

DMC ANALOG INPUT

3100 - AI1 Series A

DESCRIPTION

The 3100-AI1 (AI86-8) provides 8 differential selectable-range analog inputs with 12 - bit A/D conversion precision. 16 Device addresses are reserved by the board.

INDICATORS

None

SELECTIONS

Device Address

SPECIFICATIONS

Location: CPU or I/O rack
Power Requirements: 5V @ 0.3A , 15V @ .17A ,
-15V @ .17A
Environment: Temperature: 0 to 50°C
Humidity: 5 to 95%

CONNECTIONS AND ASSOCIATED PRODUCTS

3130-AI Terminal Block

ASSOCIATED FUNCTIONAL BLOCKS

AIINI, AI

Switch Locations and Settings

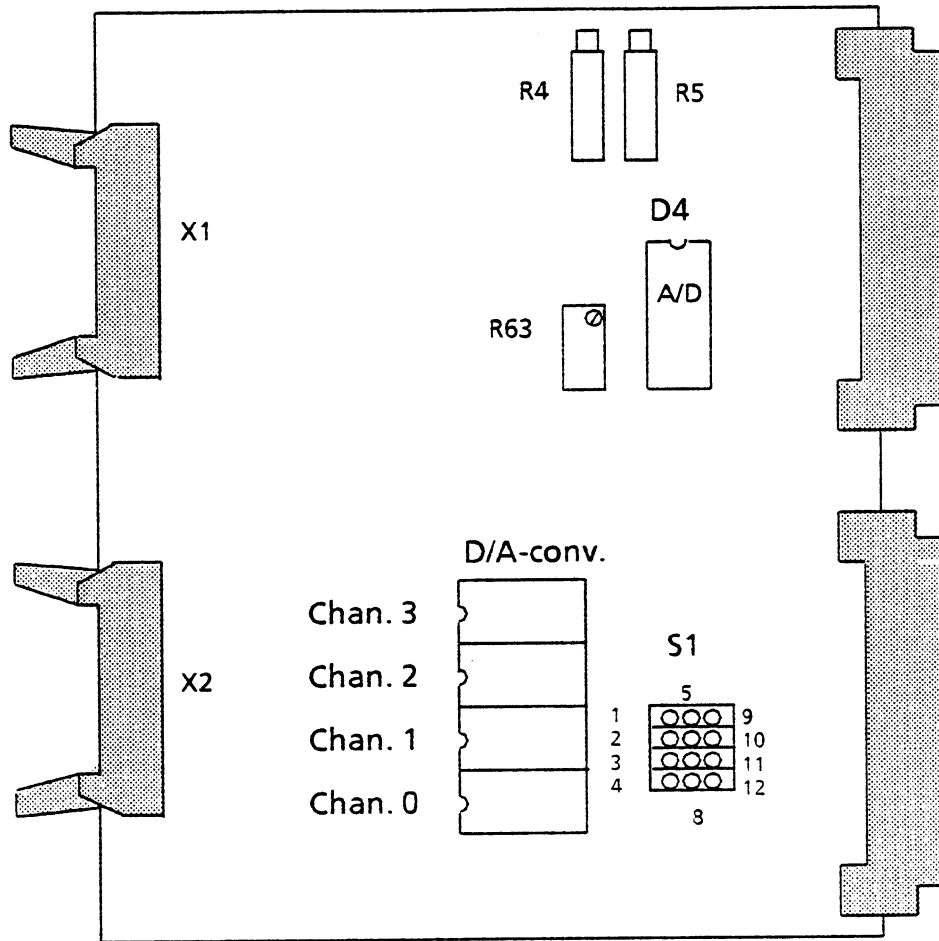


Figure 1. Address Selection Jumpers and Switch Locations on the 3100-AIO Board

Table 1. Device Address Switch Settings (S1)

Hex Weight	80	40	20	10	8	2	4	1
Logic 0	5-9	6-10	7-11	8-12	X	X	X	X
Logic 1	1-5	2-6	3-7	4-8	X	X	X	X

Device Address

The base device address is selected by jumper array S1. 16 device addresses are reserved beginning at the base address. Valid base addresses are shown in Table 2.

