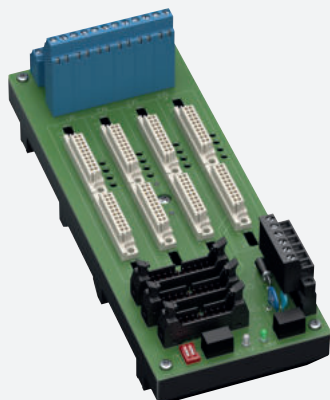




Termination Board

HiDTB04-DVM-IDC3-SC-R2-DO08

- System board for Emerson DeltaV, M-series and S-series
- For one 8-channel DO card via 16-pin Mass Termination Block
- For one 32-channel DO card via 40-pin Mass Termination Block
- For 4 modules/8 channels
- Recommended module: HiD2872 (DO)
- Volt-free fault indication output
- 24 V DC supply, reverse polarity protected, optional daisychainable
- Hazardous area: screw terminals, blue
- Non-hazardous area: IDC connector, 16 pin and 20-pin



Function

The function of the termination board and the connector pin assignment is exactly fitted to the requirements of the Emerson DeltaV M-series and S-series.

The signal is output to the process control system via the system connector.

Wiring faults from the field side will be reported via a volt-free relay contact, if this function is supported by the isolated barriers.

The termination board has a robust plastic housing.

The termination board is mounted in the switch cabinet on a 35 mm DIN mounting rail according to EN 60175.

Application

DeltaV M-series 8-channel DO Series 2 simplex card (24 V DC, high-side) and

DeltaV S-series 8-channel DO simplex card (24 V DC, high-side):

- Termination board 1 and cable 1: channel 1 ... 8

DeltaV M-series 32-channel DO Series 2 simplex card (24 V DC, high-side) and

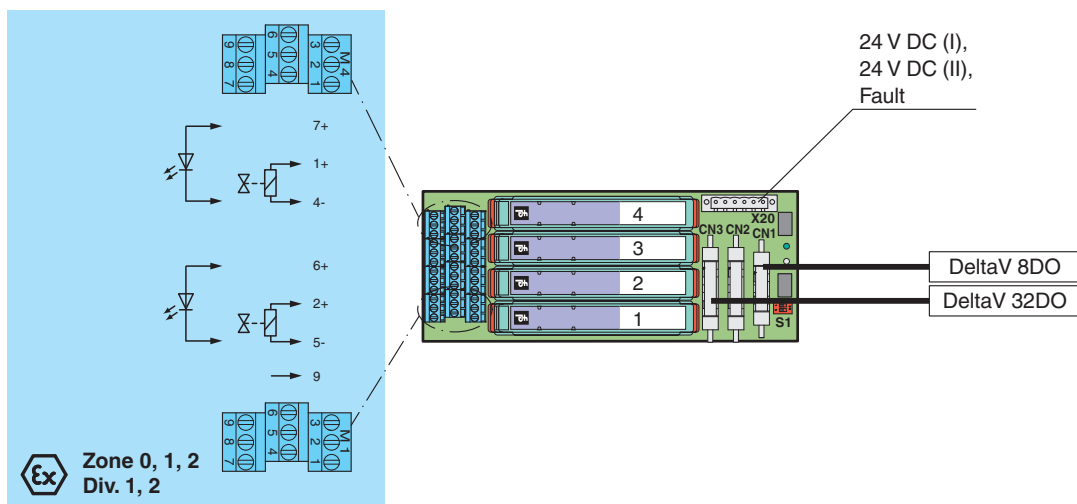
DeltaV M-series 32-channel DO Series 2 Plus redundant card (24 V DC, high-side) and

DeltaV S-series 32-channel DO simplex card (24 V DC, high-side) and

DeltaV S-series 32-channel DO Plus redundant card (24 V DC, high-side):

- Termination boards 1 and 2 and cable 1: channel 1 ... 16
- Termination boards 3 and 4 and cable 2: channel 17 ... 32

Connection



Technical Data

Supply

Connection

X20: terminals 1, 3(+); 2, 4(-)

