

KJ3101X1-BA1 12P1865X062 VE4011B1

Four controlled output loops inside the DeltaV M-series I.S. architecture

INSTALLED ROLE

This card forms the controlled field-output boundary between the DeltaV LocalBus assembly and four approved solenoid circuits. The complete ordering identity, carrier, keyed terminal hardware and loop calculation remain one engineered installation.

Output-loop ownership

CONTROLLER COMMAND

The control strategy requests a field-state change.

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KJ4101X1-BA1 CARRIER

The M-series carrier provides the documented installed position.

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VE4011B1 OUTPUT CARD

Four I.S. channels apply the published entity boundary.

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B5 TERMINAL BLOCK

KJ4110X1-BA1 or -BB1 lands the solenoid-loop wiring.

Identity hold points

- Match the full KJ3101X1-BA1, 12P1865X062 and VE4011B1 identity.
- Retain IIC loop documentation and B5 field-terminal keying.
- Keep every field circuit within Uo 25 V DC, Io 110 mA and Po 0.69 W.
- Prove each of the four solenoid responses before process release.

Loop boundary and approved hardware

The electrical entity limits and the mechanical key must agree with the installed field design

Uo

25 V DC

Maximum published output voltage

Io

110 mA

Maximum published output current

Po

0.69 W

Maximum published output power

HARDWARE ROLE	DOCUMENTED IDENTITY	ENGINEERING CONTROL
Card	KJ3101X1-BA1 / VE4011B1	Four-channel intrinsically safe solenoid-driver output
Carrier	KJ4101X1-BA1	Required M-series I.S. carrier for the documented arrangement
Terminal option A	KJ4110X1-BA1	Approved B5-keyed loop-disconnect field termination
Terminal option B	KJ4110X1-BB1	Alternate approved B5-keyed terminal-block option
Architecture boundary	DeltaV M-series I.S. I/O	The published arrangement is not compatible with S-series controllers or carriers

SELECTION RULE

Do not select a substitute from appearance or channel count. The carrier identity, B5 keying, terminal-block option, gas-group design and entity calculation must all remain consistent with the installed loop record.

Channel custody from removal to proof

A loop-by-loop plan that keeps hazardous-area documentation attached to the field wiring

CHANNEL 1
Record conductor, solenoid identity and normal commanded state.

CHANNEL 2
Record shield/return treatment and the approved loop document reference.

CHANNEL 3
Retain the terminal position and confirm the loop-disconnect arrangement.

CHANNEL 4
Preserve the final field assignment and its acceptance result.

Controlled replacement sequence

PHASE	REQUIRED ACTION	CONTROL POINT
1 Freeze	Place all four loops and the controller function in the approved maintenance state.	Isolation and safe-work evidence are active.
2 Identify	Verify card, carrier, B5 terminal block and installed gas-group documentation.	Every hardware identity agrees with the loop file.
3 Reconcile	Compare every loop against the published entity limits before disconnection.	The I.S. calculation remains valid for all four loops.
4 Transfer	Move conductors under the recorded channel map without changing shield treatment.	The conductor and terminal map remains complete.
5 Recognize	Confirm LocalBus/card status and the installed hardware identity.	The station recognizes the exact card in its recorded position.
6 Prove	Command each solenoid circuit and retain the final acceptance evidence.	All four field responses match the approved output schedule.

Release evidence for the I.S. output assembly

Use measured identity and commanded field response instead of visual similarity

OBSERVATION	ENGINEERING RESPONSE	PASS EVIDENCE
Card not recognized	Recheck the exact VE4011B1 card and KJ4101X1-BA1 carrier position.	Card status is normal in the recorded M-series location.
Terminal mismatch	Confirm KJ4110X1-BA1 or KJ4110X1-BB1 and the B5 key.	The approved terminal hardware matches the loop file.
Loop will not actuate	Trace the assigned channel, conductor and solenoid under safe-work control.	The commanded output changes the intended field device only.
Loop calculation differs	Compare the installed circuit against 25 V DC, 110 mA and 0.69 W.	The documented I.S. calculation remains valid for the installed loop.
S-series hardware present	Stop the exchange and reconcile the system architecture.	Only the documented M-series I.S. arrangement proceeds to commissioning.

FINAL RELEASE

Close the work record only after LocalBus recognition, output indication and all four solenoid responses agree with the approved channel map. Retain the entity calculation and terminal identity with the commissioning result.

Evidence retained with the release

- Complete card, carrier and B5 terminal-block identity.
- Accepted IIC loop calculation for each affected output.
- Recorded LocalBus/card status after installation.
- Commanded-state result for all four solenoid circuits.

Traceable evidence, related products and contact

This operational dossier remains separate from the Technical Reference and field guide

Manufacturer evidence used

- Emerson DeltaV M-series Intrinsically Safe I/O product data sheet, July 2023.
- Fisher-Rosemount Systems DeltaV Scalable Process System Installation Instructions, publication 12P1990, Revision E.
- Emerson ordering entry for VE4011B1 four-channel I.S. solenoid-driver I/O with loop-disconnect terminal block.

Verified related ApterPower product pages

Emerson KJ3224X1-BA2 13P0137X022

Emerson KJ3241X1-BA1 12P2506X032

Emerson KJ3241X1-BK1 12P4710X022

Emerson KJ3243X1-BK1 SE4022

Emerson KJ4001X1-BA3 12P3378X012 VE3051C0

Emerson KL2101X1-BA1 SE6501T01

Document role separation

COMPLETE INFORMATION

Loop ownership, replacement control and release evidence.

TECHNICAL REFERENCE

Engineering values, system position and source-backed data.

FIELD GUIDE

Installation, commissioning and handover sequence.

Talk to Apter Power

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