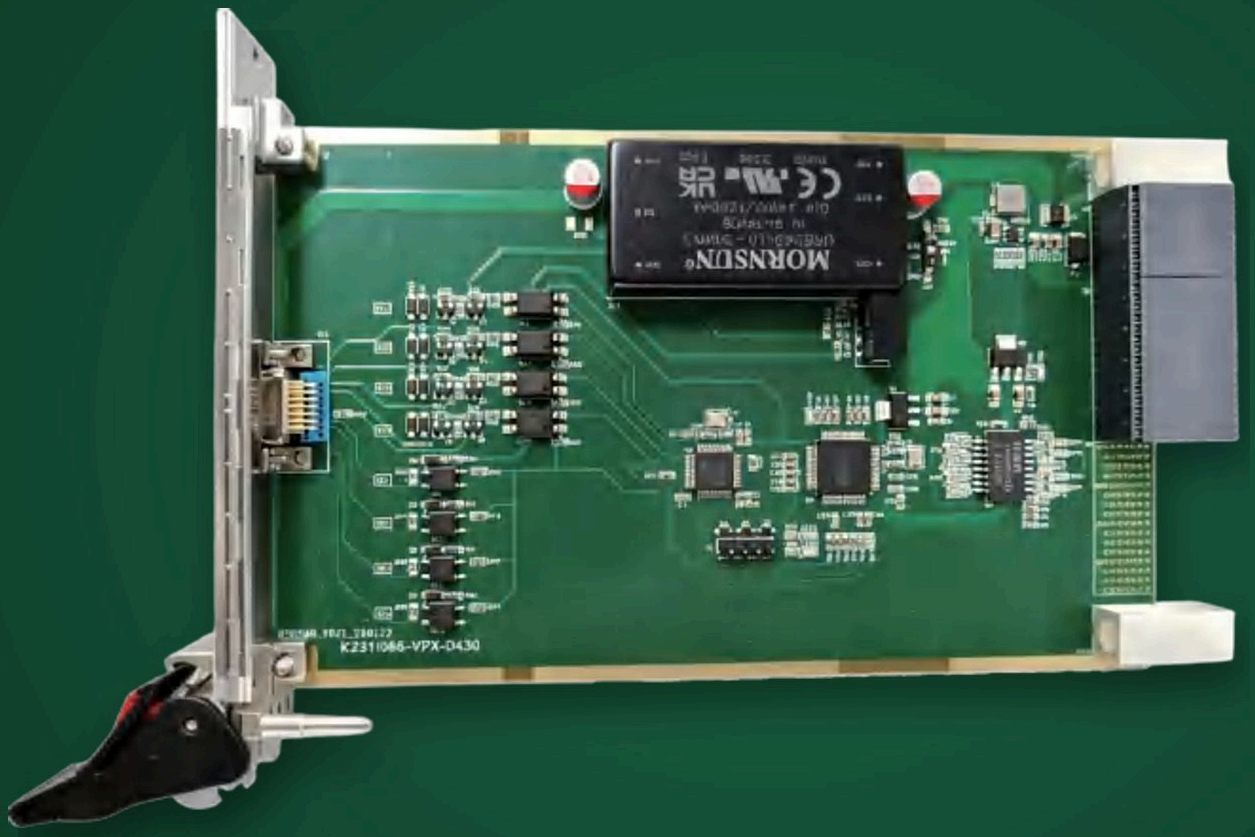
EQIO

VPX-D430

PRODUCT MANUAL

3U VPX Four-In Four-Out Digital I/O Card

VPX communications and IO card · Industr...



Measurement and control, made easy.

