

2 Controller and Switch Instructions

The equipment listed in this chapter is certified for use in certain specified hazardous (classified) locations. Follow all applicable instructions in the section [Conditions of Safe Use](#) and the specific section for each piece of equipment for proper use of this equipment in these locations.

2.1 UCSA, UCSB, UCSC and UCSD Controllers

The following table lists the controllers that are certified for hazardous location usage.

Note For UCSC, UCEC and UCSD controller conditions of safe use and hazardous locations installation requirements, refer to *UCSC, UCEC and UCSD Installation and Maintenance Requirements* (GFK-3006).

For general application information, refer to the *Mark VIe and Mark VIeS Control Systems Volume II: General-purpose Applications System Guide* (GEH-6721_Vol_II), the section *UCSC Controllers*.

Processor	Part Number	Name
Quad core, 1.2 GHz AMD® G-Series	IS420UCSCH1	Mark VIe controller
Dual core, 1.6 GHz AMD G-Series	IS420UCSCH2	MarkStat controller
Dual core, 1.6 GHz AMD G-Series	IS420UCSCS2	Mark VIeS Safety controller
Quad core, 1.6 GHz AMD V1000–Series	IS420UCSDH1	Mark VIe controller
Quad core, 1.6 GHz AMD V1000–Series	IS420UCSDS1	Mark VIeS Safety controller
600 MHz EP80579 Intel®	IS420UCSBS1A	Mark VIeS Safety controller
	IS421UCSBS1A (conformal coated)	
	IS420UCSBH1A	
1066 MHz EP80579 Intel	IS421UCSBH1A (conformal coated)	Mark VIe, EX2100e, or LS2100e controller
	IS420UCSBH4A	
	IS421UCSBH4A (conformal coated)	
1200 MHz EP80579 Intel	IS420PPNGH1A	PROFINET gateway module
	IS420UCSBH3A	Mark VIe or MarkStat controller
667 MHz PowerQUICC® Pro Freescale	IS220UCSAH1A	Mark VIe controller
		PAMC Acoustic Monitor (processor)
		PMVE Migration from Mark V Control (processor)

2.1.1 UCEC Module

The IS420UCECH1 module is certified for hazardous location usage. This module is an IS420UCSCH1 controller coupled with a seven I/O port expansion board. The UCSCH1 controller contained within the UCECH1 module has the same features and benefits as the stand-alone UCSCH1 controller. For further details on the UCECH1 module, refer to the *Mark VIe and Mark VIeS Control Systems Volume II: General-purpose Applications System Guide* (GEH-6721_Vol_II), the section *UCECH1x I/O Port Expansion Module*.

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
IS220PVIBH1A Accessories: IS200TVBAH2A IS200WNPSH1A	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
S420PVIBH1B Accessories: IS40yTVBAH2B IS200TVBAH2A IS200WNPSH1A IS400WNPSH1A	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

Switches and Controllers

Switches and Controllers Classified Location Standards

Equipment	Non-hazardous	Class I, Division 2, Groups A, B, C, D	Class I, Zone 2, Group IIC	ATEX Zone 2, Group IIC
IS420ESWAH1A IS421ESWAH1A IS420ESWAH2A IS421ESWAH2A IS420ESWAH3A IS421ESWAH3A IS420ESWAH4A IS420ESWAH5A IS420ESWBH1A IS421ESWBH1A IS420ESWBH2A IS421ESWBH2A IS420ESWBH3A IS421ESWBH3A IS420ESWBH4A IS420ESWBH5A	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
IS220UCSAH1A IS420UCSBH1A IS421UCSBH1A IS420UCSBH3A IS420UCSBH4A IS421UCSBH4A IS420UCSBS1A IS421UCSBS1A	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
IS420UCSCH1 IS420UCSCH2 IS420UCSCS2	UL 61010-1 UL 61010-2-201 CSA-C22.2 No. 61010-1 CSA-C22.2 No. 61010-2-201	ANSI/ISA-12.12.01-2015 CSA-C22.2 No. 213-15	UL 60079-0 UL 60079-15 CAN-CSA-C22.2 No. 60079-0:11 CAN-CSA-C22.2 No. 60079-15:12	EN 60079-0:2012+A11:2013 EN 60079-7:2015
IS420UCSDH1 IS420UCSDS1	UL 61010-1 UL 61010-2-201 CSA-C22.2 No. 61010-1 CSA-C22.2 No. 61010-2-201	ANSI/ISA-12.12.01-2015 CSA-C22.2 No. 213-15	UL 60079-0 UL 60079-15 CAN-CSA-C22.2 No. 60079-0:11 CAN-CSA-C22.2 No. 60079-15:12	EN 60079-0:2012+A11:2013 EN 60079-7:2015+A1:2018

Switches and Controllers

Switches and Controllers Equipment Markings

Equipment	US & CAN Class I Div 2	US & CAN Class I Zone 2	ATEX Zone 2
IS420ESWAH1A IS421ESWAH1A IS420ESWAH2A IS421ESWAH2A IS420ESWAH3A IS421ESWAH3A IS420ESWAH4A IS420ESWAH5A IS420ESWBH1A IS421ESWBH1A IS420ESWBH2A IS421ESWBH2A IS420ESWBH3A IS421ESWBH3A IS420ESWBH4A IS420ESWBH5A	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
IS220UCSAH1A IS420UCSBH1A IS421UCSBH1A IS420UCSBH3A IS420UCSBH4A IS421UCSBH4A IS420UCSBS1A IS421UCSBS1A	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
IS420UCSCH1 IS420UCSCH2 IS420UCSCS2	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx/Ex nA IIC T4 Gc	Ex ec IIC T4 Gc
IS420UCSDH1 IS420UCSDS1	Class I, Div 2, Groups A, B, C, D, T4	Class I, Zone 2, AEx/Ex nA IIC T4 Gc	Ex ec IIC T4 Gc