

DMC DIGITAL INPUT

3100 - DI

DESCRIPTION

The 3100-DI (DI86-32) provides 32 opto-isolated digital inputs. These inputs are rated for 24V process voltage, and the state of each input signal is monitored by an LED (Figure 1). Power consumption of the board is 24V at 0.3A. The board occupies four consecutive device addresses, with the address range set via a microswitch. The 3100-DI board must be used with terminal input block 3130-D10 or 3130-UT.

INDICATORS

Input-state LED'S

SELECTIONS

Device Starting Address (S1)

-Occupies 4 consecutive addresses

-I/O Type Code = 01H

SPECIFICATIONS

Location: CPU or I/O rack

Power Requirements: 5V @ 0.6A

Environment: Temperature: 0 to 50°C
Humidity: 5 to 95%

CONNECTIONS AND ASSOCIATED PRODUCTS

3130-DIO Terminal Block
3130-UT Terminal Block

ASSOCIATED FUNCTIONAL BLOCKS

DI1, DI8INI, DI8, DI1TR, BCD18

Input Status Indicators

Each input signal has an LED for status indication (Figure 1). The input stage is in logic state "1" when its corresponding LED is illuminated. In the input stage, logic "0" corresponds to 0-1.5mA (0-5V) and logic "1" to 4.7-7 mA (15-24V). Maximum voltage of the input stage is 30V.

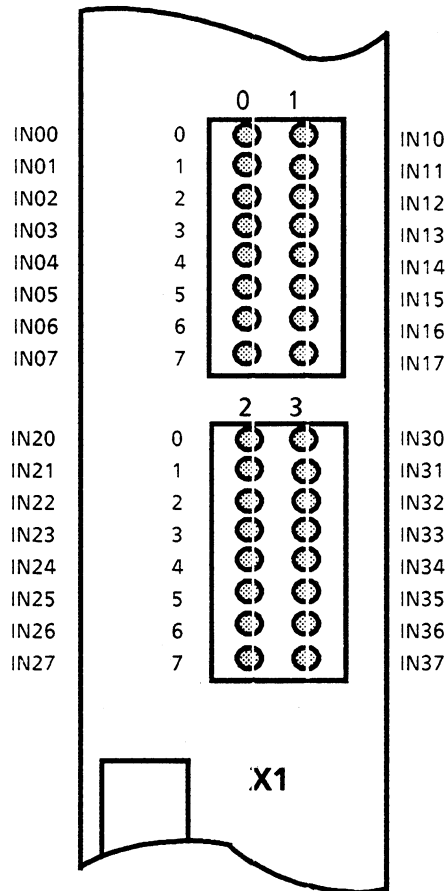


Figure 1. LED Placement on 310(-)DI Board

Device Address

The base device address is selected by dip switch S1. Four device addresses are reserved beginning at the base address. Valid base addresses range from 04H to F8H. Switch S1 represents the base address in binary.

Table 1 S1 Switch Settings

Switch #	8	7	6	5	4	3	2	1	
Hex Weight	80	40	20	10	8	4	2	1	
Example	0	1	1	0	0	1	X	X	= 64H
Signal Logic Level		Switch Label							
1	=	OPEN							
0	=	CLOSED							
X	=	DON'T CARE							

NOTE: Do NOT use Device Address 00H or FCH, or Device Addresses reserved for other boards in the rack.

Table 2 Device Address Assignments

OFFSET TO BASE ADDRESS	CHANNEL	TYPE CODE
0	DIGITAL INPUTS 0...7	01H
1	DIGITAL INPUTS 8...15	01H
2	DIGITAL INPUTS 16...23	01H
3	DIGITAL INPUTS 24...31	01H

Connection to Process

Incoming signals are connected to the Terminal Strip Board 3130-DIO and then to the 3100-DI Board through a flat cable (Fig. 2). The terminal numbers and their corresponding connector signals are shown in table 3. The Terminal Strip Board 3130-DIO is designed for 32 digital input signals. Figure 2 shows the connection of a signal via a terminal strip board. A second connection identical to the one shown in Figure 2 is used in the system. Component symbols for the second system are shown in parentheses.

