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TB 8913-P

Platinum Thermometer

DIN Rail Terminal Block

USER TECHNICAL MANUAL

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1. Product Description

The VD 8913-P is a DIN Rail mounted terminal block which can be used to connect a number of platinum thermometers to an MADC 8403 via a TB8210 transition board using a SCSI 50-way cable. The unit can accept up to fourteen (two groups of seven) PT-100 sensors, with excitation provided by the two 8403 IDAC outputs.
There are a total of 64 terminals for connection of the PTs arranged in two groups of 32. In each group, 7 pairs of terminals are used for the current excitation connections and 7 pairs for the voltage measurement. A fixed precision resistor completes the current chain in each group and provides a reference voltage for ratio-metric measurement.

2. Specification

Connectors
Refer to the table in section 4

SCSI
50 way connection to 8210 or 8304 transition boards

Terminal Blocks
64-way Terminal Block - T1-T64 Terminal connector positions for fourteen platinum thermometers.
T1-T32 Voltage. T33-T64 Current.
4-way Terminal Block - Connections for AGnd, AGnd, XT-, XT+
4-way Terminal Block – Connections for -12V,+12V, XC-, XC+.
4-way Terminal Block – AGnd connections for cable screens
4-way Terminal Block – AGnd connections for cable screens.

3. Variants

Specify 8913-P for PT sensors, 8913-T for thermocouples.

4. Setting up

8913-P
No setting up is required.

8210
If isolated operation is required plug 8912 DC-DC Converter modules into each pair of converter sockets allocated to a used input.
LK1-4 should be left open for isolated operation.
JP1-7 should be set for differential operation i.e. jumper pins 2-3, JP8 single-ended 1-2
JP9-15 should be set for differential operation i.e. jumper pins 2-3, JP16 single-ended 1-2
JP17-23 should be set for differential operation i.e. jumper pins 2-3, JP24 single-ended 1-2
JP25-31 should be set for differential operation i.e. jumper pins 2-3, JP32 single-ended 1-2
JP33-39 should be set for differential operation i.e. jumper pins 2-3, JP40 single-ended 1-2
JP41-47 should be set for differential operation i.e. jumper pins 2-3, JP48 single-ended 1-2
JP49-55 should be set for differential operation i.e. jumper pins 2-3, JP56 single-ended 1-2
JP57-63 should be set for differential operation i.e. jumper pins 2-3, JP64 single-ended 1-2

8403

Set the 8403 jumpers as follows:-

J1	closed	J2	1-2 +12VX	J3	1-2 -12VX	J4	closed
J5	closed	J6	open	J7	open	J8	not fitted
J9	not fitted						

LNK1 open. If VME +/12V used (J2 & J3 2-3), LNK1 should be closed.

5. Connections

PT-100s

Connect the PT leads between the relevant terminals:-

PT 1 – terminals 1 & 2 for the voltage leads, terminals 33&34 for the current leads

PT2 – terminals 3 & 4 for the voltage leads, terminals 35&36 for the current leads

"

"

PT 7 – terminals 13 & 14	45&46
PT 8 – terminals 17 & 18	49&50
PT9 – terminals 19 & 20	51&52

"

"

PT 13 – terminals 27 & 28	59&60
PT 14 – terminals 29 & 30	61&62

8210 - 8913-P

Connect the 8913-P to the 8210 using a 50-way twisted pair SCSI-2 cable. Plug one end of the cable into the SCSI socket on the 8913-P. Plug the other end into the SCSI socket on the rear panel of the 8210 relevant to the site used on the 8002 Carrier Board by the associated 8403. The lowest connector is for site A and the top connector site D.

