mm.
- Primary aperture: 64 mm x 22 mm rectangular opening.
- Fastening hole: 2 x Ø5.5 mm.
- Output terminal: 2EDGVC-5.08-4P.
- Mating plug: 2EDGK-5.08-4P.
- The IP indication direction is the positive direction of the current.
- OFS is the zero adjustment and GIN is the output regulation.
- The temperature of the primary conductor shall not exceed 105 °C.
- Incorrect wiring may cause damage to the sensor.
- If the supply voltage is below the minimum, the measurement may be limited.
- If the supply voltage is above the maximum, the sensor may be damaged.

NOTICE

PRODUCT USE

This datasheet supports the selection, integration, and use of the OLT1500-04V-303 current sensor in industrial, railway, energy, and power electronics applications. It presents the main electrical, mechanical, insulation, environmental, and performance characteristics of the product under specified test and operating conditions.

DATA AND PERFORMANCE

The data provided in this document is based on Senselix internal design targets, characterization results, and standard engineering practices. Typical curves and performance graphs are provided as guidance and may vary depending on the final installation and application environment.

APPLICATION RESPONSIBILITY

The customer remains responsible for selecting the appropriate product, defining the system architecture, and validating the sensor in the final equipment. Particular attention must be given to high-voltage insulation, creepage and clearance distances, thermal conditions, electromagnetic disturbances, mechanical mounting, connection torque, protection circuits, and applicable safety standards.

OPERATING LIMITS

All absolute maximum ratings, operating limits, insulation ratings, and environmental conditions stated in this datasheet must be respected. Exceeding these limits may affect measurement accuracy, product reliability, insulation performance, or may cause permanent damage to the sensor or to the equipment in which it is installed.

APPLICATION SCOPE

Application examples mentioned in this document are provided only as typical use cases. The final user must verify that the OLT1500-04V-303 meets the technical, safety, regulatory, and lifetime requirements of the intended application.

DOCUMENTATION UPDATES

Senselix may update this datasheet, including specifications, drawings, curves, descriptions, and product references, as part of continuous improvement or compliance updates. Unless otherwise agreed in writing, the latest released version of the document shall apply.

RESTRICTIONS

The OLT1500-04V-303 is not intended for life-support, life-critical, or safety-critical applications where a failure of the sensor could directly lead to death, personal injury, severe property damage, or environmental harm, unless a dedicated written agreement and qualification process have been completed with Senselix. No rights or licenses to patents, designs, trademarks, know-how, or any other intellectual property are granted through this document.