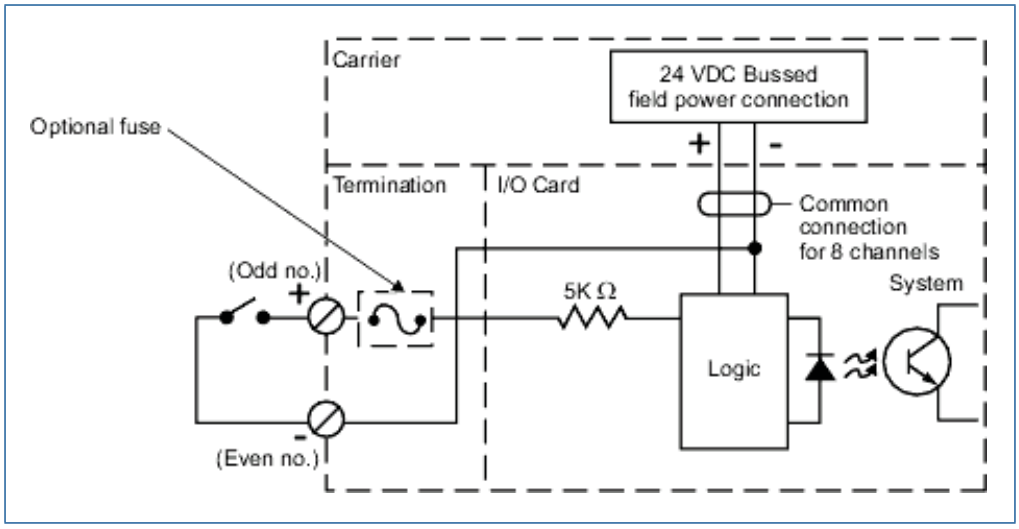
Model	Ref. Fig. 1	Description	Removal or Insertion with System Power Energized	Key Pos.	Field Circuit Class For Definitions please refer to Item 10.
KJ1501X1-BC1	J	DC/DC System Power Supply	No	N/A	Alarm relay Energy-limited field circuit parameter Ui = 30Vdc Ii = 135mA Li=0 Ci=0
KJ1501X1 - BC2	J	System Dual DC Power Supply	No	N/A	Alarm relay Energy-limited field circuit parameter Ui = 30Vdc Ii = 135mA Li=0 Ci=0
KJ1501X1 - BC3	J	System Dual DC Power Supply	No	N/A	Alarm relay Energy-limited field circuit parameter Ui = 30Vdc Ii = 135mA Li=0 Ci=0
KJ1700X1 - BA1	K	Media Converter	No	N/A	N/A
KJ2002X1 - CA1	F	M5 Controller	No	N/A	N/A
KJ2003X1 - BA2	F	MD Controller (0°C to +60°C)	No	N/A	N/A
KJ2003X1 - BB1	F	MD Plus Controller	No	N/A	N/A
KJ2004X1 - BA1	F	Remote Interface Unit	No	N/A	N/A
KJ2005X1 - BA1	F	MX Controller (-40°C to +60°C)	No	N/A	N/A
KJ2005X1 - MQ1	F	MQ Controller	No	N/A	N/A
KJ2201X1 - BA1	L	SLS 1508 Controller	No	N/A	AIN, AOUT and DIN Channels are nonincendive, Energy limited. See Table 2 Field circuit parameters. DOUT Channels are Non-Sparking. DOUT Channels are Energy limited when used with KJ2231X1-EE1 SIS Current Limiter See KJ2231X1-BA1 for Field Circuit Parameters (see Figure 1)
KJ2201X1 - HA1	C	SLS Terminal Block	No	N/A	N/A
KJ2201X1 - JA1	C	SLS Redundant Terminal Block	No	N/A	N/A
KJ2221X1 - BA1	K	Sis Net Repeater	No	N/A	N/A
KJ2221X1 - EA1	A	SIS Net Repeater Carrier	No	N/A	N/A
KJ2222X1 - BA1	P	SIS Net Distance Extender	No	N/A	N/A
KJ2231X1 - BA1	M	Auxiliary Relay Module (Energize To Actuate)	No	N/A	NON-SPARKING
KJ2231X1 - BB1	M	Auxiliary Relay Module (De-Energize To Actuate	No	N/A	NON-SPARKING
KJ2231X1 - BC1	N	Auxiliary Relay Diode Module	No	N/A	NON-SPARKING
KJ2231X1 - EA1	Q	SIS Relay Module	No	N/A	NON-SPARKING
KJ2231X1 - EB1	S	Voltage Monitor Accessory	No	N/A	NON-SPARKING
KJ2231X1 - EC1		End of Line Module	No	N/A	NON-SPARKING
KJ2231X1 - ED1		RC Compensator	No	N/A	NON-SPARKING
KJ2231X1-EE1	R	SIS Current Limiter	No	N/A	Energy limited field circuits Uo=28.7V, Io=120mA, Co=0.1uF, Lo=4mH
KJ3001X1 - BA1	G	DI Card, 8 Ch. 24VDC, Isolated (0°C to +60°C)	YES[1,2]	B 2	NON-SPARKING
KJ3001X1 - BB1	G	DI Card, 8 Ch. 24VDC,Dry Contact (0°C to +60°C)	YES[1]	B 1	Energy limited field circuits Uo = 30V, Io = 15.2mA, Po = 57mW Co=0.12uF, Lo=151mH
KJ3001X1 - BG1	G	DO Card, 8 Ch. 24VDC, Isolated (0°C to +60°C)	YES[1,2]	B 5	NON-SPARKING
KJ3001X1 - BJ1	G	DO Card, 8 Ch. 24VDC, High Side (0°C to +60°C)	YES[1,2]	B 6	NON-SPARKING