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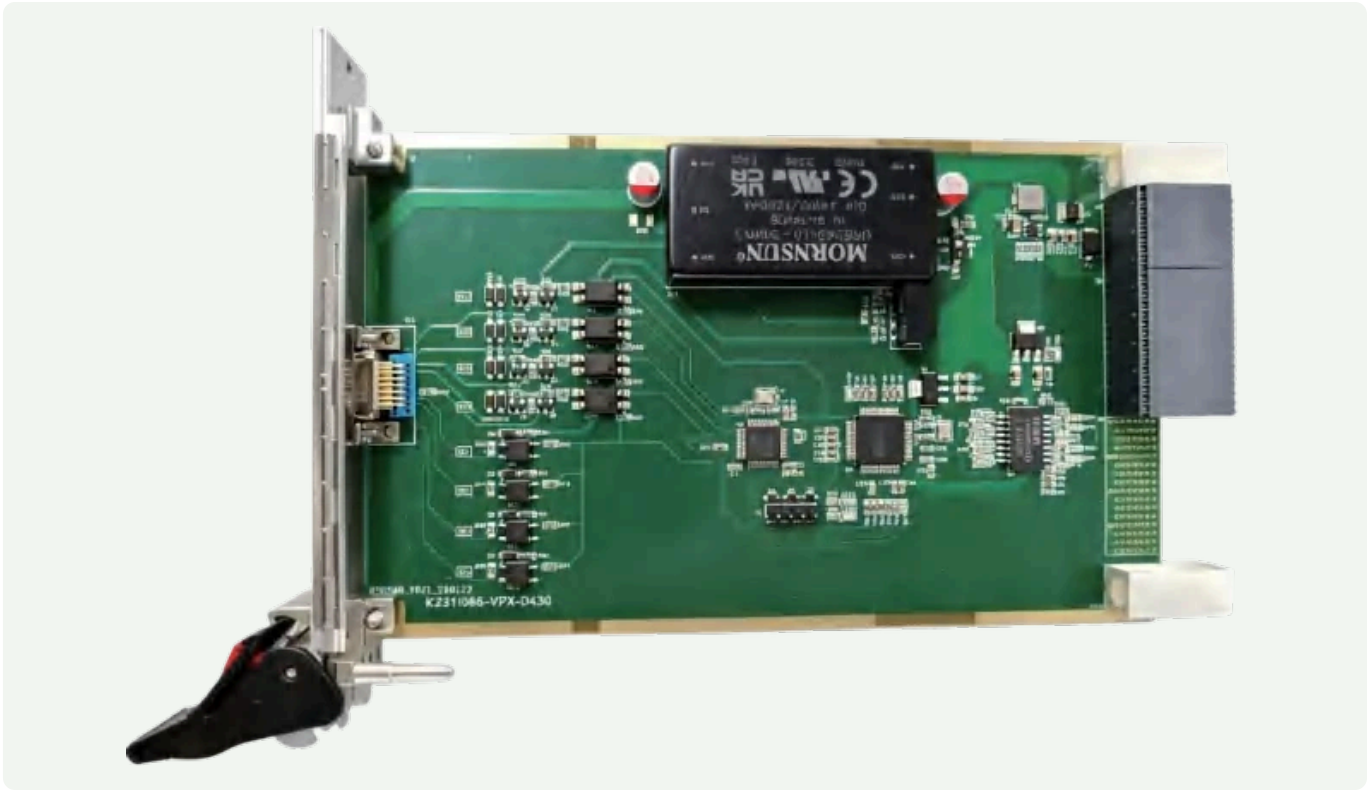
Easy · Quick · Input · Output

01 OVERVIEW

3U VPX Four-In Four-Out Digital I/O Card

VPX communications and IO card · Industrial automation · Equipment status acquisition · Digital control · VPX

VPX-D430 provides 4-ch DI input and 4-ch DO output, supports channel isolated, 24V signal and TCP/IP protocol conversion, uses 12V DC power, used for industrial digital signal attach and control. Input compatible dry contact and wet contact, output divided into high driver and standard driver 2, can connect switch, indicator and actuation equipment. Digital connect and network conversion centralized 3U board in, suited to industrial automation, equipment interlock and test system in status acquisition and output control.



Product appearance reference; shipped units may differ.

Key features

- 4-ch independent DI, compatible dry/wet contact
- 4-ch 24V DO output
- 2-ch ≥400mA high driver output
- DI/DO channel between isolated
- Supports TCP/IP protocol conversion

02 FUNCTIONS

Functions and engineering value

4-ch status input

4-ch independent DI compatible dry contact and wet contact, can used for receive equipment switch status or other complies with input specification signal. Wiring should first confirm common terminal, input type and electrical conditions, not can dry/wet connect point compatible de any voltage input, actual filtering and acquisition cycle required according to matching note confirm.

