

TECHNICAL DATASHEET

API-25P3

Product Code : 12400025021510001

High-speed isolated current feedback for power conversion

Engineered for fast, isolated current feedback in compact power converters, the API-25P3 combines closed-loop Hall-effect measurement with a 25 A nominal rating and a ± 75 A measuring range.

Its DC-to-200 kHz bandwidth and $< 1 \mu\text{s}$ response support switching-current and pulsed-current measurement. The rectangular primary aperture enables direct busbar integration while maintaining galvanic isolation from the control electronics.



25 A	± 75 A	DC to 200 kHz	$< 1 \mu\text{s}$
Nominal primary current	Measuring range	Bandwidth (-3 dB)	Response time

ENGINEERING VALUE

Fast feedback — 200 kHz bandwidth and $< 1 \mu\text{s}$ response for dynamic control loops.

Measurement headroom — ± 75 A range around a 25 A nominal current for transient and pulsed currents.

Signal flexibility — 25 mA secondary-current output at IPN with an external measurement resistor RM.

Isolation — 3.0 kV RMS dielectric withstand and 500 M Ω isolation resistance.

Compact integration — Rectangular primary aperture suited to busbar-based assemblies.

BEST-FIT APPLICATIONS

Motor control — AC/DC and variable-speed drives.

Power conversion — Solar and industrial inverters.

Power supplies — SMPS and uninterruptible power supplies.

Energy systems — Battery chargers and energy-storage converters.

Industrial equipment — Compact isolated current-feedback assemblies.

Compliance and warranty markings



Electrical and performance data

Unless otherwise stated: TA = +25°C and VCC = +/-15 V.

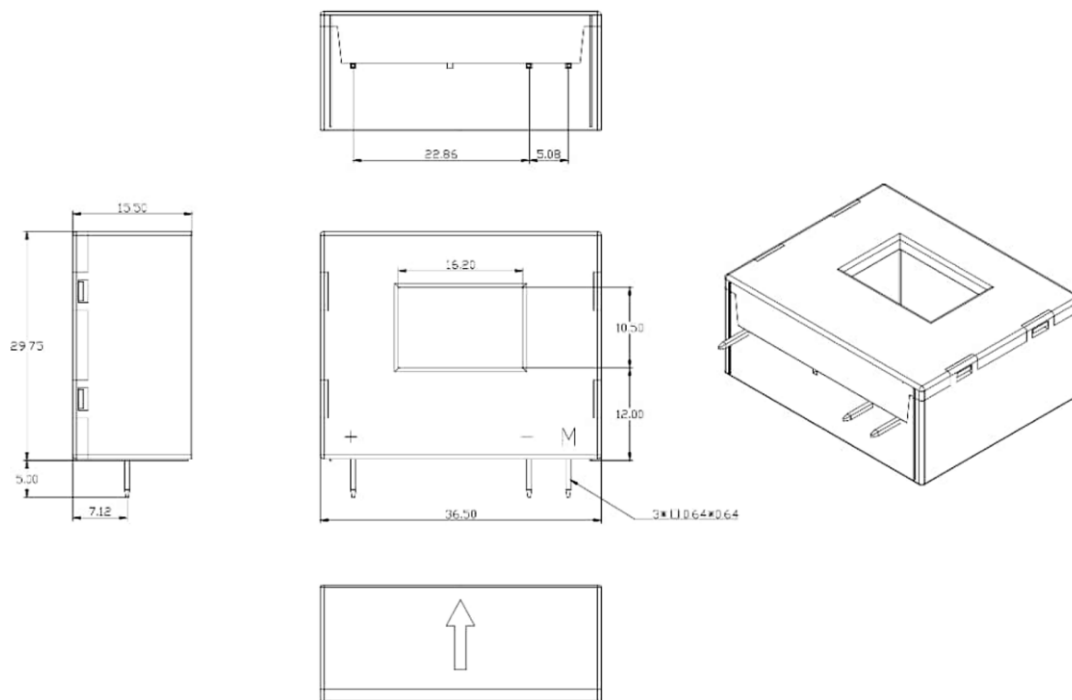
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Primary nominal RMS current	IPN	-	-	25	-	A
Primary measuring range	IPM	-	-75	-	+75	A
Secondary output current	IS	At IPN	-	25	-	mA
Supply voltage	VCC	Tolerance: +/-5%	-	+/-15	-	V
Turns ratio	NP/NS	-	-	1:1000	-	-
Secondary coil resistance	RS	-	-	18	-	Ohm
Measurement resistor	RM	External, at VCC = +/-15 V	-	270	-	Ohm
Offset current	IO	IP = 0, TA = 25°C	-	+/-0.2	-	mA
Offset-current temperature coefficient	IOT	IP = 0, -40 to +85°C	-	-	< +/-0.005	mA/°C
Linearity error	eL	TA = 25°C, IP = 0 to +/-IPN	-	-	< +/-0.1	% FS
Accuracy	XG	TA = 25°C, at IPN	-	-	< +/-0.5	% IPN
di/dt accurately followed	di/dt	TA = 25°C	>100	-	-	A/us
Dielectric withstand voltage	Vd	50/60 Hz, 1 min	-	3.0	-	kV RMS
Isolation resistance	RIS	At 500 V DC	-	500	-	MOhm
Response time	tr	To 90% of IPN	-	-	1.0	us
Bandwidth	BW	-3 dB	DC	200	-	kHz
Current consumption	IC	-	-	15 + IS	-	mA
Operating temperature	TA	-	-40	-	+85	°C
Storage temperature	TS	-	-55	-	+125	°C
Mass	m	-	-	21	-	g