6. Software

EPICS

The driver to control the 8403 with an 8913-P or 8913-T is:-

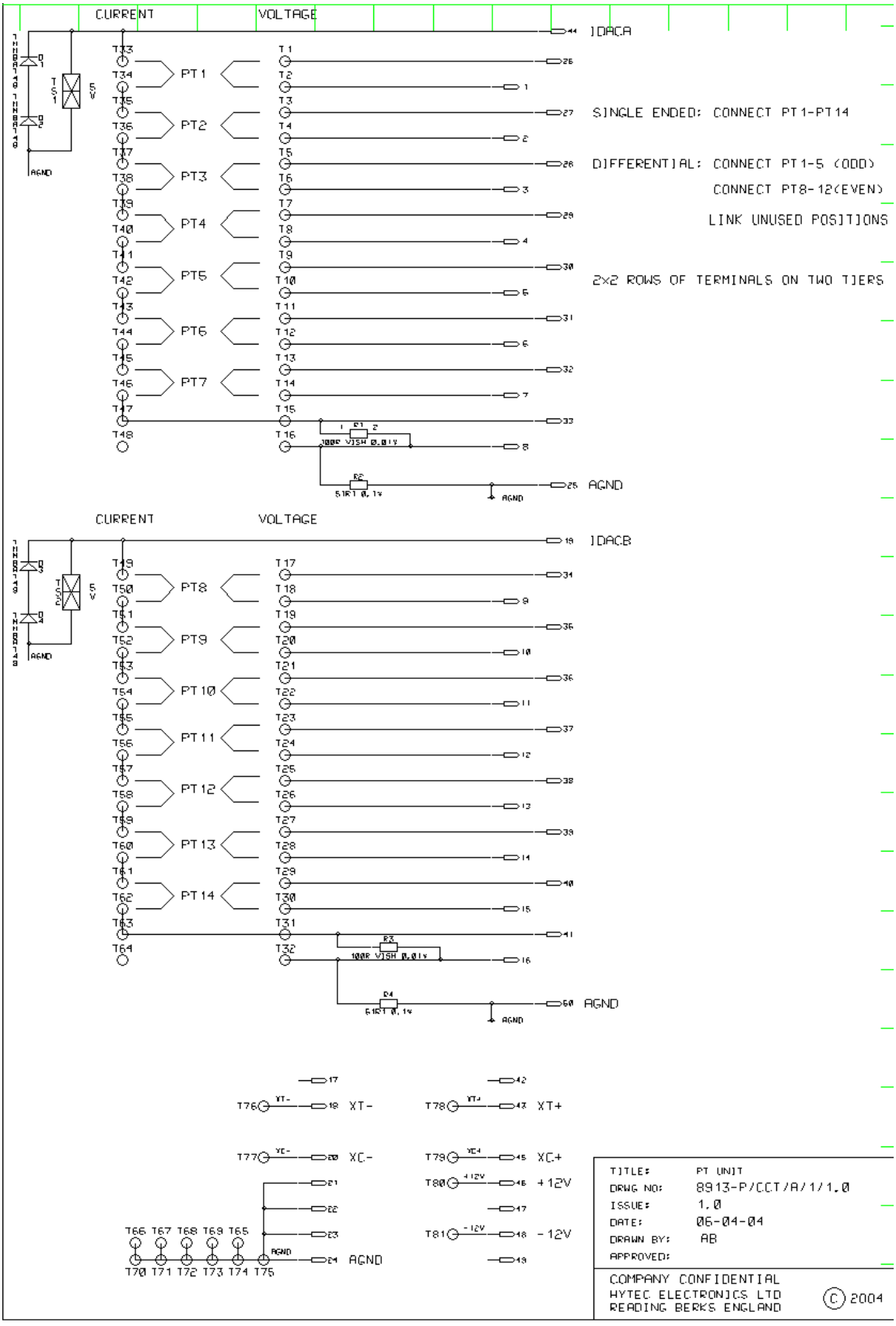
HY8403.TAR.GZ Version 1.8

Other

Please contact Hytec if you wish to discuss your requirements for other types of driver.

7. 8913-P PT DIN-Rail Board Pin-out

SCSI 50-way	Terminal	PT Voltage	Terminal	PT Current	8403
26	1	1+	33	1+	Signal High 1
1	2	1-	34	1-	Signal Low 1
27	3	2+	35	2+	Signal High 2
2	4	2-	36	2-	Signal Low 2
28	5	3+	37	3+	Signal High 3
3	6	3-	38	3-	Signal Low 3
29	7	4+	39	4+	Signal High 4
4	8	4-	40	4-	Signal Low 4
30	9	5+	41	5+	Signal High 5
5	10	5-	42	5-	Signal Low 5
31	11	6+	43	6+	Signal High 6
6	12	6-	44	6-	Signal Low 6
32	13	7+	45	7+	Signal High 7
7	14	7-	46	7-	Signal Low 7
33	15	Ref Resistor +	47	Ref R Current	Signal High 8
8	16	Ref Resistor -	48		Signal Low 8
34	17	8+	49	8+	Signal High 9
9	18	8-	50	8-	Signal Low 9
35	19	9+	51	9+	Signal High 10
10	20	9-	52	9-	Signal Low 10
36	21	10+	53	10+	Signal High 11
11	22	10-	54	10-	Signal Low 11
37	23	11+	55	11+	Signal High 12
12	24	11-	56	11-	Signal Low 12
38	25	12+	57	12+	Signal High 13
13	26	12-	58	12-	Signal Low 13
39	27	13+	59	13+	Signal High 14
14	28	13-	60	13-	Signal Low 14
40	29	14+	61	14+	Signal High 15
15	30	14-	62	14-	Signal Low 15
41	31	Ref Resistor +	63	Ref R Current	Signal High 16
16	32	Ref Resistor -	64		Signal Low 16
42					
17					
43	78			8403 XTrigger	XT+
18	76				XT-
44				IDACA for excitation	IDAC A
19				IDACB for excitation	IDAC B
45	79			8403 XClock	XC+
20	77				XC-
46	80			8912 O/P	+12V
21	65				AGnd
47					
22	66				AGnd
48	81			8912 O/P	-12V
23	67				AGnd
49					
24	68				AGnd
50					AGnd
25					AGnd


CURRENT
VOLTAGE
IDACA
PT1
PT2
PT3
PT4
PT5
PT6
PT7
SINGLE ENDED: CONNECT PT1-PT14
DIFFERENTIAL: CONNECT PT1-5 (ODD)
CONNECT PT8-12(EVEN)
LINK UNUSED POSITIONS
2x2 ROWS OF TERMINALS ON TWO TIERS
AGND
CURRENT
VOLTAGE
IDACB
PT8
PT9
PT10
PT11
PT12
PT13
PT14
AGND
XT-
XT+
XC-
XC+
+12V
-12V
AGND
TITLE: PT UNIT
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