3.8 PDIO Discrete Input/Output Module

The following I/O pack and terminal board combinations are approved for use in hazardous locations:

- Discrete I/O pack **IS220PDIOH1A**
  with terminal boards (accessories) **IS200TDBSH2A** or **IS200TDBTH2A**
- Discrete I/O pack **IS220PDIOH1B**
  with terminal boards (accessories) **ISx0yTDBSH2A**, **ISx0yTDBSH8A**, **ISx0yTDBTH2A**, or **ISx0yTDBTH8A**

3.8.1 Electrical Ratings

PDIOH1A

Item	Min	Nominal	Max	Units
Power Supply				
Voltage	27.4	28.0	28.6	V dc
Current	—	—	0.81	A dc
Contact Inputs				
Voltage	0	—	32	V dc
Contact Outputs				
Voltage	—	—	32.0	V dc
Current	—	—	3.15	A dc
Contact Wetting Outputs				
Voltage	—	—	32	V dc
Current	—	—	110	mA dc

PDIOH1B

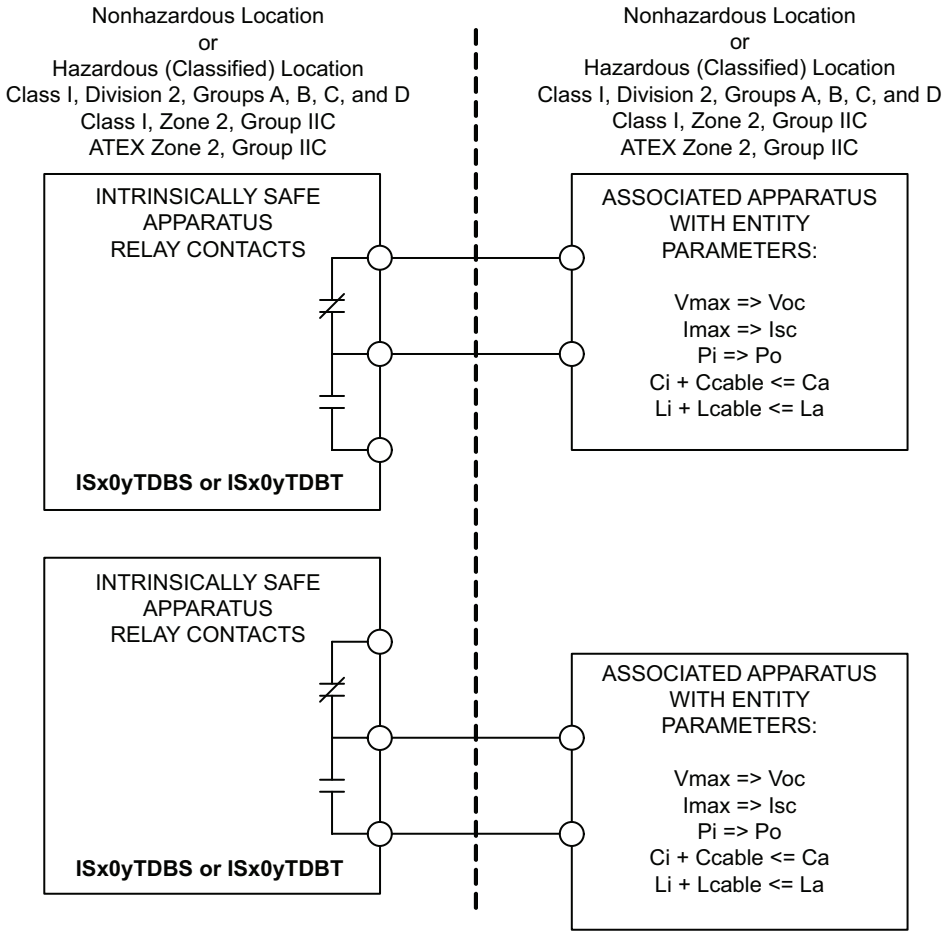
Item	Min	Nominal	Max	Units
Power Supply				
Voltage	27.4	28.0	28.6	V dc
Current	—	—	0.81	A dc
Contact Inputs				
Voltage	0	—	32	V dc
TDBSH2A, TDBTH2A Contact Wetting Outputs				
Voltage	16	—	32	V dc
Current	—	—	110	mA dc
TDBSH8A, TDBTH8A Contact Wetting Outputs (1-21)				
Voltage	—	—	31	V dc
Current	—	—	10	mA dc
TDBSH8A, TDBTH8A Contact Wetting Outputs (22-24)				
Voltage	—	—	31	V dc
Current	—	—	41	mA dc
Contact Outputs				
Voltage	—	—	32.0	V dc
Current	—	—	3.15	A dc

3.8.2 Field Wire Connections

For discrete input/output terminal boards (accessories) certified for HazLoc, refer to the table *Euro Style Box-type Terminal Blocks* for wire size and screw torques.

