

CONFIDENTIAL PROTOTYPE

IAS

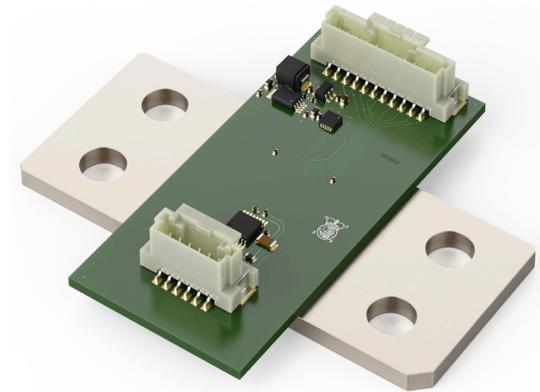
SAFETY-READY SHUNT MODULE WITH ADDITIONAL TMR SENSING

ISAscale® compact high precision current measurement device

INTRODUCTION

The IAS is a cutting-edge current sensor including **shunt** and **TMR** (Tunnel Magneto-Resistance) current measurement to meet the highest standards of functional safety and availability. Engineered for redundant sensing with configurable overcurrent threshold detection (OCD), this innovative product ensures unparalleled precision and reliability in **functional safety** related current sensing applications.

The IAS can be tailored to meet specific customer requirements. Whether you need different combinations of functionality or market specific adaptations, we offer flexible customization options to ensure the product perfectly fits your needs.



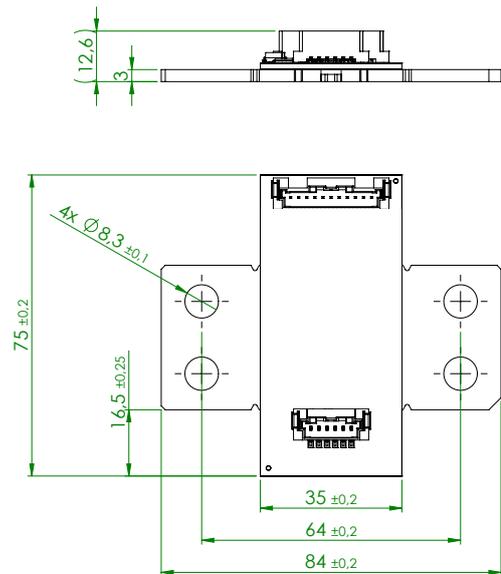
APPLICATIONS

- Power Distribution Units
- Battery Disconnect Units
- Energy Storage Systems

FEATURES

- Temperature compensated high precision current sensing (**ASIL D ready**)
- 3x compensated shunt current + independent TMR measurement
- Overcurrent detection with factory configurable overcurrent threshold
- Temperature measurement

DIMENSIONS [mm]



SPECIFICATION

<i>Description</i>	<i>Value</i>	<i>Unit</i>
Measurement range (Shunt)	Nominal: $\pm 1,000$; Extended: $\pm 2,500$	A
Initial accuracy at RT	$\pm(0.2\% \text{ of rdg} + 0.1 \text{ A})$	
Total accuracy over lifetime & temp.	$\pm(0.6\% \text{ of rdg} + 0.1 \text{ A})$	
Shunt resistance	25	$\mu\Omega$
Measurement range (TMR)	Nominal: $\pm 2,500$	A
Accuracy TMR	$\pm(2.0\% \text{ of rdg} + 2.0 \text{ A})$	
OCD output TTL (active low)	5	V
OCD response time	<500	μs
Supply voltage	5	V
Operating temperature	-40 to +125	$^{\circ}\text{C}$
Shunt sense channels	3	
NTC accuracy over lifetime and temp.	5	K

CONFIGURATIONS

	<i>Shunt + TCR +OCD</i>	<i>Shunt + TMR</i>	<i>Shunt + OCD</i>
Redundant shunt taps	x	x	x
Temperature sensors	x	x	x
Overcurrent detection	x		x
TMR isolated sensing	x	x	