Table 2. Base Address Selections

	S1	5-1	5-9	6-2	6-10	7-3	7-11	8-4	8-12
	LOGIC	1	0	1	0	1	0	1	0
BASE ADDRESS	10H		X		X		X	X	
	20H		X		X	X			X
	30H		X		X	X		X	
	40H		X	X			X		X
	50H		X	X			X	X	
	60H		X	X		X			X
	70H		X	X		X		X	
	80H	X				X	X		X
	90H	X				X	X	X	
	AOH	X				X			X
	BOH	X				X		X	
	COH	X			X		X		X
	DOH	X			X		X	X	
	EOH	X			X		X		X

NOTE! Do not use device address OOH or FOH or a device address reserved for other boards in the rack.

The Assignment of Device Addresses Relative to the Base Address is shown in Table 3.

The signal list for the X2 connector of the 3100-A11 board is shown in Figure 3. .

D/A Channel	Pin	Designation	Pin	Designation
	1	$\pm 0V$	21	NC
	2	$\pm 0V$	22	NC
	3	+ 15V	23	NC
	4	+ 15V	24	NC
0	5	UARO	25	NC
	6	AUO	26	NC
	7	IARO	27	NC
	8	IAO	28	NC
1	9	UARI	29	NC
	10	AUI	30	NC
	11	IAR1	31	NC
	12	IA1	32	NC
2	13	UAR2	33	NC
	14	UA2	34	NC
	15	IAR2	35	NC
	16	IA2	36	NC
3	17	UAR3	37	-15V
	18	UA3V	38	-15V
	19	IAR3	39	$\pm 0V$
	20	IA3	40	$\pm 0V$

NC = Not Connected

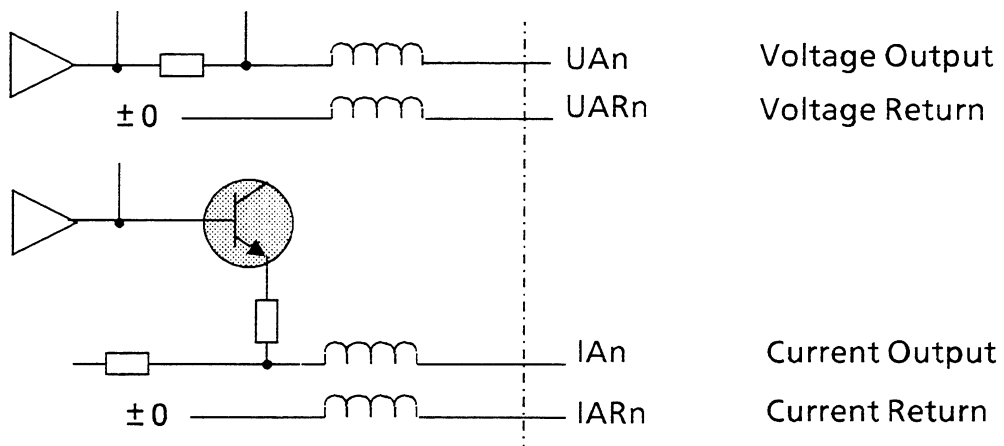


Figure 3. Input Signal List

Table 3. Device Address Assignments

OFFSET TO DEVICE ADDRESS	CHANNEL	TYPE CODE
0H	ANALOG INPUT 0	81H
1H	ANALOG INPUT 1	81H
2H	ANALOG INPUT 2	81H
3H	ANALOG INPUT 3	81H
4H	ANALOG INPUT 4	81H
5H	ANALOG INPUT 5	81H
6H	ANALOG INPUT 6	81H
7H	ANALOG INPUT 7	81H
8H	ANALOG OUTPUT 1	82H
9H	- NOT USED -	-
AH	ANALOG OUTPUT 2	82H
BH	- NOT USED -	-
CH	ANALOG OUTPUT 3	82H
DH	- NOT USED -	-
EH	ANALOG OUTPUT 4	82H
FH	- NOT USED -	-

Input signal values are shown in Figure 4. When making voltage or Pt-100 measurements, the shunt resistor must be removed.