Ordering information

Part number	Product code	Nominal current	Measuring range	Output
API-25P3	12400025021510001	25 A	-75 to +75 A	25 mA at IPN

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

Mechanical dimensions and electrical connection

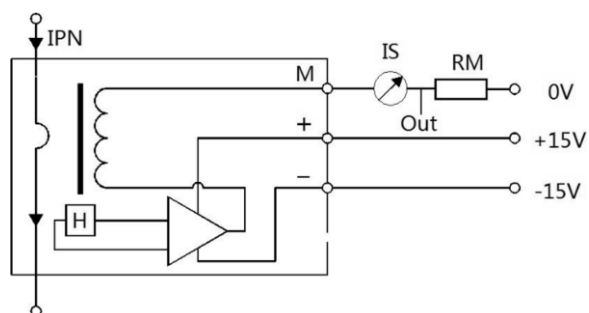


All dimensions are in millimetres. General tolerance: ± 0.5 mm unless otherwise specified. Primary aperture: 16.20×10.50 mm (± 0.15 mm). Secondary pins: $3 \times 0.64 \times 0.64$ mm.

Terminal definition

Marking	Function	Description
-	Negative supply	-15 V
+	Positive supply	+15 V
M	Measurement output	Current output; connect the external measurement resistor R_M from terminal M to 0 V

Electrical connection and signal conversion



Installation essentials

1. Current direction: output polarity is positive when primary current follows the arrow marked on the housing.
2. Wiring: verify the ± 15 V supply polarity before energising; incorrect connection may permanently damage the transducer.
3. Dynamic performance: minimise capacitive loading and use one busbar that fills the aperture as completely as practical.
4. Handling: isolate all energy sources, observe ESD precautions, keep the device dry and do not install a damaged component.

Safety, compliance and quality information

Safety information

The API-25P3 is a component intended for integration into electrical and electronic equipment by qualified personnel. The equipment manufacturer is responsible for the risk assessment, insulation coordination, protective measures and regulatory conformity of the final system. Do not touch live conductors. Disconnect all power sources before installation, inspection or maintenance. Operate the transducer only within its specified limits.

Compliance and environmental information

Subject	Information
Electrical safety	Designed for integration into equipment assessed to applicable electrical-safety requirements, including IEC 61010-1 where relevant to the end application.
Materials	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.
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Document identification and control

Document reference	Revision	Issue date	Language	Product code
FT-API-25P3	V2.0	August 2026	English	12400025021510001

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