Discrete Input I/O Cards

Specifications for DI Card, 8-channel, 24V DC, Dry Contact	
Number of Channels	Eight
Input Compatibility	Dry Contact (known to operate with many NAMUR sensors)
Detection Level for On	>2.2 mA
Detection Level for Off	<1 mA
Input Impedance	5 KΩ (approximate)
Wetting Voltage	15 Volts
Fault Detection Capable	Field resistor pack (known to operate with many NAMUR sensors)
Configurable Channel Types: ■ Discrete Input ■ Pulse Count	Input Dry contact or discrete state sensor changing <2 Hz Pulse train <75 Hz
Local Bus current (12V DC nominal) per Card	Simplex: 75 mA typical, 100 mA maximum Redundant: 90 mA typical, 150 mA maximum
Field Circuit Power per Card	100 mA at 24V DC (±10%)
Isolation	Each channel is optically isolated from the system and factory tested to 1500V DC
Optional Fuse	2.0 A (Terminal block option)



Simplified Circuit and Connection Diagram for DI Card, 8-channel, 24V DC, Dry Contact.

In addition to standard signal wiring, some cards may also be ordered with Mass Terminal blocks that allow these cards to be connected to the M-series Mass Connection Solutions or third party wiring solutions from Phoenix or if IS Barriers are required from Pepperl and Fuchs, mounted in an adjacent cabinet to meet special signal conditioning or for optimizing field wiring solutions. Please refer to the Alliance Program website for details on approved third-party products.

- 10-pin Mass Termination Block (simplex only)
- 16-pin Mass Termination Block (simplex only)
- 24-pin Mass Termination Block (simplex only)
- 40-pin Mass Termination Block (simplex and redundant)
- 48-pin Mass Termination Block (simplex and redundant)

Traditional I/O and Terminal Block Compatibility

I/O Card	I/O Card Keying	Traditional I/O Terminal Blocks	Mass Termination Blocks
AI, 8-Channel, 4–20 mA, HART	A1	I/O terminal block Fused I/O terminal block 4-wire I/O terminal block	16-pin Mass termination block (Supports 2-wire Devices) 24-pin Mass termination block (Supports 4-wire Devices)
AI Plus, 16-Channel, 4-20 mA, HART	A6	16-Channel 2-Wire AI terminal block for Series 2 Plus 16-Channel 4-Wire AI terminal block for Series 2 Plus Redundant 2- & 4-Wire terminal block	48-pin AI Mass termination block for Series 2 Plus Redundant 48-pin AI Mass termination block for Series 2 Plus
AO, 8-Channel, 4–20 mA, HART	A4	I/O terminal block Fused terminal block	16-pin Mass termination block
AO Plus, 16-Channel, 4-20 mA, HART	A5	16-Channel AO terminal block for Series 2 Plus Redundant 16-Channel AO terminal block for Series 2 Plus	48-pin AO Mass termination block for Series 2 Plus Redundant 48-pin AO Mass termination block for Series 2 Plus
Thermocouple, mV	C1	I/O terminal block Cold Junction Compensated (CJC) terminal block	NA
RTD, 8-Channel	C3	Resistant Temperature Device (RTD) terminal block	NA
DI, 8-Channel, 24V DC, Dry Contact	B1	I/O terminal block Fused terminal block	16-pin Mass termination block
DI, 8-Channel, 24V DC, Isolated	B2	I/O terminal block Fused terminal block	16-pin Mass termination block
DI, 32-Channel, 24V DC, Dry Contact	B3	32-Channel terminal block	40-pin Mass termination block
DI Plus, 32-Channel, 24V DC, Dry Contact	E3	32-Channel DI terminal block for Series 2 Plus Redundant 32-Channel DI terminal block for Series 2 Plus	40-pin DI Mass termination block for Series 2 Plus Redundant 40-pin DI Mass termination block for Series 2 Plus

Certifications

The following certifications are available for M-series Traditional I/O (see actual certificates for exact certifications for each product):

- **CE**

  EMC: EN 61326-1

- **FM**

  FM 3600

  FM 3611

- **CSA**

  CSA C22.2 No. 213

  CSA C22.2 No. 1010-1

- **ATEX**

  EN60079-0

  IEC60079-7

  EN60079-15

- **IEC-Ex**

  IEC60079-0

  IEC60079-7

  IEC60079-15

- **Marine Certifications:** IACS E10

  ABS Certificate of Design Assessment

  DNV Marine Certificate

Hazardous Area/Location

M-series Traditional I/O Cards can be installed and used based on the following standards (see actual certificates for exact product markings for each product):

- **FM (USA)**

  Class I, Division 2, Groups A, B, C, D, T4

- **cFM (Canada)**

  Class I, Division 2, Groups A, B, C, D, T4

- **ATEX**

  II 3G Ex ec IIC T4 Gc

  II 3G Ex ec [ic] IIC T4 Gc

  II 3G Ex nA nC IIC T4 Gc

- **IEC-Ex**

  II 3G Ex ec IIC T4 Gc

  II 3G Ex ec ic IIC T4 Gc

  II 3G Ex nA nC IIC T4 Gc

Regarding the Installation instructions please refer to the following Documents:

Class 1 Division 2 Installation Instructions DeltaV™ M-series	12P1293
Zone 2 Installation Instructions DeltaV M-series	12P2046