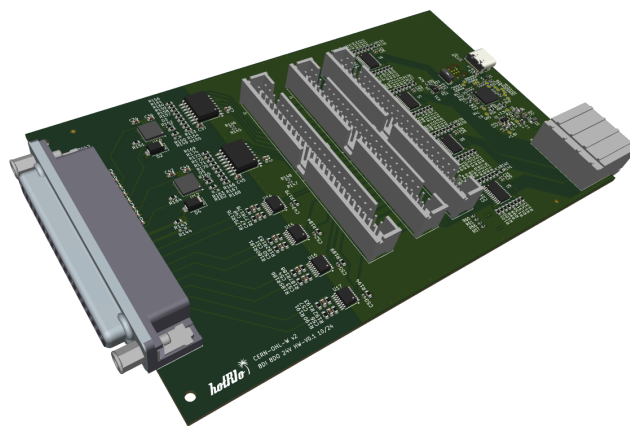


F-HEE-DIO-24V-8I8O

HotRIO Eurocard Expansion board

- 8 digital inputs and 8 digital outputs, each fully isolated
- Supports 12–36 V (nominal 24 V) copper signal interfacing
- Seamless Eurocard backplane integration with HotRIO controllers
- Galvanic isolation using high-speed digital isolators for robust protection



The F-HEE-DIO-24V-8I8O is a HotRIO Eurocard expansion module designed for seamless integration with a HotRIO controller board via a Eurocard Type A backplane. It features eight digital input channels and eight digital output channels, each with a fixed direction and dedicated function. All channels support copper signal paths operating within a 12–36 V range (nominally 24 V), making the board well-suited for industrial control applications.

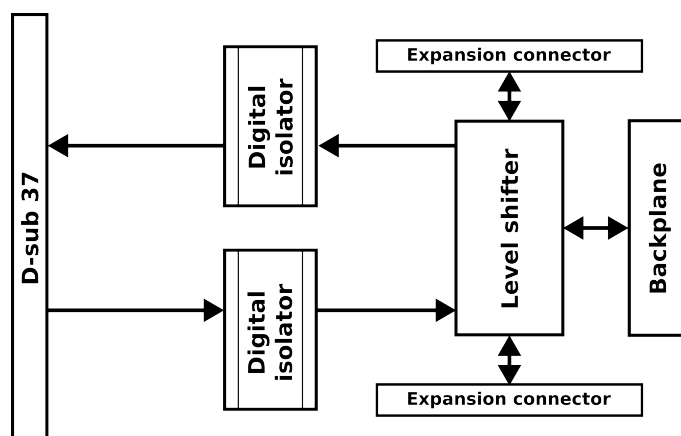
To ensure robust electrical isolation, each input and output channel is fully isolated using high-speed digital isolators. This design enhances safety and reliability by protecting both the controller and connected field devices from transients, ground loops, and electrical noise.

Functionally, the board acts as a transparent signal interface between the front DB-37 connector (field wiring) and the rear backplane connector. The only active components present are for signal conditioning. Signals received from the backplane—originating from the controller board's FPGA—first pass through a voltage level shifter (converting 1.8 V to 3.3 V), followed by digital isolation.

This architecture provides galvanic isolation between the Eurocard chassis and external field devices, ensuring safe and noise-immune communication across system boundaries.

Technical Specifications

Form factor	100x160 mm (Eurocard)
Mounting	Eurocard chassis
Backplane interface	HotRIO Type A
Digital inputs	8 (12–36 V, nominal 24 V, fully isolated)
Digital outputs	8 (12–36 V, nominal 24 V, fully isolated)
Isolation method	High-speed digital isolators
Input/output connector	DB-37 (front panel)
Power supply	5V DC (from backplane)
Power consumption	TBD W



Warning: This document exclusively describes the hardware detailed herein. Any reference to software or firmware used to operate this hardware is outside the scope of this document.

Developers are advised to consult separate documentation for any information related to software or firmware functionality.

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