

Mark* Vle and Mark VleS Control Systems Equipment in Hazardous Locations (HazLoc) Instruction Guide

Sept 2020



3.11 PPRA Emergency Turbine Protection Module

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

- Turbine protection I/O pack **IS220PPRAH1A** with terminal board (accessory) **IS200TREA H1A** and daughter board (accessory) **IS200WREA H1A**
- Turbine protection I/O pack **IS220PPRAS1A** or **IS220PPRAS1B** with terminal board (accessory) **IS200TREA S1A** and daughter board (accessory) **IS200WREA S1A**

3.11.1 Electrical Ratings

Item	Min	Nominal	Max	Units
<i>Power Supply</i>				
Voltage	27.4	28.0	28.6	V dc
Current	—	—	0.5	A dc
<i>Contact Inputs (TREA)</i>				
Voltage	0	—	32	V dc
<i>Voltage Detection Inputs (TREA)</i>				
Voltage	16	—	140	V dc
<i>E-stop Input (TREA)</i>				
Voltage	18	—	140	V dc
<i>Speed Inputs (TREA, WREA)</i>				
Voltage	-15	—	15	V dc
<i>Contact Outs 1-2 (TREA)</i>				
Voltage	—	—	28	V dc
Current	—	—	7	A dc
<i>Contact Out 3 (WREA)</i>				
Voltage	—	—	28	V dc
Current	—	—	5	A dc
<i>Contact Wetting Outputs (WREA)</i>				
Voltage	—	—	32	V dc
Current	—	—	13.2	mA dc

3.11.2 Field Wire Connections

For the TREA terminal board (accessory) certified for HazLoc, refer to the table [Euro Style Box-type Terminal Blocks](#) for wire size and screw torques.

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
IS220PDOAH1B Accessories: IS200TRLYH2E IS200TRLYH3E IS200TRLYH1F IS200TRLYH2F IS200SRLYH1A IS200SRLYH2A IS400SRLYH1A IS400SRLYH2A IS40yWROBH1A IS40yWROFH1A IS40yWROGH1A IS40yWROHH1A	UL E207685	UL E207685	UL E207685	UL DEMKO 13 ATEX 1214780X
IS221PDOAH1B Accessories: IS201TRLYH2E IS201TRLYH3E IS201TRLYH1F IS201TRLYH2F	UL E207685	UL E207685	UL E207685	UL DEMKO 13 ATEX 1214780X
IS220PHRAH1A Accessories: IS200SHRAH1A IS200SHRAH2A	UL E207685	UL E207685	UL E207685	UL DEMKO 12 ATEX 1114875X
IS220PHRAH1B Accessories: IS200SHRAH1A IS200SHRAH2A	UL E207685	UL E207685	UL E207685	UL DEMKO 12 ATEX 1114875X
IS221PHRAH1B Accessories: IS201SHRAH1A IS201SHRAH2A	UL E207685	UL E207685	UL E207685	UL DEMKO 12 ATEX 1114875X
IS220PPRAH1A Accessories: IS200TREA1A IS200WREA1A	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
IS221PDOAH1B Accessories: IS201TRLYH2E IS201TRLYH3E IS201TRLYH1F IS201TRLYH2F	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
IS220PHRAH1A Accessories: IS200SHRAH1A IS200SHRAH2A	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 60079-15:2010
IS220PHRAH1B Accessories: IS200SHRAH1A IS200SHRAH2A	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 60079-15:2010
IS221PHRAH1B Accessories: IS201SHRAH1A IS201SHRAH2A	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 60079-15:2010
IS220PPRAH1A Accessories: IS200TREA1A IS200WREA1A	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 60079-15:2010
IS220PPRAS1A Accessories: IS200TREAS1A IS200WREAS1A	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 60079-15:2010
IS220PPRAS1B Accessories: IS200TREAS1A IS200WREAS1A	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 60079-15:2010

Mark VIe I/O Modules Equipment Markings (continued)

Equipment	US & CAN Class I Div 2	US & CAN Class I Zone 2	ATEX Zone 2
IS220PPRAH1A Accessories: IS200TREA1A IS200WREA1A	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
IS220PPRAS1A Accessories: IS200TRES1A IS200WRES1A	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
IS220PPRAS1B Accessories: IS200TRES1A IS200WRES1A	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
IS220PPRFH1A Accessories: IS200SPIDG1A	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
IS220PPRFH1B Accessories: IS200SPIDG1A	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
IS220PPROH1A Accessories: IS200SPROH1A IS200SPROH2A IS200TPROH1C IS200TPROH2C IS200TREA1A IS200TREA3A	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
IS220PPROS1B Accessories: IS200SPROH1A IS200SPROH2A IS200TPROH1C IS200TPROH2C IS200TPROS1C IS200TPROS2C IS200TREA1A IS200TREA3A	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

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	