PRODUCT BRIEF

ISOFACE™ ISO2I828V

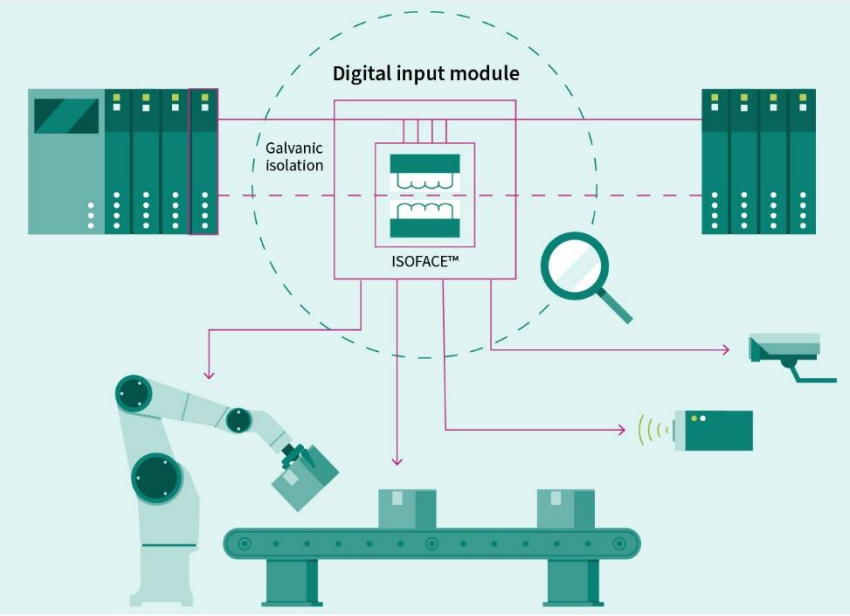
Galvanic-isolated digital input IC for compact and smart digital control systems

The ISOFACE™ ISO2I828V perfectly addresses the future requirements of smart and high-density digital control systems in factory automation, robotics and industrial drives. Eight digital input channels and galvanic isolation (2500 Vrms) are integrated in a compact 8x8 mm package, reducing required PCB size and BOM. The ISO2I828V supports high-density designs through optimized power dissipation and a thermally enhanced package. An extended supply and sensor voltage range (V_{BB}) up to 60 V also ensures compatibility with 48 V sensors. Comprehensive diagnostics, including channel-resolved wire-break detection, facilitate predictive maintenance and a stable and reliable production throughput.

The ISO2I828V integrates:

- 8 digital input channels according to EN61131-2 Type 1 and Type 3 in 8x8 mm VQFN-40 package
- 3.3 V microcontroller interface with 8/16/24 bit SPI, parallel and optocoupler emulation mode
- 2500 Vrms galvanic isolation (UL1577 pending)
- High-precision sensor current regulation: 2.1 mA to 2.5 mA
- -60 to +60 V sensor input voltage range
- Diagnostics: sensor wire-break, overtemperature, overvoltage and V_{BB} level monitoring
- Configurable sampling frequency: 20 kHz, 200 kHz or 500 kHz
- Event-based interrupt flag supports optimized microcontroller data traffic

Application overview



Key features

- Complete system integration into a small 8x8 mm package
- Integrated galvanic isolation (2500 Vrms)
- Comprehensive channel-resolved Diagnostics (overvoltage, overtemperature)
- Optimized power dissipation due to precisely regulated sensor input current
- Supply and sensor voltage V_{BB} up to 60 V max.
- Optimized heat distribution of IC on PCB level

Key benefits

- Small PCB size and BOM
- Reliable isolation without degradation from aging or temperature
- Enhanced system monitoring and efficient maintenance
- Small module size at high channel density
- High system robustness and compatibility with 48 V sensors
- Reliable operation with balanced temperature distribution inside the module

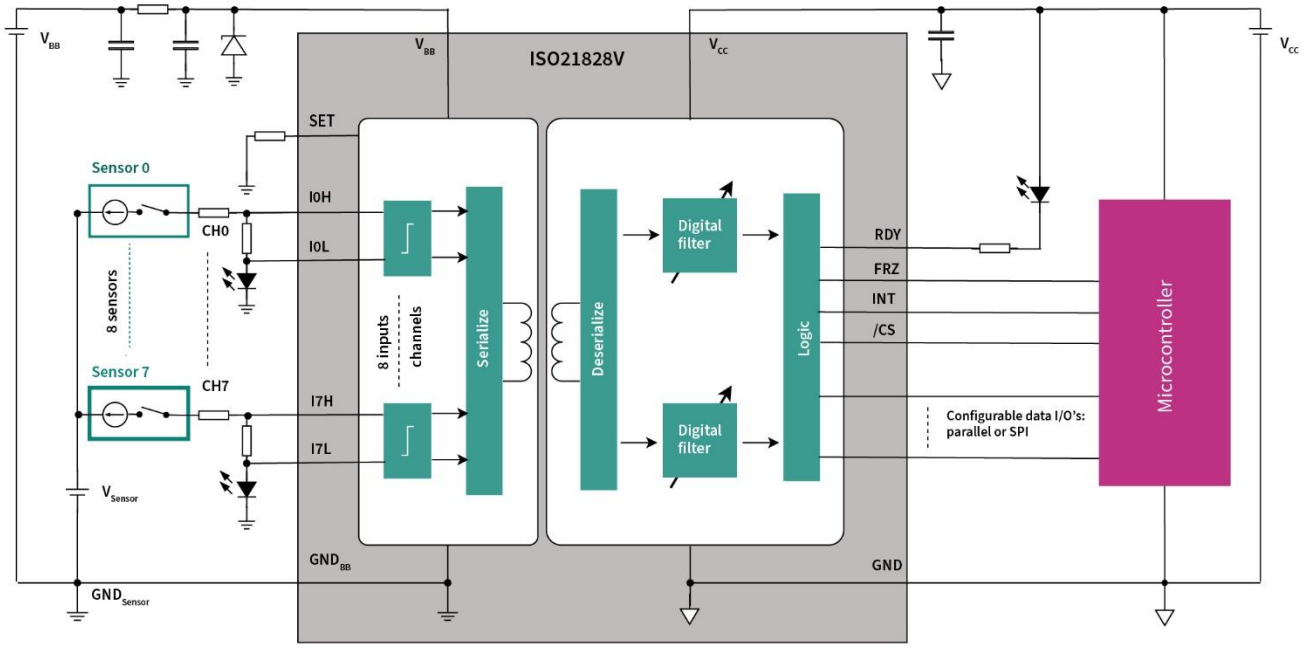


PLC · Industrial automation · Robotics · Collaborative robots · Automated guided vehicles · Industrial drive

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ISOFACE™ Digital Input ICs are IEC61131-2 compliant system solution ICs for digital control systems. They provide the interface between the 24 V process and the 3.3 V/ 5 V control side by evaluating sensor data and transmitting the logic state over the integrated galvanic isolation barrier to the PLC (programmable logic controller). In addition, the ISO2I828V monitors the system and provides sophisticated diagnostic information to the microcontroller, supporting predictive maintenance and a stable and reliable production throughput.

Application block diagram



Product summary

Sales name	OPN	SP	Package
ISO2I828V	ISO2I828VXUMA1	SP005568856	PG-VQFN-40

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