Technical Data

Nominal voltage	24 V DC , in consideration of rated voltage of used isolators
Voltage drop	0.9 V , voltage drop across the reverse polarity protection diode on the termination board must be considered
Ripple	≤ 10 %
Fusing	3.15 A with back-up fuse
Power dissipation	≤ 500 mW , without modules
Reverse polarity protection	yes
Redundancy	
Supply	The supply for the isolators is reverse polarity protected and monitored.
Fault indication output	
Connection	X20: terminals 5, 6
Output type	volt-free contact
Switch behaviour	no fault: relay contact closed module fault: relay contact open
Contact loading	max. 30 V DC / 30 V AC , 1 A DeltaV specific output: max. 24 V DC, 25 mA
Indicators/settings	
Display elements	LED PWR (power supply), green LED LED FAULT (fault indication), red LED - LED lits: module fault
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Conformity	
Electromagnetic compatibility	NE 21:2012 For further information see system description.
Degree of protection	IEC 60529:2001
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications	
Degree of protection	IP20
Connection	
Field side	explosion hazardous area: screw terminals , blue
Control side	non-explosion hazardous area: IDC plug, 16-pin or IDC plug, 20-pin
Supply	pluggable screw terminals , black
Fault output	pluggable screw terminals , black
Core cross section	screw terminals: 0.2 ... 2.5 mm ² (24 ... 12 AWG)
Material	housing: polycarbonate
Mass	approx. 300 g
Dimensions	82 x 205 x 157 mm (3.23 x 8.1 x 6.2 inch) (W x H x D) , depth including module assembly
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas	
EU-type examination certificate	SIRA 13 ATEX 2388X
Marking	see certificate
Non-hazardous area	
Maximum safe voltage	250 V (Attention! U _m is no rated voltage.)
Galvanic isolation	
Field circuit/control circuit	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012
International approvals	
CSA approval	
Control drawing	116-0381
IECEx approval	

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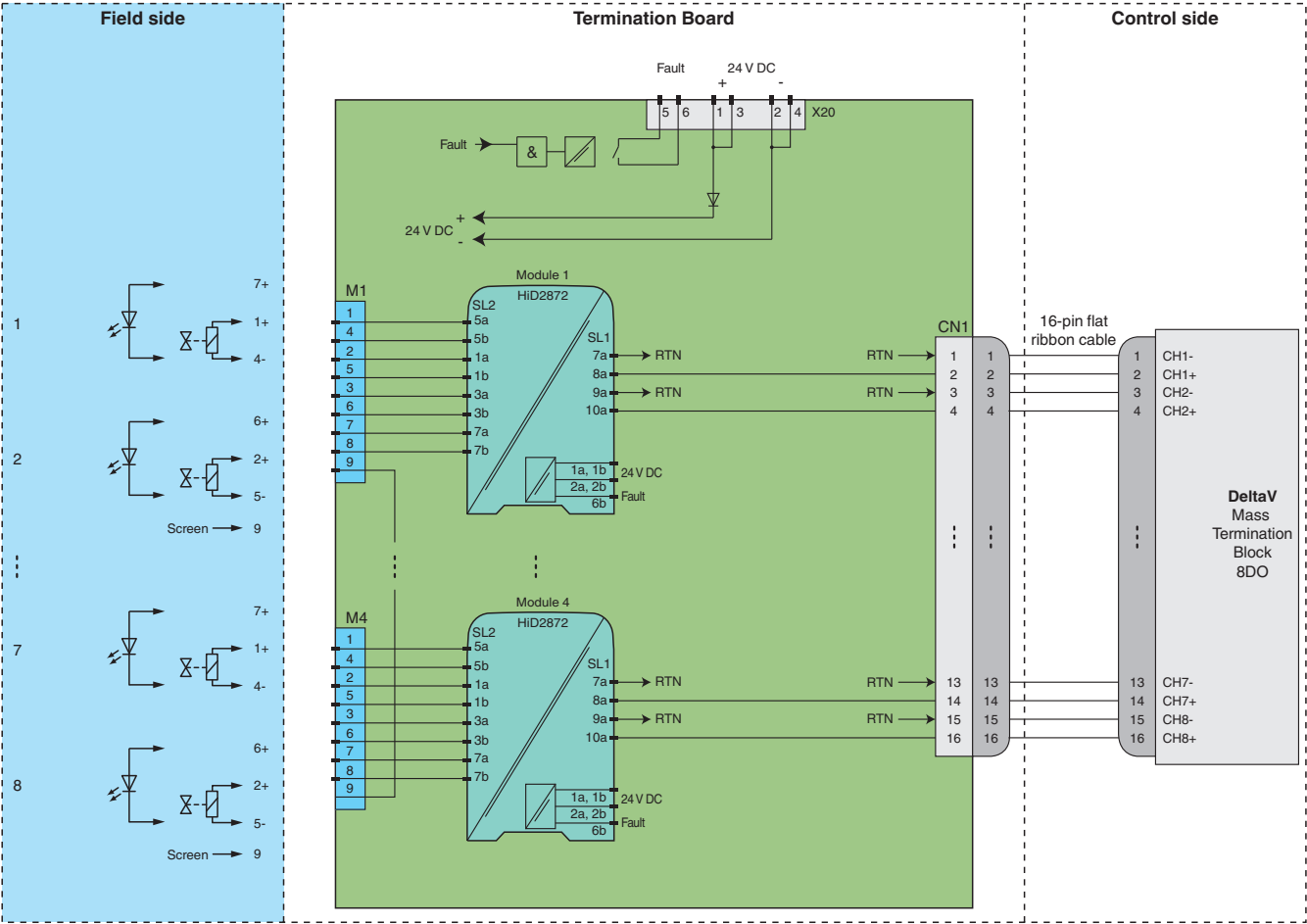
Technical Data