3.8.3 Intrinsic Safety "ic" for Relay Contacts — Accessory Terminal Boards ISx0yTDBS and ISx0yTDBT

Wiring Diagram



Entity Parameters

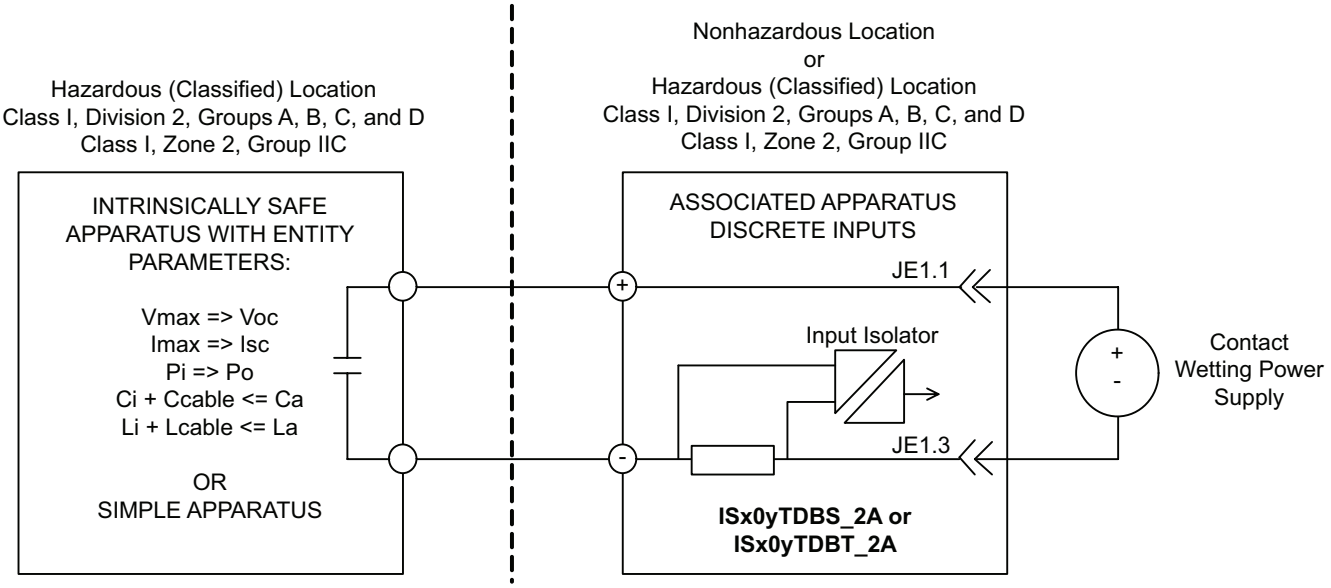
Relay Contacts	Value	Unit
Vmax or Ui	32	V
Imax or Ii	132	mA
Pi	4.22	W
Ci	0	uF
Li	0	mH

Field Terminals for Relay Contacts

Accessory TB	Name	Terminal	Output	Terminal
TDBS or TDBT	NC1	TB1.1	COM1	TB1.2
	NO1	TB1.3	Not used	TB1.4
	NC2	TB1.5	COM2	TB1.6
	NO2	TB1.7	Not used	TB1.8
	NC3	TB1.9	COM3	TB1.10
	NO3	TB1.11	Not used	TB1.12
	NC4	TB1.13	COM4	TB1.14
	NO4	TB1.15	Not used	TB1.16
	NC5	TB1.17	COM5	TB1.18
	NO5	TB1.19	Not used	TB1.20
	NC6	TB1.21	COM6	TB1.22
	NO6	TB1.23	Not used	TB1.24
	NC7	TB1.25	COM7	TB1.26
	NO7	TB1.27	Not used	TB1.28
	NC8	TB1.29	COM8	TB1.30
	NO8	TB1.31	Not used	TB1.32
	NC9	TB1.33	COM8	TB1.34
	NO9	TB1.35	Not used	TB1.36
	NC10	TB1.37	COM10	TB1.38
	NO10	TB1.39	Not used	TB1.40
	NC11	TB1.41	COM11	TB1.42
	NO11	TB1.43	Not used	TB1.44
	NC12	TB1.45	COM12	TB1.46
	NO12	TB1.47	Not used	TB1.48

