



METTLER TOLEDO

Intrinsic Safety Barrier

For Analog Load Cells



**For Intrinsically Safe, Accurate Weighing
in Hazardous Environments**

METTLER TOLEDO



Hazardous Area Protection for Analog Load Cells

The METTLER TOLEDO Intrinsic Safety Barrier (ISB) for analog load cells is designed specifically for use in high accuracy/high resolution weighing applications. When installed in the load cell cable between a terminal in a safe area and analog load cells in a hazardous area, the ISB limits the energy delivered into the hazardous area to prevent ignition of a potentially explosive atmosphere.

The ISB features a redundant Zener diode design for full protection even if two diodes fail. When a fault condition occurs, the diodes conduct and blow a fuse, opening the circuit to the load cell(s). In addition, replaceable fuses protect the barrier against wiring errors during installation and service. These fuses can be replaced without removing wiring or connectors.

The METTLER TOLEDO ISB is available in two mounting configurations.

- The safe area version (ISB05 and ISB15) can be attached to any flat surface using four screws, or attached to a standard NS35 DIN rail using the built-in rail clasp.
- The ISB05X and ISB15X models include NEMA type 7/9 flameproof enclosures, so they can be installed within hazardous areas.



The safe area ISB shown mounted to a DIN rail.

Both configurations feature a tamper-proof, potted design and offer simple, fast installation.

(Note: Wiring from the terminal to the barrier is not intrinsically safe and must be installed per local regulatory code and guidelines.)

Specifications	ISB05	ISB15	ISB05X	ISB15X
Physical Dimensions (W x D x H)	4.3 x 4.4 X 1.4 in (110 x 115 x 35 mm)		5.8 x 7.6 x 5.6 in (150 x 195 x 140 mm)	
Construction	Covers are ABS plastic		Cast aluminum alloy containing no more than 6% magnesium by weight	
Operating Voltage	0-5 VDC*	5-15 VDC*	0-5 VDC*	5-15 VDC*
Environment	Dry, non-hazardous areas		Washdown; within hazardous areas	
Load Cells	Maximum of eight 350 ohm load cells (or equivalent load)			

*The excitation must be unipolar. (The voltage must always be positive, never negative.) This barrier is NOT compatible with positive and negative "gated" load cell excitation.



METTLER TOLEDO offers load cell junction boxes, approved national pipe thread (NPT) to metric thread adapters and approved conduit-sealing fittings for quick, simple installation worldwide.

Approvals

The ISB is the only intrinsic safe barrier designed for use in weighing applications with metrology approvals from Europe and the United States. It has been tested and approved by independent agencies (Factory Mutual and KEMA) to assure its safety. Depending on the specific approval and the load cells used, either a system or entity approval has been obtained. (The entity approval permits application of the barrier with METTLER TOLEDO load cells as well as with other brands.)

The suitability of this equipment for specific hazardous area classified locations is the responsibility of the customer/end user or his/her designate. The ISB barrier is sold as a safety-expendable device and is not warranted beyond its initial installation.

For intrinsically safe weighing equipment and accessories, count on METTLER TOLEDO – the global leader in weighing solutions for industrial, retail, and laboratory applications.

Produced in a facility that is



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