Group digital driver

4-ch DO all uses 0/24V signal level, including 2-ch rated driver current≥400mA, additional 2-ch ≥100mA, suited to per load requirement group connect. External load boot current, inductive characteristic and protection method requires separately check, not can rated driver capability directly treat as all load suited used guarantee.

Network control and channel isolated

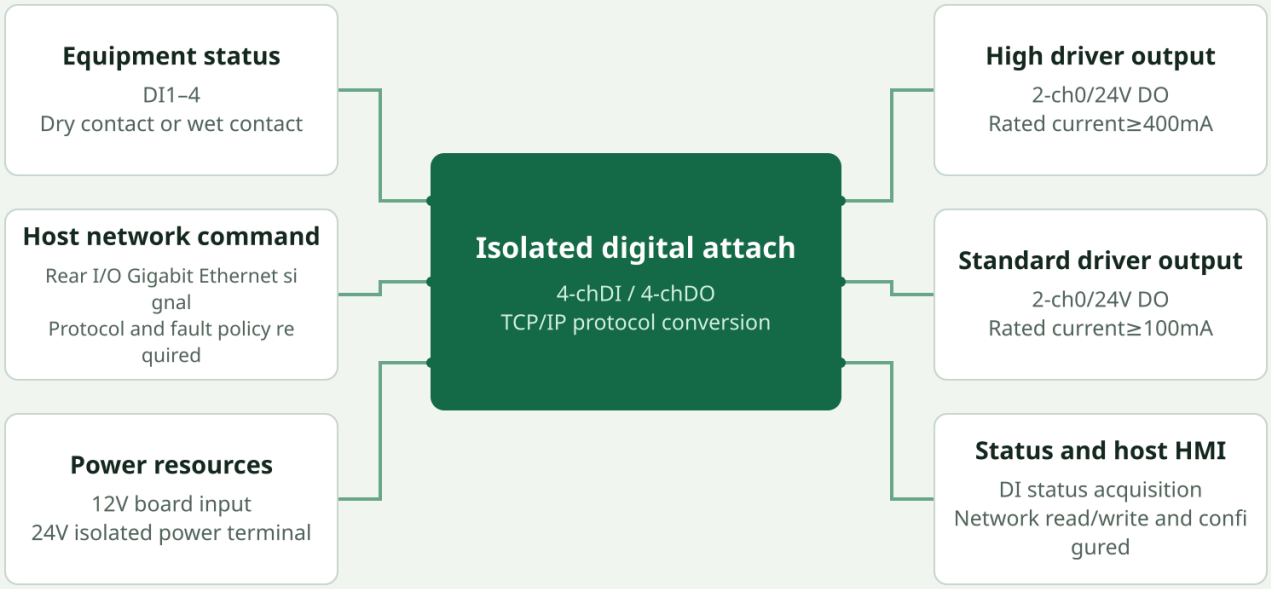
Board supports TCP/IP protocol conversion and DI/DO channel between isolated, can field status and control command attach network host. 12V board input, 24V isolated signals power additional has terminal definition, system integration should stated both relationship, and from software settings communications fault when output processing policy.

The functional notes explain the product’s role from published configuration. Optional functions, software and peripherals follow the project definition. Chip capability is not the same as implemented I/O.

03 ARCHITECTURE

Signal and functional relationships

FUNCTIONAL BLOCK DIAGRAM VPX-D430



Functional relationships · lines do not show internal circuits, pins or dedicated bus topology

Based on product specification express functional relationship, does not show internal circuits; input signal level, isolated power and load suited usability must per detailed electrical note confirm.

Platform and I/O

This board around 4-ch DI acquisition, 4-ch DO control and TCP/IP HMI forms digital I/O platform, not published internal processor model. Diagram distinguish 12V board power, 24V isolated signals and 2 output driver capability, communications and electrical protection requires and actual load, host software together design.

> **Reading the diagram**
>
> Solid lines show published functional relationships, not on-board buses, bridge chips or connector pins. Optional controllers, radios, storage and software follow the configuration and interface files.

