# Emerson KJ4006X1-BP1

## 01 Forty-Pin Mass Termination Block / system role

### Product function and operating context

Emerson KJ4006X1-BP1 concentrates the field connection into a keyed termination interface, making card compatibility, harness pin assignment and controlled disconnection the main installation checks.

The terminal block must be paired with its intended I/O card and harness. The rotary keys support that pairing after installation, but they do not replace verification of the card identity or the field connection schedule.

### Integration checkpoints

- Mass-wired I/O cabinets
- Keyed card interfaces
- Harness replacement work
- I/O circuit acceptance

| | |
|---|---|
| Compatibility control | Set rotary keys for the fitted I/O card |
| Harness verification | Preserve channel-to-pin assignment |
| Service acceptance | Verify the complete field circuit after reconnection |

The field-power rating belongs to the terminal-block assembly. Evaluate the installed card and channel limits separately, and keep the harness wiring consistent with the approved field circuit.

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## 02 Technical operating envelope

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| Termination interface | 40-pin mass termination | Shock rating | 10 g, half-sine, 11 ms |
| Field-power rating | 30 V DC at 3.2 A | Vibration, 2–13.2 Hz | 1 mm peak-to-peak |
| Operating ambient | −40 to +70 °C | Vibration, 13.2–150 Hz | 0.7 g |
| Relative humidity | 5–95%, non-condensing | Airborne contaminants | ISA-S71.04 G3 |

Ratings apply to the stated hardware execution and operating conditions; companion hardware and configured functions require separate compatibility checks.

### Keying and pinout

Set the rotary keys for the installed card and verify the harness channel mapping independently. Mechanical mating does not prove correct field assignment.

### Conditional powered removal

System power may remain applied only when no I/O card is installed and no field wiring is connected to the terminal. Follow the complete hazardous-area service procedure.

### Assembly versus channel limits

The terminal-block field-power rating is not an individual-channel rating. Apply the connected I/O card’s limits to each field circuit.

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## 03 System integration and applications

### Mass-wired I/O cabinets

Connect the approved harness to an S-series I/O position.

### Keyed card interfaces

Maintain the card-to-terminal compatibility arrangement.

### Harness replacement work

Restore field channel assignment after connector intervention.

### I/O circuit acceptance

Verify signals from the field device through the connected card.

### Application and compatibility boundary

Removal with system power present is permitted only under the stated empty-card and disconnected-field-wiring conditions. The block has no user-serviceable parts and needs no calibration; acceptance depends on correct mating and end-to-end circuit checks.

### Available unit verification

Check rotary keys, mass connector, card identity and the associated harness label. Confirm terminal block, harness and I/O card only if individually quoted in the quotation. Evaluate the actual interfaces and included accessories against the installed arrangement.

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## 04 Engineering selection decisions

### Does the 40-pin connector on KJ4006X1-BP1 prove compatibility with any mass-wired I/O card?

No. Match the card, rotary-key setting and harness pin assignment. Connector size alone does not establish electrical compatibility.

### Under what conditions can KJ4006X1-BP1 be removed with system power still applied?

Only when no I/O card is installed and no field wiring is connected to the terminal, subject to the complete applicable installation and hazardous-area procedure.

### Why must the rotary keys on KJ4006X1-BP1 be set before the I/O card is fitted?

They establish the intended card-to-terminal compatibility. Set them for the actual card rather than defeating the keying to force a connection.

### Can the assembly power rating of KJ4006X1-BP1 be used as the allowable current of every channel?

No. Individual-channel limits come from the connected I/O card and field circuit. Assess those separately from the terminal-block assembly rating.

### How should a replacement harness connected to KJ4006X1-BP1 be verified?

Compare its exact pin assignment with the approved circuit schedule and test each affected channel end to end before enabling the process.

### What should be investigated when only some circuits fail after reconnecting KJ4006X1-BP1?

Inspect the affected pins, harness mapping, card pairing and field wiring. A partially seated or misassigned connection can affect a subset of channels.

### Is calibration a required maintenance activity for KJ4006X1-BP1?

No calibration is required and the unit has no user-serviceable internal parts. Maintenance focuses on correct mating, keying, wiring and circuit verification.

### Why should condensation be considered separately from humidity around KJ4006X1-BP1?

The environmental rating is non-condensing. A cabinet can remain within a numerical humidity range while local condensation still makes the installation unsuitable.

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## 05 Configuration boundary and references

### Lifecycle and support

The current manufacturing and manufacturer-support stage for this exact model is not confirmed.

### Replacement assessment

Match the I/O card, rotary-key position and complete harness pinout. The 40-pin connector count alone does not establish interchangeability.

### Available unit details

Offered reference: Emerson KJ4006X1-BP1. Condition: New, original product. Check rotary keys, mass connector, card identity and the associated harness label. Confirm terminal block, harness and I/O card only if individually quoted in the quotation; companion equipment is included only when itemized.

Document roles: The original excerpt retains manufacturer tables and drawings; this brief addresses selection and system context; the separate installation guide covers field procedures and acceptance.

Technical basis: DeltaV 40-Pin Mass Terminal Block, ATEX74, July 2021.

### Related product navigation

- Emerson KJ3222X1-BK1 12P4705X062
- Emerson KJ4001X1-BE1
- Emerson KJ3241X1-BA1 12P2506X062

Related products for separate application assessment; verify the platform and interface. No interchangeability is implied.

Product enquiries