3.3 Supported Series C I/O modules

The list of I/O modules below can be used on a Series C IOLINK. The IOLINK contains a function that enables programming and reprogramming the executable image (rather than substitution of a removable hardware component). The preferred method of delivery of the image is over the IOLINK.

Tip

Series C IOLINK cannot contain any PM I/O IOPs.

C300 IOLINK block parameter IOLINKTYPE is used to determine if the IOLINK supports either Series C I/O or PM I/O.

Table 6: Available I/O modules

IOM model names	IOM block name	Description	# of chnls	Similar to PMIO type	IOP model names
CU-PAIH01 CC-PAIH01	AI-HART	High Level Analog Input with HART (supports differential inputs on only channel 13 through channel 16) Refer to Attention	16	HLAIHART	
CC-PAIH02	AI-HART	High Level Analog Input with HART ((supports differential inputs on all 16 channel)	16	HLAIHART	
CC-PAIX02	AI-HART	High Level Analog Input with Differential/Single-ended non-HART (supports differential inputs on all 16 channels)	16	HLAI	
CC-PAIX01	AI-HL	High Level Analog Input with Differential non-HART (supports differential inputs on only channel 13 through channel 16) Refer to Attention	16	HLAI	
CU-PAIN01 CC-PAIN01	AI-HL	High Level Analog Input with non-HART	16	HLAI	
CC-PAIH51	AI-HART	1 Modem, High Level Analog Input with HART	16	HLAIHART	
CU-PAON01 CC-PAON01	AO	Analog Output with non-HART	16	AO16	
CU-PAOX01 CC-PAOX01	AO	Analog Output with non-HART Refer to Attention	16	AO16	
CU-PAIM01 CC-PAIM01	AI-LLMUX[1]	Low Level Analog Input Mux	64	LLMUX	
CC-PAIM51	AI-LLAI	Low Level Analog Input Mux	16	LLAI	

IOM model names	IOM block name	Description	# of chnls	Similar to PMIO type	IOP model names
CU-PAOH01 CC-PAOH01	AO-HART	Analog Output with HART	16	AO16HART	
CC-PAOH51	AO-HART	1 Modem, Analog Output with HART	16	AO16HART	
CU-PDIH01 CC-PDIH01	DI-HV	High Voltage Digital Input (IOM supports both 120 and 240 volts AC)	32	DI	
CU-PDIL01 CC-PDIL01	DI-24	Low Voltage Digital Input (24 volts DC)	32	DI or DI24V	
CC-PDIL51	DI-24	Low Voltage, Digital Input (24 volts DC)	32	DI	
CU-PDIS01 CC-PDIS01	DI-SOE	Low Voltage Digital Input (24 volts DC)	32	DISOE	Mx-PDIS12
CU-PDOB01 CC-PDOB01	DO-24B[2]	Bussed Low Voltage Digital Output (24 volts DC)	32	DO_32	
CC-PDOD51	DO-24B	Bussed Low Voltage, Digital Output (24 volts DC)	32	DO32	
CU-PSOE01 CC-PSOE01	DI-SOE	Low Voltage Digital Input SOE (24 volts DC)	32	DISOE	
CC-PSP401	SP	Speed Protection	26		
CC-PSV201	SVP	Servo Valve Positioner	8		
CC-PPIX01	PIM	Pulse Input Module	8	PI IOP	
CC-PUIO01	UIO	Universal Input/Output Module	32		
CC-PUIO31	UIO	Universal Input/Output Module	32		
Series C Mark II IOM					
CC-PAIH01	AI-HART	High Level Analog Input with HART	16		
CC-PAOH01	AO-HART	Analog Output with HART	16		
DC-PDIL51	DI-24V	Digital Input (24 volt DC) without Open Wire Detection	32		
DC-PDIS51	DI-SOE	Low-Voltage Digital Input SOE-Low Resolution (24 volts DC) without Open Wire Detection	32		
DC-PDOD51	DO-24B	Bussed Low Voltage Digital Output (24 volts DC) without Open Wire Detection	32		
CC-PAIH51	AI-HART	1 Modem, High Level Analog Input with HART	16	HLAIHART	
CC-PAOH51	AO-HART	1 Modem, Analog Output with HART	16	AO16HART	
CC-PAIN01	AI-HL	High Level Analog Input with non-HART	16	HLAI	
CC-PAON01	AO	Analog Output with non-HART	16	AO16	

Following Series C IO modules introduced in Experion PKS R410.

HART Analog Input	CC -PAIH51
HART Analog Output	CC-PAOH51
Digital Input 24V DC	CC-PDIL51
Digital Output 24V DC	CC-PDOD51

These modules must be used only with Experion PKS R410 and later. These modules will not work as expected with earlier releases of Experion PKS. Using these with Experion releases prior to R410 by downgrading the firmware may render the module faulty and may not be possible to recover.

NOTES:

1. There are two models of High Level Analog Input such as, CU-PAIX01 and CU-PAIN01. The Module Hardware and the corresponding IOTAs are different and CU-PAIN01 is a new model. From the perspective of configuration and implementation, both High Level Analog Input models use the same IOM Block such as, AI-HL. It must be noted that the two models utilize the same configuration; online migration is not possible as mixed redundant pair is not possible. There are two models of Analog Output such as, CU-PAOX01 and CU-PAON01. Hence, similarly configuration, implementation, and interoperability constraints apply and CU-PAON01 is the new model.
2. Two new models of AI-HART (CC-PAIH02) and AI-HL (CC-PAIX02) modules are introduced to replace the older models of the AI-HART (CC-PAIH01) and AI-HL (CC-PAIX01) modules. The new models support both single-ended and differential inputs.
3. With R410, a new model of HART Analog Input CC-PAIH51 is introduced. The HART Analog Input CC-PAIH51 and Cx-PAIH01 use the same IOM block, that is, AI-HART. The configuration and implementation mentioned in note 1 applies to the HART Analog Input module.
4. With R410, a new model of HART Analog Output CC-PAOH51 is introduced. The HART Analog Output CC-PAOH51 and Cx-PAOH01 use the same IOM block, that is., AO-HART. The configuration and implementation mentioned in note 1 applies to the HART Analog Output module.
5. With R410, a new model of Digital Input 24V DC CC-PDIL51 is introduced. The Digital Input 24V DC CC-PDIL51 and Cx-PDIL01 use the same IOM block, that is, DI-24. The configuration and implementation mentioned in note 1 applies to the Digital Input 24V module.
6. With R410, a new model of Digital Output 24V DC CC-PDOD51 is introduced. The Digital Output 24V DC CC-PDOD51 and Cx-PDOB01 use the same IOM block, that is, DO-24B. . The configuration and implementation mentioned in note 1 applies to the Digital Output 24V module.
7. Starting with R430, a new model of Low Level Analog Input Mux CC-PAIM51 is introduced.
8. The UIO (CC-PUIO01) has 32 configurable input or output channels. Each channel can be configured as one of the following:
   - Analog Input (0-20mA or 4-20mA active)
   - Analog Output (4-20mA active)
   - Digital Input (with or without line monitoring)
   - Digital Output (with or without line monitoring)
9. The UIO (CC-PUIO31) module is introduced with R432 and has 32 configurable input or output channels that are identical to the UIO (CC-PUIO01) module.

3.3.1 Compatibility matrix between AI modules and differential AI modules

You can choose the AI modules based on your functionality requirements. The following table lists the functionalities and the respective AI modules.

If you want…	Then you must select…
AI HART/GIIS functionality	CC-PAIH02 module