

DMC Thermocouple Input

3100-TH SERIES A

DESCRIPTION

3100-TH (TH186-15) is a temperature measurement board used in the DMC system. The board contains 15 thermocouple input channels and a current generator for use with a PT-100. Either NiCrNi or FeCo sensors can be used with the 3100-TH board.

INDICATORS

None

ASSOCIATED FUNCTIONAL BLOCKS

AIINI
AI

SPECIFICATIONS

Location:	CPU or I/O rack
Power Requirements:	5V @.3 A., 15V @ 0.1A, -15V @ .0.075A
Environment:	Temperature: 0 to 50°C Humidity: 5 to 95%

SELECTIONS

Device Address

CONNECTIONS AND ASSOCIATED PRODUCTS

3130-AI

Switch Locations and Settings

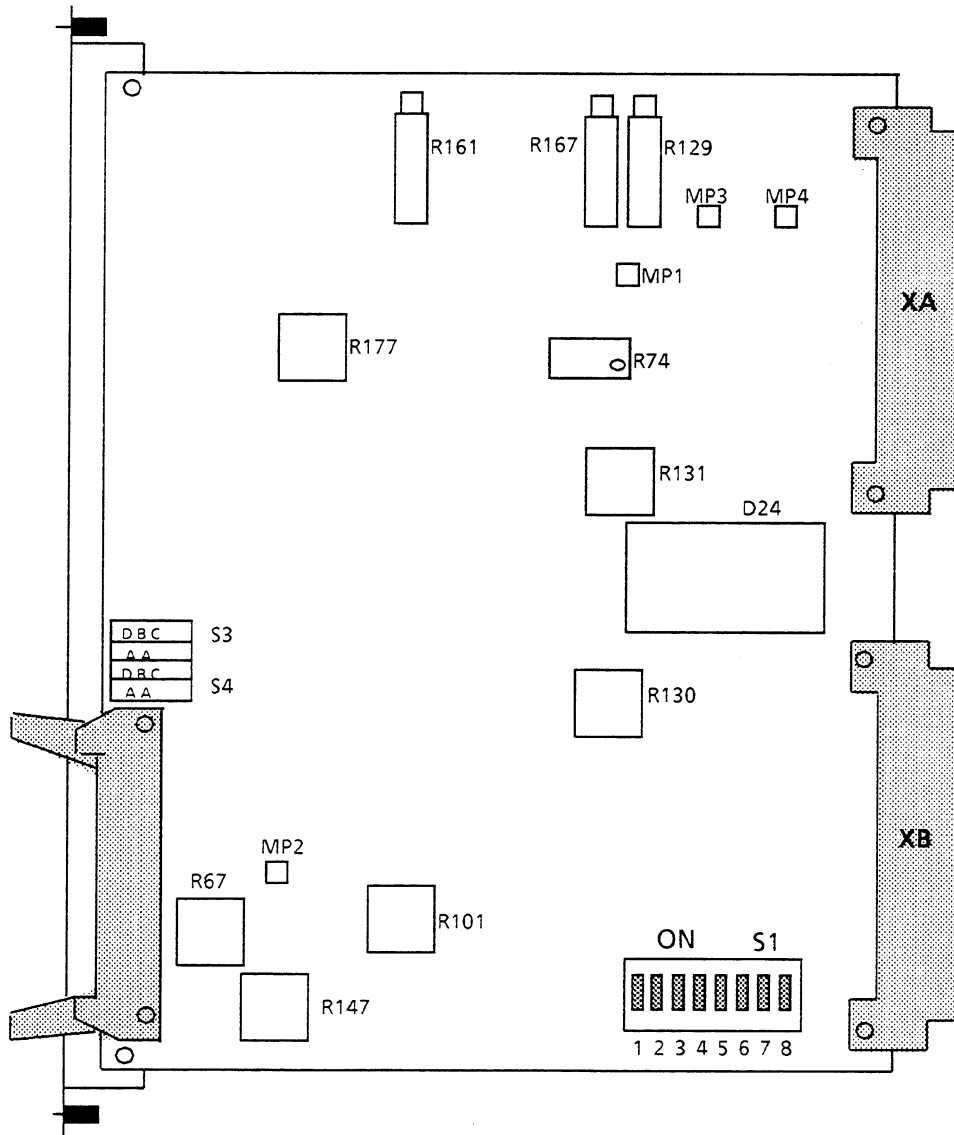


Figure 1. Switch , Test Point and Pot Locations on 3100-TH Board

Table 1. S1 Switch Settings

Hex Weight	80	40	20	10	8	4	2	1
S1	8	7	6	5	4	3	2	1
Example	0	1	1	1	X	X	X	X

= 70H

(Logic 1 = Switch Open)

(X = Don't Care)

(Logic 0 = Switch On)

S1/1 OPEN = NiCr Transducer

ON = FeCo Transducer

S1/2 OPEN = 0->1010 C or 0->510 C

ON = 0-.151 C or 0->152 C

S1/3-8 Device Address

S2 A-C

S3 A-D

S4 A-D

NOTE! When the board is used in the CPU rack, S1/3-6 cannot be placed in the "1" (Open) position.

Interconnection

A 3130-UT terminal strip board is necessary for process interconnection. Incoming signals are connected to the 3130-UT and then routed to the 3100-TH board thru a flat cable (Figure 2).