IECEX certificate	IECEX CSA 13.0040X
IECEX marking	see certificate
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

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Application

Typical circuit for connection of 8-channel DO cards



Module switch settings

Type (DO)	DIP switch	Position
HiD2872 - Bus powered - Control input: logic signal - Line fault detection: enabled - Filter: disabled	S1	ON
	S2	OFF
	S3	ON
	S4	OFF
	S5	ON
	S6	OFF
	S7	ON
	S8	ON

Card software settings

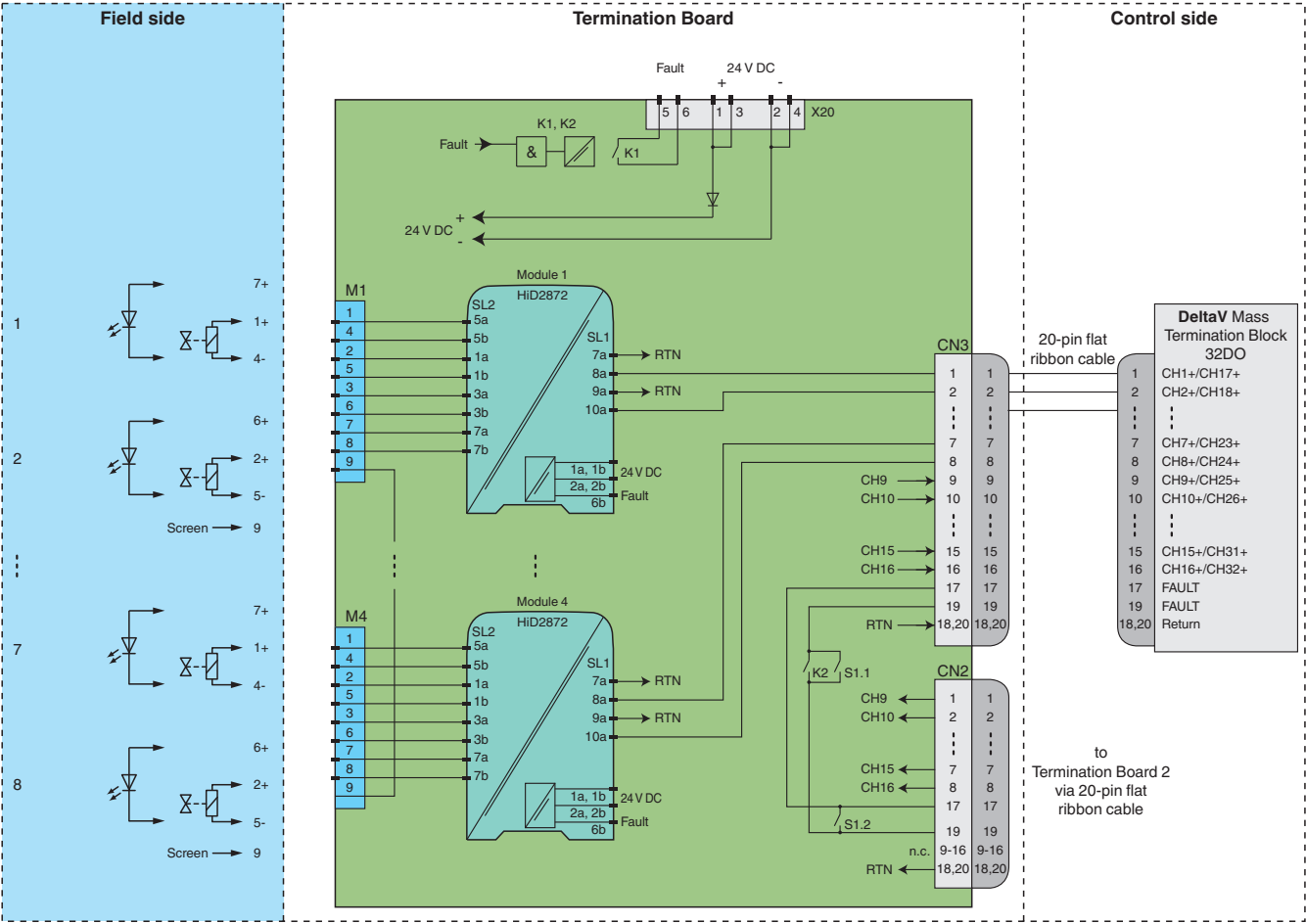
Type	Parameter	Setting
- DeltaV M-series 8-channel DO Series 2 card - DeltaV S-series 8-channel DO card	LINEFAULT_DETECT	False