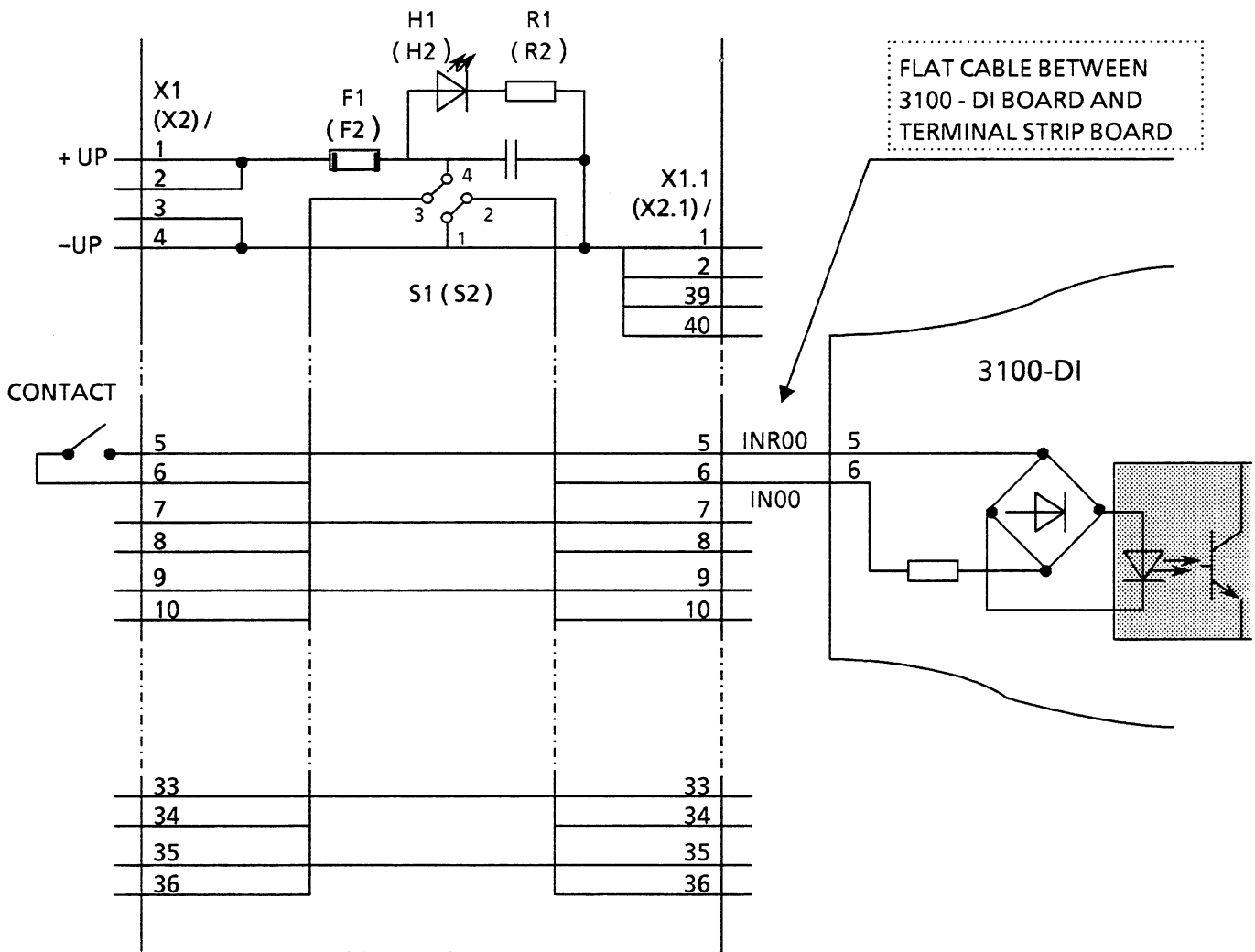


Figure 2. 3100 - DI Input Board Signal Connection

Table 3. Input Board 3100-DI Input Signals

PIN	CONNECTOR X1	CONNECTOR X2
1	-	-
2	-	-
3	-	-
4	-	-
5	INR00	INR20
6	IN00	IN20
7	INR01	INR21
8	IN01	IN21
9	INR02	INR22
10	IN02	IN22
11	INR03	INR23
12	IN03	IN23
13	INR04	INR24
14	IN04	IN24
15	INR05	INR25
16	IN05	IN25
17	INR06	INR26
18	IN06	IN26
19	INR07	INR27
20	IN07	IN27

PIN	CONNECTOR X1	CONNECTOR X2
21	INR10	INR30
22	IN10	IN30
23	INR11	INR31
24	IN11	IN31
25	INR12	INR32
26	IN12	IN32
27	INR13	INR33
28	IN13	IN33
29	INR14	INR34
30	IN14	IN34
31	INR15	INR35
32	IN15	IN35
33	INR16	IN316
34	IN16	IN36
35	INR17	INR37
36	IN17	IN37
37	-	-
38	-	-
39	-	-
40	-	-