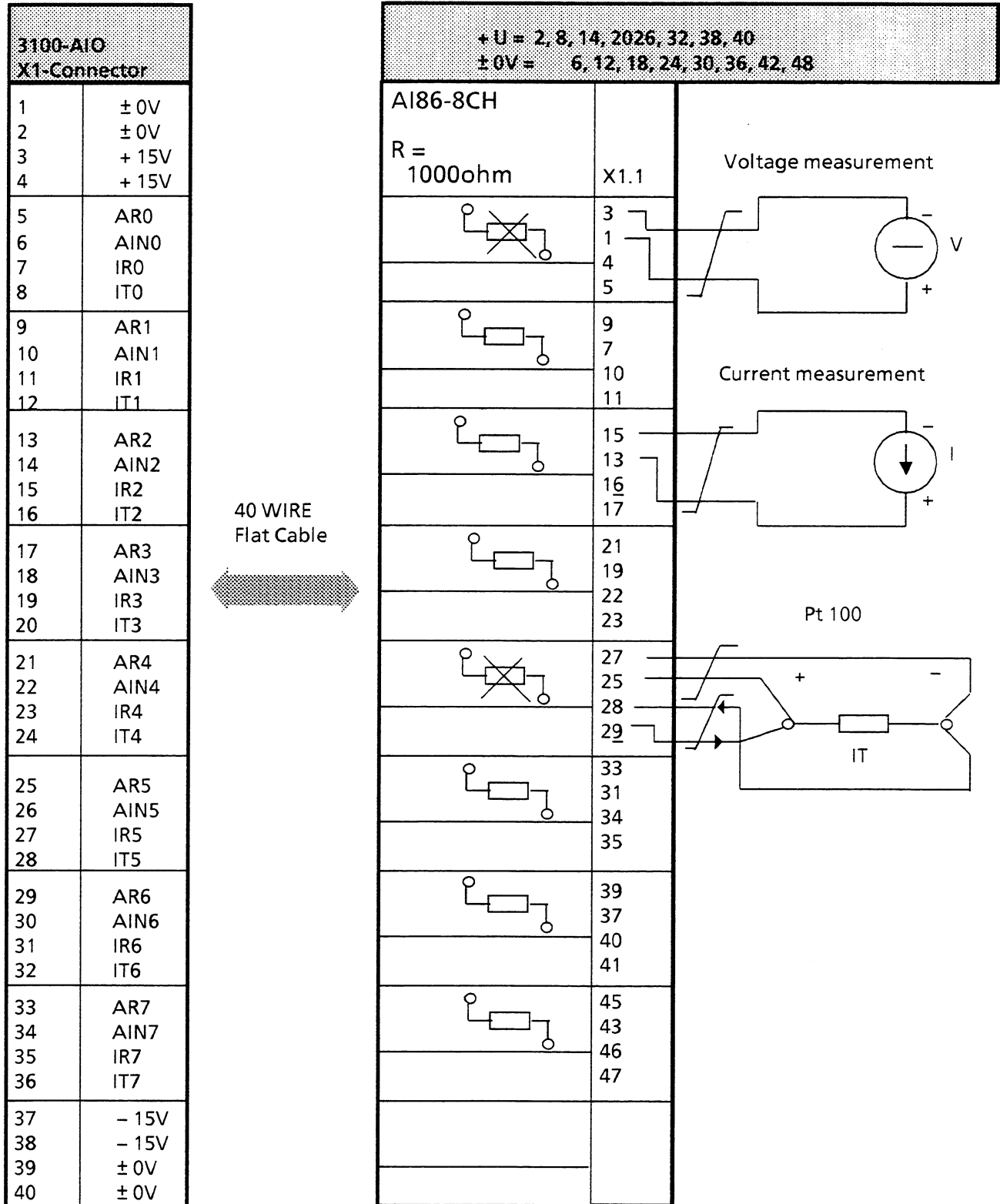


Figure 4. Input Signal Measurement