TECHNICAL DATASHEET

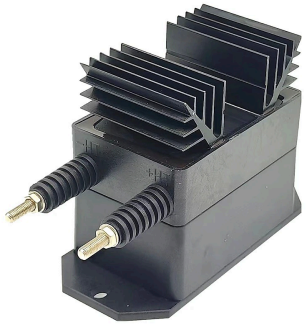
HEVS-3000S3

Product Code : 29603000020930000/20001

Closed-loop Hall-effect voltage transducer for high-voltage measurement, railway and industrial applications

The HEVS-3000S3 is a closed-loop (compensated) Hall-effect voltage transducer designed to provide accurate and reliable voltage measurements in extreme conditions, particularly for high-voltage applications, with a 3000 V nominal primary voltage and a ±5000 V measuring range.

The closed-loop Hall-effect mechanism compensates for magnetic field variations, providing high precision and low drift over time, even in fluctuating temperatures or challenging environmental conditions such as dust, humidity or high altitude, while ensuring full galvanic isolation between the primary and secondary circuits.



3000 V	±5000 V	12.0 kV	< 200 µs
Primary nominal voltage	Measuring range	Galvanic isolation	Response time

ENGINEERING VALUE

High accuracy — < ±0.5% overall accuracy at VPN with < 0.1% linearity error and low temperature drift.

Measurement headroom — ±5000 V range around a 3000 V nominal primary voltage.

High isolation — 12.0 kV (primary/secondary + shield) and 2.0 kV (secondary/shield) dielectric withstand, 50/60 Hz, 1 min.

Robust design — finned aluminium heatsink housing for harsh environments, high immunity to external interference.

Easy installation — M5 threaded-stud primary and secondary connections, can be customized on request.

BEST-FIT APPLICATIONS

Power conversion — Variable speed drives, auxiliary converters, welding machines.

Power supplies — Battery-supplied applications, Uninterruptible Power Supplies.

Electrochemical & substations — DC bus and substation voltage monitoring.

Railway — Railway traction and auxiliary applications.

Compliance and warranty markings

CE RoHS COMPLIANT

WARRANTY 3 YEARS ADISENS

Standards: IEC 60950-1:2001 | EN 50178:1981 | EN 50155:2021 | EN 60947-1:2004 | EN 45545-2:2020 | EN 61373

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Electrical and performance data

Unless otherwise stated: T_A = +25°C, V_{CC} = ±24 V.

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Primary nominal r.m.s. voltage	VPN	-	-	3000	-	V
Primary voltage measuring range	VPM	-	-5000	-	+5000	V
Total input consumption	Pp	-	-	7.50	-	W
Rated input current	Ip	-	-	3.33	-	mA
Turns ratio	NP/NS	-	-	30000 / 2000	-	-
Primary resistance	Rp	@ TA = 25°C	-	900	-	KΩ
Secondary coil resistance	Rs	@ +85°C	-	55	-	Ohm
Rated output	Isn	@ Vp = ±Vpn	-50	-	+50	mA
Measuring resistance	R_M	@ ±15V	0	240	-	Ohm
Measuring resistance	R_M	@ ±24V	0	100–360	-	Ohm
Supply voltage	Vc	±10%	±15	-	±24	V
Consumption current	-	-	-	20 + Ip × (Np/Ns)	-	mA
Offset current	-	@ Vp = 0, TA = 25°C	-	≤ ±0.2	-	mA
Offset drift	-	@ -40…+85°C	-	≤ ±1.5	-	mV/°C
Linearity	-	@ Vp = 0~±Vpn	-	≤ 0.1	-	%FS
Overall accuracy	-	@ Vpn, TA = 25°C	-	±0.5	-	%
Response time	-	-	-	≤ 200	-	µs
Galvanic isolation (primary–secondary + shield)	-	50 Hz, AC, 1 min [1]	-	12.0	-	kV
Galvanic isolation (secondary–shield)	-	50 Hz, AC, 1 min [2]	-	2.0	-	kV
Operating temperature	TA	-	-40	-	+85	°C
Storage temperature	TS	-	-40	-	+125	°C
Mass	M	-	-	850	-	g

1. Between primary and secondary + shield. 2. Between secondary and shield.

Ordering information		
Part number	**Product code**	**Primary nominal voltage / measuring range**
HEVS-3000S3	29603000020930000/20001	3000 V / ±5000 V

The specified measurement performance is achieved only when the sensor is used within the stated electrical, thermal and load conditions.

