14.2 IO-0001

14.2.1 IO Extender Module (Safety Manager)

The IO extender module is a basic module that is installed in the IO chassis.

The IO extender module transfers the communication of the Control Processor to the IO modules.

- Non-redundant IO chassis (IOCHAS-0001S) have one IO-0001 module, located in slot 21 (see Figure 1).
- Redundant IO chassis (IOCHAS-0001R) have two IO-0001 modules, located in slot 20 and 21 (see Figure 1).

Note:
The IO extender can be replaced when the power is switched on. However, in that case Safety Manager will shut down if the IO Extender is safety-related.

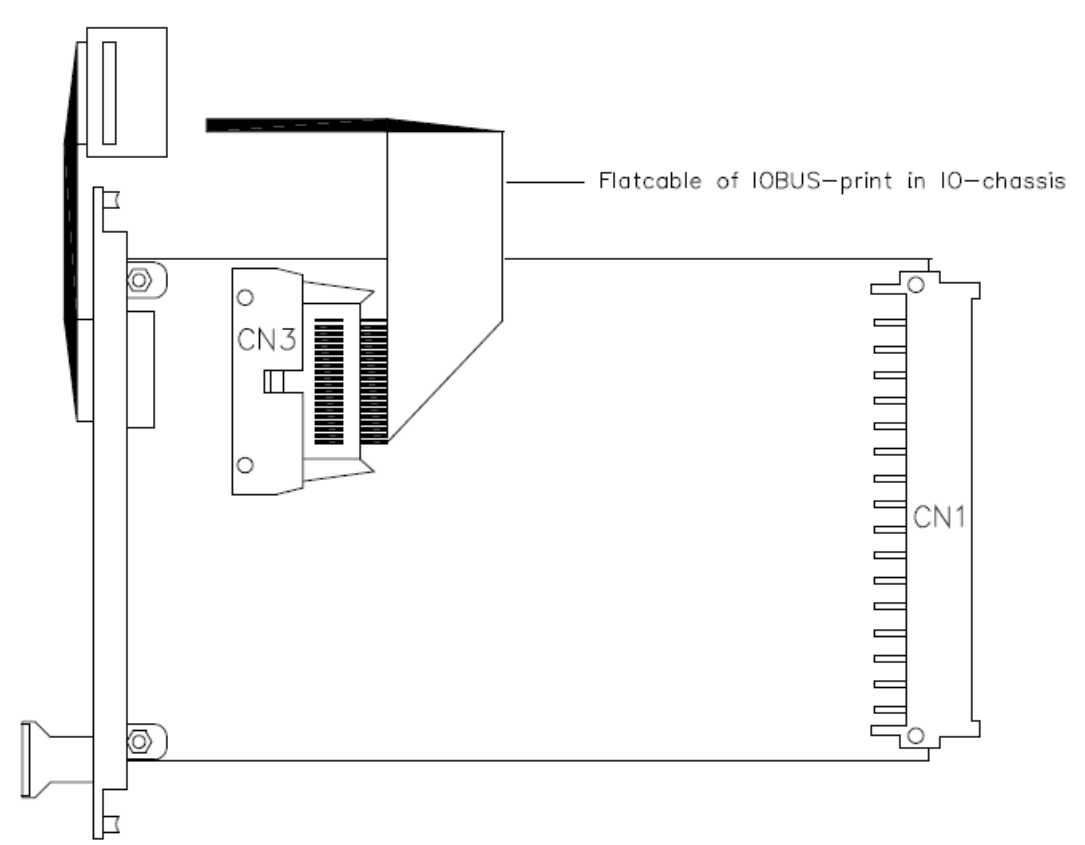


Figure 14-6: Side view of the IO-0001 module with a flatcable from a non-redundant IO chassis

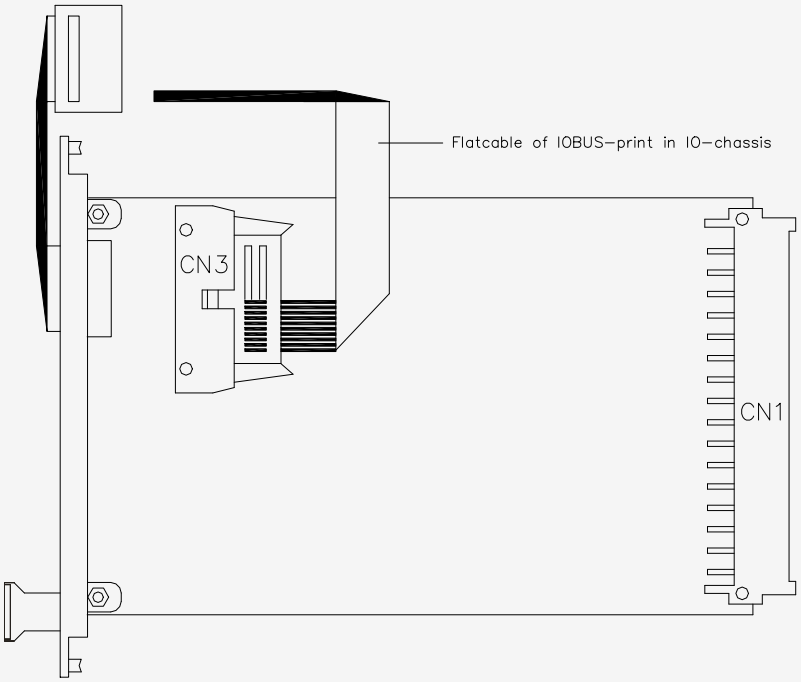


Figure 14-7: Side view of the IO-0001 module with a flatcable from a redundant IO chassis

The IO extender module communicates with the Control Processor via CN1 (see Figure 1).