Termination board switch settings

DIP switch	Description
S1.1	n.a.
	n.a.
S1.2	n.a.
	n.a.

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Typical circuit for connection of 32-channel DO cards



Module switch settings

Type (DO)	DIP switch	Position
HiD2872 - Bus powered - Control input: logic signal - Line fault detection: enabled - Filter: disabled	S1	ON
	S2	OFF
	S3	ON
	S4	OFF
	S5	ON
	S6	OFF
	S7	ON
	S8	ON

Card software settings

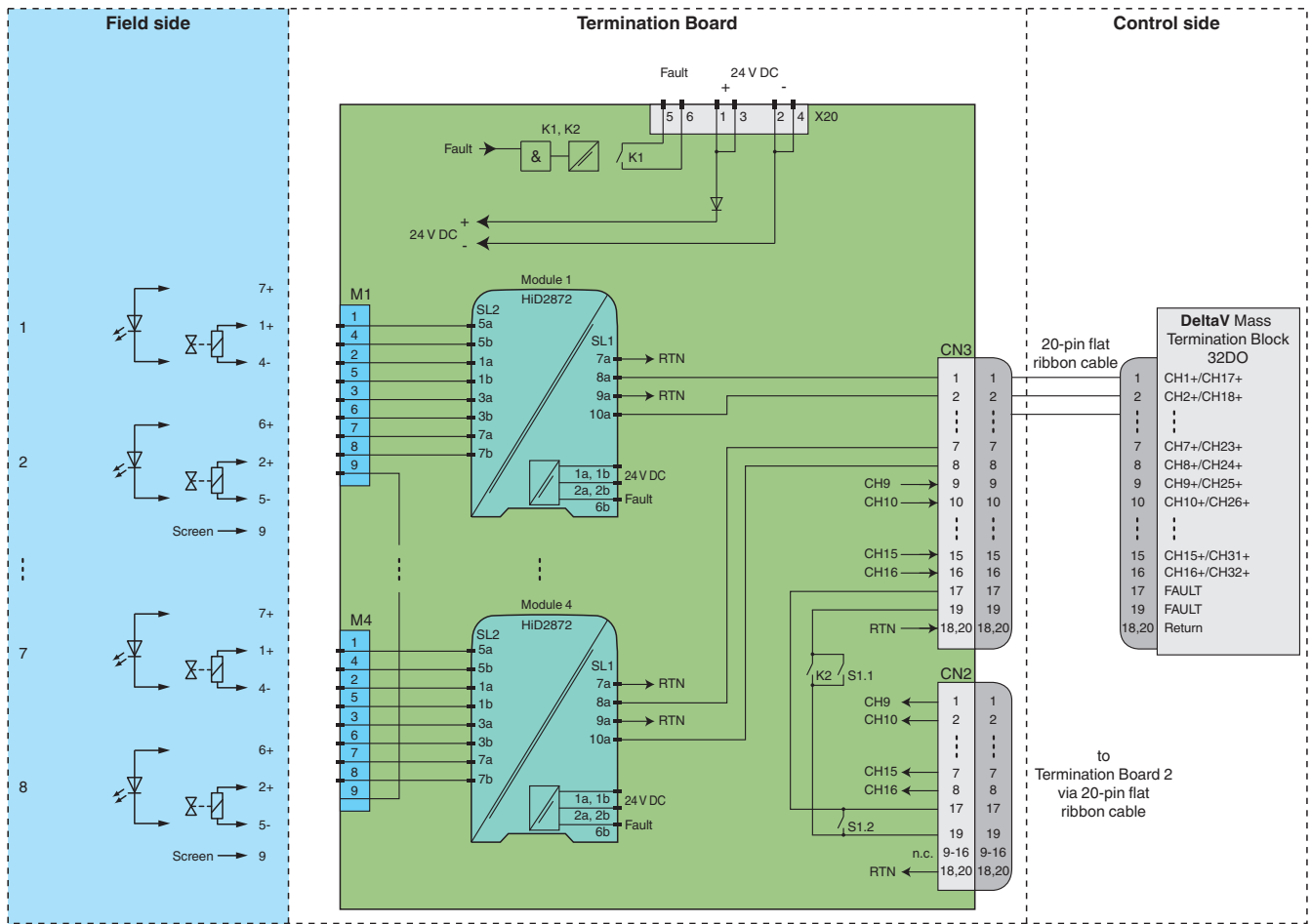
Type	Parameter	Setting
- DeltaV M-series 32-channel DO Series 2 card - DeltaV S-series 32-channel DO card	n.a.	n.a.