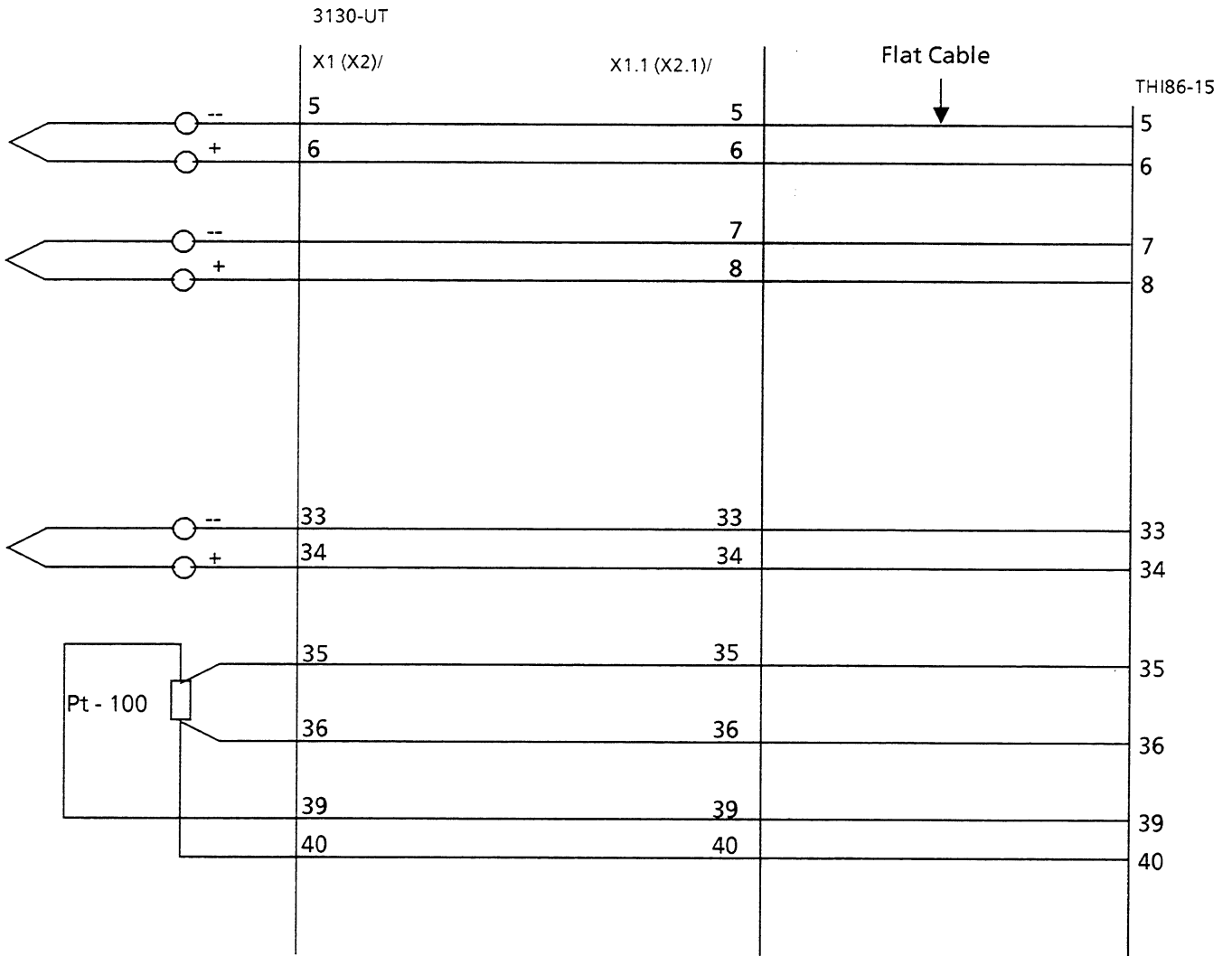


Figure 2. 3100-TH connection to Terminal Strip 3130-UT
 (The terminal strip contains two identical systems, the connections of the 2nd system are in parenthesis).

The 3100-TH board occupies 16 device addresses (Table 2). The address range is set by means of a microswitch. The board can be used to measure temperatures using either a NiCrNi or FeCo sensor. The type code of the board is determined by the temperature measurement range and the type of sensor being used (Table 3). The board can only be configured to use one type of sensor in one measurement range at one time.

Table 2. Device Address Assignments

OFFSET TO DEVICE ADDRESS	CHANNEL
0H	CALIBRATION
1H	CHANNEL 1
2H	CHANNEL 2
3H	CHANNEL 3
4H	CHANNEL 4
5H	CHANNEL 5
6H	CHANNEL 6
7H	CHANNEL 7
8H	CHANNEL 8
9H	CHANNEL 9
AH	CHANNEL 10
BH	CHANNEL 11
CH	CHANNEL 12
DH	CHANNEL 13
EH	CHANNEL 14
FH	CHANNEL 15

Table 3. Measurement Range Configuration

MEASUREMENT RANGE	SWITCH SETTING		INPUT VOLTAGE RANGE	TYPE CODE
	S1/1	S1/2		
NiCrNi 0-1010.0°C	OPEN	OPEN	0- 41.657 mV	84H
0-1513.0°C	OPEN	CLOSED	0 - 6.187 mV	85H
FeCo 0-510.5°C	CLOSED	OPEN	0 - 28.459 mV	86H
0-151.8°C	CLOSED	CLOSED	0 - 8.249 MV	87H