04 SPECIFICATIONS

Technical specifications

Compiled from published product data. Batch, I/O and environmental ratings follow the order confirmation.

Technical data

DI input	4-ch independent DI I/O, compatible dry /wet contact
DO output	2-ch high driver: 0/24V signal level, current≥400mA, 2-ch standard driver: 0/24V signal level, current≥100mA
Signal isolation	DI/DO channel between isolated, supports 24V isolated power
Communications protocol	Supports TCP/IP protocol conversion
Power	Single 12V DC input, typical value power consumption: <15W
Operating system	Kylin OS, UnionTech UOS, Yihui SylixOS, Linux

Mechanical specifications and system requirements

Specification	160mm × 100mm (±0.5mm) not including connector and baffle, weight 0.18kg±0.01

I/O and expansion

DB15	- DI1~4 (pins 14/15/7/8); - DO1~4 (pins 1/2/9/10); - common terminal (IN COM/OUT COM); - isolated power (GND ISO24/+24V ISO)
P0 rear I/O	- 12V power input (multi pins and link); - system reset (PCIE RST#); - reference clock (REFCLK100M±)
P1 rear I/O	- Gigabit network signal (GBE2 DA±/DB±/DC±/DD±); - GND

Environmental conditions

Operating temperature	Operating temperature: 0°C ~ 50°C, storage temperature: -40°C ~ 85°C
Relative humidity	95% (non-condensing)

05 APPLICATIONS

From product capability to applications

Equipment status centralized acquisition

DI can attach gate, switch or equipment status contact, host via matching network protocol read status, used for UI display and application log. Field should follow contact type check power and common terminal, software acquisition cycle and debounce method requires actual verification, not can be I/O quantity inferred detection latency.

Indicator and auxiliary actuation control

4-ch DO can per 2 driver capability connect complies with electrical specification indicator or auxiliary actuation load, host via network send control command. Project required confirm load boot current, reverse toward electrical force protection and power-loss status, involve and equipment protection function should also configured with independent can rely system measure.

Network test fixture

Test fixture can DI used for read DUT status, DO used for send complies with specification digital signal, combined with TCP/IP completes automation procedure. Fixture wiring, timing and result determine from application software responsible for, acceptance when per channel inspection input output mapping, and test network interrupt and recovery.

Integration checks

Terminal mapping	Check DB15 DI, DO, IN COM, OUT COM and isolated power terminal, per actual input type completes wiring.
Load capability	Distinguish 2-ch ≥400mA and 2-ch ≥100mA 24V output, item by item check load boot current and inductive protection.
Power isolated	12V board input; isolated 24V power terminal and power relationship must follow electrical note confirm, not directly mix connections two power domain.
Protocol and environment	Confirm TCP/IP protocol, driver, acquisition cycle and fault output status; operating temperature 0–50°C, not apply wide temperature metrics.

06 CONFIGURATION

Appearance, configuration and selection



Multi-angle reference (generated from product photos); shipped units may differ.

Configuration

Uses 12V DC input and DB15 external connector, operating temperature 0–50°C.

Selection guide

Order confirmation	Batch, I/O and environmental ratings follow the order confirmation
Published data	Compiled from published product data; EQIO provides selection and system integration
Configuration talk	Share the application, I/O count, environment and software so a configuration can be proposed

Request a quotation and selection support

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Web eqio.com

EQIO

Easy · Quick · Input · Output

BRAND

Measurement and control, made easy.



EQIO product family · concept rendering

Brand story

EQIO builds measurement and control products and systems. The name stands for Easy Quick Input Output: Easy is a clear structure that is quick to learn, Quick is a direct path to efficient delivery, and Input / Output is every link between the device under test and the control system.
The soft single-cycle wave inside the Q links the brand to signals, acquisition and I/O. “Measurement and control, made easy” is our promise for every selection, integration and delivery.

What we do

Products

Data acquisition, test instruments, control and I/O, modular platforms, software, cables

Systems

Configured to the measurand, channels, accuracy and software, from design to commissioning

Support

Selection advice, training, maintenance and calibration

How we deliver

01
Requirements

02
Solution design

03
Build & integration

04
Factory test

05
Delivery & training

06
Ongoing support

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