3.8.4 Intrinsic Safety “ic” for Discrete Inputs — Accessory Terminal Boards ISx0yTDBS_2A, ISx0yTDBT_2A

Wiring Diagram



Entity Parameters

Inputs 1 – 21			Inputs 22 - 24		
Discrete Inputs	**Value**	**Unit**	**Discrete Inputs**	**Value**	**Unit**
Voc or Uo	32	V	Voc or Uo	32	V
Isc or Io	3.3	mA	Isc or Io	13.4	mA
Po	0.11	W	Po	0.43	W
Ca or Co	0.18	uF	Ca or Co	0.18	uF
La or Lo	100	mH	La or Lo	100	mH

***Note** 1.* The contact wetting power supply used with ISx0yTDBS_2A or ISx0yTDBT_ 2A shall be isolated from ground.

***Note** 2.* For North American locations, if contact wetting power is supplied to the accessory terminal board through connector JE1, the wire harness specified on drawing 336A4937FJ shall be used, and the wetting power source shall be current limited by either a UL recognized fuse rated at not more than 3 A, or one of the following power supplies:

• UL R/C, Phoenix Contact GmbH & Co Kg, model QUINT-PS-100-240AC/24DC/5 GE

• UL R/C, Convertec Ltd., model TIS 150-124

***Note** 3.* The output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is a straight line drawn between open-circuit voltage and short-circuit current.

Note 4. This associated apparatus may also be connected to simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with Article 504.10(B) of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.

Note 5. Only resistive simple apparatus (such as relay contacts or switches) shall be connected to discrete inputs.

Note 6. Each cable used to connect the simple apparatus must have suitable insulation as required by the applicable local electrical codes.

Mark VIe I/O Modules Classified Location Certifications (continued)

Equipment	Non-hazardous	Class I, Division 2, Groups A, B, C, D	Class I, Zone 2, Group IIC	ATEX Zone 2, Group IIC
IS221PDIAH1B Accessories: IS201STCIH1A IS201STCIH2A IS201STCIH8A IS201TBCIH2C IS201TBCIH4C	UL E207685	UL E207685	UL E207685	UL DEMKO 13 ATEX 1214780X
IS220PDIIH1B Accessories: IS200SDIIH1A	UL E207685	UL E207685	UL E207685	UL DEMKO 13 ATEX 1214780X
IS220PDIOH1A Accessories: IS200TDBSH2A IS200TDBTH2A	UL E207685	UL E207685	UL E207685	UL DEMKO 12 ATEX 1114875X
IS220PDIOH1B Accessories: ISx0yTDBSH2A ISx0yTDBSH8A ISx0yTDBTH2A ISx0yTDBTH8A	UL E207685	UL E207685	UL E207685	UL DEMKO 13 ATEX 1214780X
IS220PDOAH1A Accessories: IS200TRLYH2E IS200TRLYH3E IS200TRLYH1F IS200TRLYH2F	UL E207685	UL E207685	UL E207685	UL DEMKO 12 ATEX 1114875X

Mark VIe I/O Modules Classified Location Standards (continued)