The flatcable extending from the front of the IO extender module connects the IO extender module to the horizontal IO bus (see Figure 1 and Figure 1).

The flatcable assembly with the address selection lines of the IO modules is connected to the IO extender module on connector CN3 (see the figures above).

14.2.2 Pin allocation

The IO extender is fitted with a male chassis connector according to DIN 41612 type F, with the ‘d’, ‘b’ and ‘z’ rows used.

The below figure shows the back view of the IO-0001 chassis connector:

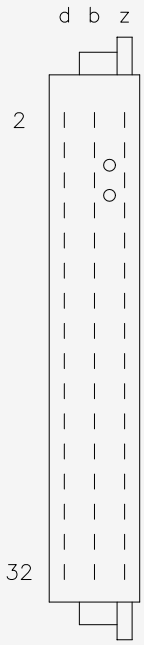


Figure 14-8: Back view of IO-0001 connector

14.2.3 Address settings

The chassis address of the IO extender is defined by means of jumpers (CA0, CA1, CA2, CA3) on the IO backplane (see the below figures).

The below table shows the jumper settings for the possible chassis addresses.

Table 1. Address setting for the IO-0001

Chassis address	Jumper setting[1]			
	CA3	CA2	CA1	CA0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	1	0	0	0
8	1	0	0	1
9	1	0	1	0

1. 0 and 1 positions are marked on the IO backplane

   0 = GND 5 V DC

   1 = supply 5 V DC

The below figure shows the jumper locations on the non-redundant IO-backplane (shows chassis address 1 selected).

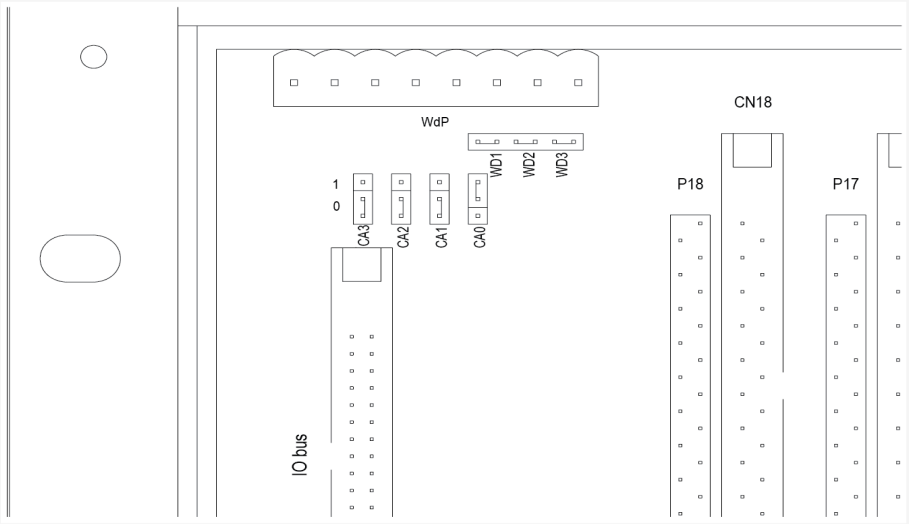


Figure 14-9: Jumpers on the CPB-0001S

The below figure shows the jumper locations on the redundant IO-backplane (shows chassis address 1 selected).

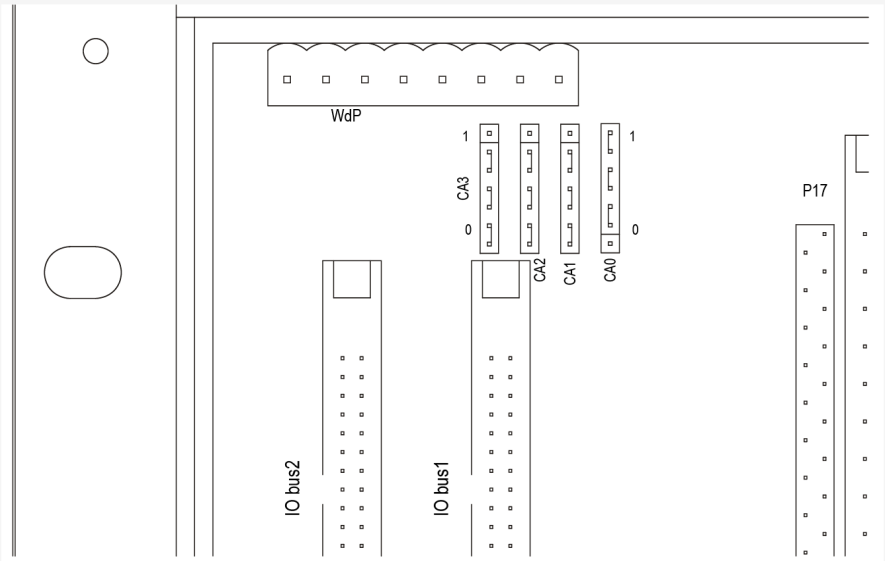


Figure 14-10: Jumpers on the CPB-0001R

14.2.4 Technical data

The IO-0001 module has the following specifications:

General	Type numbers:	FS-IO-0001
		FC-IO-0001
	Approvals:	CE, TUV, UL, CSA, FM
	Space requirements:	4 TE, 3 HE (= 4 HP, 3U)
Power	Power requirements:	5 V DC, 35 mA
	Ripple content:	< 50 mV p-p
Key coding	(See section Key coding)	
	Module connector code:	
	• Holes	A5, A7
	Chassis connector code:	
	• Large pins	A5, A7