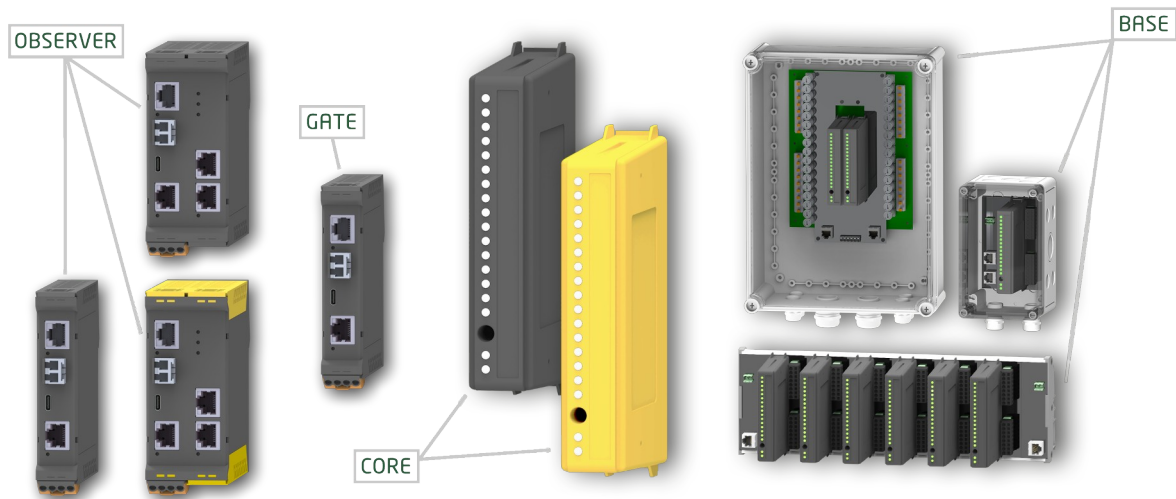


HydraSafe



HydraSafe Advantages Compared to the HVA3

Precision & Measurement Technology

- **Highest Accuracy:** Improved measurement accuracy with a resolution of 250 μV .
- **Real-Time Synchronicity:** Global Shutter (with $< 2 \mu\text{s}$ sync) across all 768 elements simultaneously; consistent filter design prevents tearing effects during startup/ramp-down.
- **Gapless Monitoring:** No temporal blind spots caused by multiplexing; consistent sampling rate of 100 ms.
- **Diversified Measurement Principle:** Utilization of two different A/D structures.
- **Active Contact Checking:** Monitoring of contact resistance through continuous variation of the internal measurement resistance.

Safety & Standards

- **Functional Safety:** Integration of PROFIsafe.
- **Future-Proof:** Complies with modern safety standards.
- **Optimized Isolation:** Improved galvanic isolation with an operational isolation of $> 1400 \text{ VDC}$ and a test voltage of 8 kV.
- **Extended Operating Range:** Significantly expanded temperature range from $-20 \text{ }^\circ\text{C}$ to $+100 \text{ }^\circ\text{C}$.

Connectivity & Integration

- **Interfaces:** Direct connection via PROFINET, Modbus TCP, and OPC UA.
- **Software Integration:** Seamless integration into HydraSafe VISU.
- **Flexible Bus Topology:** Bus connection optionally optical, wired, or a mix of both.
- **Cabling:** Cost-effective use of standard Ethernet patch cables (up to 15 m) or single-mode 1310 standard cables for long distances (up to 10 km)

Hardware Design & Maintenance

- **Compact Design:** Significantly narrower evaluation unit (22 mm or 44 mm DIN rail width).
- **Modularity:** Modular, pluggable design for easy replacement.
- **Direct Feedback:** Dual-color LED for each channel to signal contact issues.
- **Flexible Mounting:** Variety of contacting options.

Configuration & Features

- **Intuitive Operation:** Diverse graphical configuration options.
- **Flexible Cell Management:** Support for different cell types (e.g., peripheral groups) and custom statistic groups (e.g., for separate material cycles).
- **Detailed Analysis:** Separate recording of busbar contact voltages possible.
- **Customizable Alarms:** Time-limited limit-value switching (e.g., for startup) as well as individual fault delay and alarm hysteresis per cell and type.

Cost-Effectiveness & Service

- **Cost Advantages:** Lower purchase price and reduced cabling costs.
- **Availability:** Improved manufacturing as well as faster and more flexible delivery times.

<https://intronik.de/hydrasafe-en/>