Termination board switch settings

DIP switch	Description
S1.1	n.a.
	n.a.
S1.2	n.a.
	n.a.

Release date: 2023-02-20 Date of issue: 2023-02-20 Filename: 253133_eng.pdf

Typical circuit for connection of 32-channel DO Plus cards



Module switch settings

Type (DO)	DIP switch	Position
HiD2872 • Bus powered • Control input: logic signal • Line fault detection: enabled • Filter: disabled	S1	ON
	S2	OFF
	S3	ON
	S4	OFF
	S5	ON
	S6	OFF
	S7	ON
	S8	ON

Card software settings

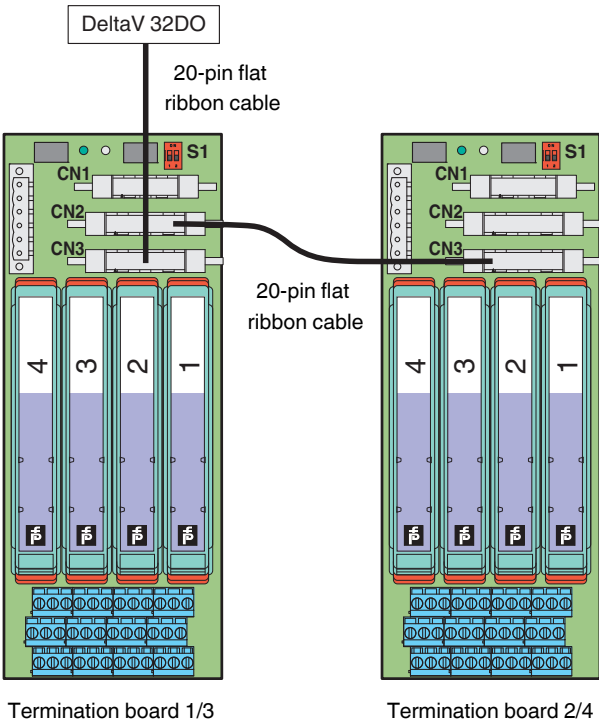
Type	Parameter	Setting
- DeltaV M-series 32-channel DO Series 2 Plus card - DeltaV S-series 32-channel DO Plus card	T1_FAULT_DETECT	True
- DeltaV M-series 32-channel DO Series 2 Plus card - DeltaV S-series 32-channel DO Plus card	T2_FAULT_DETECT	True

Termination board switch settings

DIP switch	Position	Description
S1.1	ON	Fault monitoring at CN3 inactive
	OFF	Fault monitoring at CN3 active
S1.2	ON	Termination active
	OFF	Termination inactive

Schematic diagram for connection of 32-channel DO cards/DO Plus cards

- Connection between termination board 1 and termination board 2 (channel 1 ... 16)
- Connection between termination board 3 and termination board 4 (channel 17 ... 32)



Settings for use with 32-channel DO cards

Switch settings termination board 1/3

DIP switch	Position
S1.1	n.a.
S1.2	n.a.

Switch settings termination board 2/4

DIP switch	Position
S1.1	n.a.
S1.2	n.a.

Settings for use with 32-channel DO Plus cards

Switch settings termination board 1/3

DIP switch	Position
S1.1	ON or OFF
S1.2	OFF

Switch settings termination board 2/4

DIP switch	Position
S1.1	ON or OFF
S1.2	ON



For exact pin assignment for connection to field side and control side, see the documentation of the isolated barrier.



The pin-out configuration has to be observed. For information see corresponding pin-out table on www.pepperl-fuchs.com.