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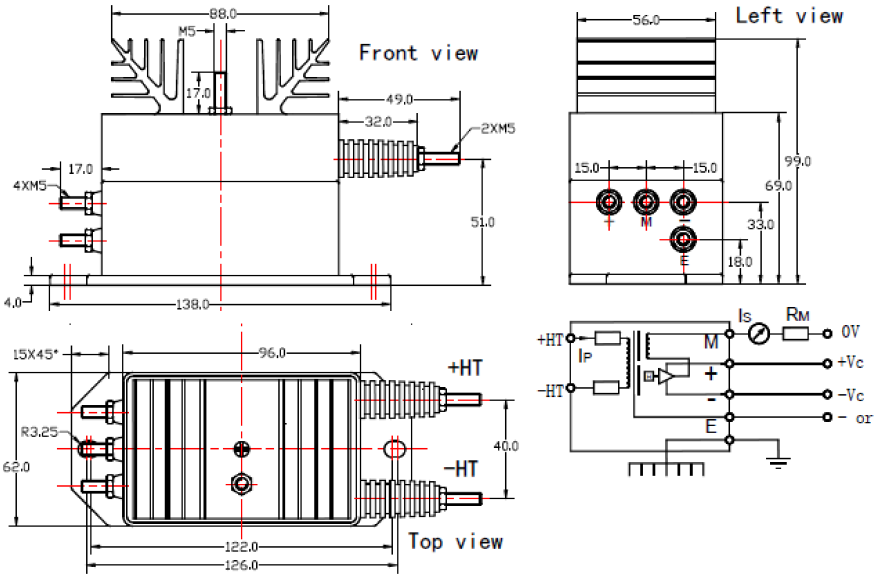
Mechanical dimensions and electrical connection

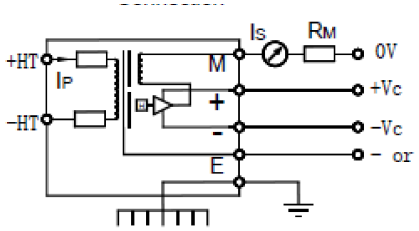


All dimensions are in millimetres. General tolerance: ±1 mm. Primary connection: 2 × M5 threaded studs (+HT / −HT), tightening torque 2.2 N·m. Secondary connection: 4 × M5 threaded studs (M / + / − / E), tightening torque 2.2 N·m. Finned aluminium heatsink housing, base-mount bracket.

Terminal definition

Marking	Function	Description
+HT	Primary high-voltage input (+)	Primary connection, M5 threaded stud
−HT	Primary high-voltage input (−)	Primary connection, M5 threaded stud
M	Measurement output	Current output; connect the external measuring resistor RM and ammeter IS from terminal M to 0 V
+	Positive supply	+VC
−	Negative supply	−VC
E	Shield / earth	Connect to protective earth (0 V or −VC reference, per installation)

Electrical connection and signal conversion



Installation essentials

1. **Signal output:** the primary voltage is measured as a current at terminal M; connect the external measuring resistor RM (and ammeter IS) between terminal M and 0 V.
2. **Primary connection:** +HT and −HT are M5 threaded studs; tighten to 2.2 N·m.
3. **Secondary connection:** M, +, − and E are M5 threaded studs; tighten to 2.2 N·m.
4. **Customization:** custom designs are available on request for different rated input voltages and output configurations.

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Safety, compliance and quality information

Safety information

The HEVS-3000S3 is a component intended for integration into electrical and electronic equipment by qualified personnel. This transducer operates in high-voltage environments; installation, commissioning and maintenance must be performed only by qualified professionals trained in handling high-voltage systems. Always de-energize circuits before installation, inspection or maintenance. The equipment manufacturer is responsible for the risk assessment, insulation coordination, protective measures and regulatory conformity of the final system.

Compliance and environmental information

Subject	Information
Electrical safety	Designed for integration into equipment assessed to applicable electrical-safety requirements, including IEC 60950-1:2001, EN 50178:1981, EN 50155:2021, EN 60947-1:2004, EN 45545-2:2020, EN 61373 where relevant to the end application.
Materials	Finned aluminium heatsink housing with moulded terminal block. Further product material and flammability information is available from ADISENS on request.
CE	EU conformity information and the applicable Declaration of Conformity are available from ADISENS on request.
RoHS / REACH	Product environmental declarations are available from ADISENS on request.
Disposal	Dispose of the product in accordance with local requirements for electrical and electronic equipment. Do not incinerate.

Three-year commercial warranty

ADISENS provides a three-year commercial warranty from the date of delivery, subject to the applicable ADISENS warranty terms and conditions. The warranty does not cover incorrect wiring, operation outside specified ratings, unsuitable environmental exposure, unauthorized modification, mechanical damage or improper system integration.

Document identification and control

Document reference	Revision	Issue date	Language	Product code
FT-HEVS-3000S3	V1.0	September 2026	English	29603000020930000/20001

This document is maintained under the ADISENS quality-management document-control process. Always verify that the revision used is the latest version available from ADISENS. Specifications may be updated as part of continuous product improvement. The customer remains responsible for confirming suitability for the intended application.

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