Equipment	Non-hazardous	Class I, Division 2, Groups A, B, C, D	Class I, Zone 2, Group IIC	ATEX Zone 2, Group IIC
IS220PDIOH1A Accessories: IS200TDBSH2A IS200TDBTH2A	UL 508 Ed. 17 CSA-C22.2 No. 142-M1987	ANSI/ISA-12.12.01-2015 CAN/CSA-C22.2 No. 213-15	UL 60079-0 Ed. 5 UL 60079-15 Ed. 3 CAN/CSA-C22.2 No. 60079-0:11 CAN/CSA-C22.2 No. 60079-15:12	EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010
IS220PDIOH1B Accessories: ISx0yTDBSH2A ISx0yTDBSH8A ISx0yTDBTH2A ISx0yTDBTH8A	UL 508 Ed. 17 CSA-C22.2 No. 142-M1987	ANSI/ISA-12.12.01-2015 CAN/CSA-C22.2 No. 213-15	UL 60079-0 Ed. 5 UL 60079-15 Ed. 3 CAN/CSA-C22.2 No. 60079-0:11 CAN/CSA-C22.2 No. 60079-15:12	EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010
IS220PDOAH1A Accessories: IS200TRLYH2E IS200TRLYH3E IS200TRLYH1F IS200TRLYH2F	UL 508 Ed. 17 CSA-C22.2 No. 142-M1987	ANSI/ISA-12.12.01-2015 CAN/CSA-C22.2 No. 213-15	UL 60079-0 Ed. 5 UL 60079-15 Ed. 3 CAN/CSA-C22.2 No. 60079-0:11 CAN/CSA-C22.2 No. 60079-15:12	EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010
IS220PDOAH1B Accessories: IS200TRLYH2E IS200TRLYH3E IS200TRLYH1F IS200TRLYH2F IS200SRLYH1A IS200SRLYH2A IS400SRLYH1A IS400SRLYH2A IS40yWROBH1A IS40yWROFH1A IS40yWROGH1A IS40yWROHH1A	UL 508 Ed. 17 CSA-C22.2 No. 142-M1987	ANSI/ISA-12.12.01-2017 CAN/CSA-C22.2 No. 213-17	UL 60079-0 Ed. 5 UL 60079-15 Ed. 3 CAN/CSA-C22.2 No. 60079-0:11 CAN/CSA-C22.2 No. 60079-15:12	EN 60079-0:2012+A11:2013 EN 60079-11:2012 EN 60079-15:2010

Mark VIe I/O Modules Equipment Markings (continued)

Equipment	US & CAN Class I Div 2	US & CAN Class I Zone 2	ATEX Zone 2
IS221PDIAH1B Accessories: IS201STCIH1A IS201STCIH2A IS201STCIH8A IS201TBCIH2C IS201TBCIH4C	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx nA [nC] IIC T4, Ex nA [nL] IIC T4 Gc X	Ex nA [ic] IIC T4 Gc
IS220PDIIH1B Accessories: IS200SDIIH1A	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx nA IIC T4, Ex nA IIC T4 Gc X	Ex nA IIC T4 Gc
IS220PDIOH1A Accessories: IS200TDBSH2A IS200TDBTH2A	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx nA nC [nC] IIC T4, Ex nA nL [nL] IIC T4 Gc X	Ex ic nA [ic] IIC T4 Gc
IS220PDIOH1B Accessories: ISx0yTDBSH2A ISx0yTDBTH2A ISx0yTDBSH8A ISx0yTDBTH8A	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx nA nC [nC] IIC T4, Ex nA nL [nL] IIC T4 Gc X	Ex ic nA [ic] IIC T4 Gc
IS220PDOAH1A Accessories: IS200TRLYH2E IS200TRLYH3E IS200TRLYH1F IS200TRLYH2F	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx nA nC IIC T4, Ex nA nL IIC T4 Gc X	Ex ic nA IIC T4 Gc

Appendix D Ambient Temperature Ratings

Note In the following tables, **y** = 0 or 1 for module part numbers.

Ambient Temperature Ratings

GE Part Number	Ambient Temperature Rating
IS200JPDLG1A	-30 to + 65 °C (-22 to +149 °F)
IS210BAPAH1A	
IS220PAICH1A	
IS220PAOCH1B	
IS220PCLAH1A	
IS220PCLAH1B	
IS220PDIAH1A	
IS220PDIIH1B	
IS220PDIOH1A	
IS220PDIOH1B	
IS220PDOAH1A	
IS220PHRAH1A	
IS220PHRAH1B	
IS220PPDAH1A	
IS220PPRAH1A	
IS220PPRAS1A	
IS220PPRAS1B	
IS220PPROH1A	
IS220PPROS1B	
IS220PRTDH1A	
IS220PRTDH1B	
IS220PSCAH1A	
IS220PSCAH1B	
IS220PSCHH1A	
IS220PSVOH1A	
IS220PSVOH1B	
IS220PTCCH1A	
IS220PTCCH1B	
IS220PTURH1A	
IS220PTURH1B	
IS220PVIBH1A	
IS220YAICS1A	
IS220YDIAS1A	
IS220YDOAS1A	
IS220YHRAS1A	
IS220YPROS1A	
IS220YSILS1A	
IS220YSILS1B	
IS220YTCCS1A	
IS220YTURS1A	
IS220YVIBS1A	
IS221PHRAH1B	