THERMAL INSTRUMENT Co.

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INSTALLATION, OPERATION & CALIBRATION INSTRUCTIONS FOR THERMAL FLOW METER

MODEL:

926 REMOTE ELECTRONICS

220VAC
110VAC
24 VDC
Factory Set

Revision: 7/10/2008

INSTALLATION - MODEL 600-9

FIGURE (5) IS AN OUTLINE DRAWING OF THE FLOW TRANSDUCER, SHOWING FLOW CONNECTIONS AND MOUNTING DIMENSIONS.

ALL FLOW WETTED PARTS ARE TYPE: _____

THE FLOW TRANSDUCER CAN BE MOUNTED HORIZONTALLY OR VERTICALLY, HOWEVER, WHEN MOUNTED VERTICALLY FLOW DIRECTION MUST BE UPWARDS. THE FLOW SHOULD ENTER AT THE PORT MARKED "IN" AND EXIT AT THE PORT MARKED "OUT".

THE METER SHOULD BE INSTALLED IN A STRAIGHT LINE. THIS LINE SHOULD PREFERABLY BE THE SAME DIAMETER AS THE METER TUBE OR PIPE. THIS STRAIGHT LINE SHOULD HAVE A MINIMUM LENGTH OF TEN (10) DIAMETERS AHEAD OF THE METER. LIKEWISE, A STRAIGHT LENGTH OF THE PIPE OR TUBE AFTER THE METER SHOULD BE AT LEAST A LENGTH OF FIVE (5) PIPE DIAMETERS.

WHERE PHYSICAL CONDITIONS PREVENT THIS, INFORM US IN ADVANCE AND WE WILL CALIBRATE THIS METER UNDER ACTUAL OPERATING CONDITIONS.

ENCLOSED IS A _____FOOT LENGTH OF 4 CONDUCTOR SHIELDED CABLE FOR INTERCONNECTING THE SIGNAL CONDITIONER AND TRANSDUCER.

NOTE: THIS UNIT IS INDEPENDENT OF CABLE LENGTH.

FIGURE (6) IS A SKETCH SHOWING THE ELECTRONICSIGNAL CONDITIONER AND REQUIRED ELECTRICAL CONNECTIONS.

FIGURE (9) SHOWS THE OVERALL EXTERNAL WIRING CONNECTIONS.

THE SIGNAL CONDITIONER REQUIRES _____ VOLTS (50 to 60 CYCLES AC Only).

REGULATION IS VALID OVER _____ TO _____ VOLTS AC.

THE OUTPUT SIGNAL FOR FULL SCALE FLOW RATE IS 20 MA DC ISOLATED.

INSTALLATION - MODEL 62-9

FIGURE (5) IS AN OUTLINE DRAWING OF THE FLOW TRANSDUCER, SHOWING FLOW CONNECTIONS AND MOUNTING DIMENSIONS.

ALL FLOW WETTED PARTS ARE TYPE: _____.

THE METER SHOULD BE INSTALLED INTO A STRAIGHT LINE. THIS STRAIGHT LINE SHOULD HAVE A MINIMUM LENGTH OF TEN (10) DIAMETERS AHEAD OF THE METER. LIKEWISE, A STRAIGHT LENGTH OF THE PIPE OR TUBE AFTER THE METER SHOULD BE AT LEAST A LENGTH OF FIVE (5) PIPE DIAMETERS.

WHERE PHYSICAL CONDITIONS PREVENT THIS, INFORM US IN ADVANCE AND WE WILL CALIBRATE THIS METER UNDER ACTUAL OPERATING CONDITIONS.

ROTATE INDEX ARROW TO FACE TOWARD FLOW.

ENCLOSED IS A _____ LENGTH OF 4 CONDUCTOR SHIELDED CABLE FOR INTERCONNECTING THE SIGNAL CONDITIONER AND TRANSDUCER.

NOTE: THIS UNIT IS INDEPENDENT OF CABLE LENGTH.

FIGURE (6) IS A SKETCH SHOWING THE ELECTRONIC SIGNAL CONDITIONER AND REQUIRED ELECTRICAL CONNECTIONS.

FIGURE (9) SHOWS THE OVERALL EXTERNAL WIRING CONNECTIONS.

THE SIGNAL CONDITIONER REQUIRES _____ VOLTS AC _____ CYCLES. (50 to 60 CYCLES AC Only)

REGULATION IS VALID OVER _____TO _____VOLTS AC.

THE OUTPUT SIGNAL FOR FULL SCALE FLOW RATE IS 20 MA DC ISOLATED.

OPERATION

MODEL 600-9 AND 62-9

WITH ALL CONNECTIONS HAVING BEEN COMPLETED AND TESTED, A SHORT BUT FAST FLOW RATE SHOULD BE OBTAINED IN ORDER TO CLEAN GAS BUBBLES AND IMPURITIES FROM THE FLOW TUBE.

APPLY POWER AND ALLOW A TEN (10) MINUTE WARM-UP PERIOD.

FIGURE 6 (SEE SPECIFIC CURVE DOCUMENT VIA METER MANUAL) IS A CALIBRATION CURVE CORRELATING FLOW VERSUS INDICATION. THE OUTPUT SIGNAL FOR FULL FLOW RATE IS 20 MA DC. WHEN A FACTORY CALIBRATION IS PROVIDED, IT SHOULD NOT BE NECESSARY TO PERFORM A FIELD CALIBRATION. IF, HOWEVER, IN THE FUTURE IT SHOULD BE DECIDED TO USE THE METER WITH FLUIDS FOR WHICH THE DEVICE HAS NOT BEEN CALIBRATED, FIELD CALIBRATION INSTRUCTIONS ARE INCLUDED.

IN THE CASE OF MULTIPLE CALIBRATIONS IT IS NECESSARY TO SET THE CALIBRATION DIALS AND SWITCHES FOR THE FLUID AND/OR RANGE DESIRED, IN ACCORDANCE WITH THE SETTINGS PROVIDED ON THE CALIBRATION CURVES.

FIELD CALIBRATION CHECK THREE TERMINAL STRIP MODEL 926

The three terminal strip 926 electronic signal conditioner output can be calibrated by simulating the voltage output of the flow element with an external variable D.C. voltage source.

1. Turn power off at electronics.

2. Disconnect flow transducer cable from electronics terminal 1, 2, 3, 4 & 5. Note the wiring labeling and/or colors for placing back on correctly later.

3. Connect an external variable DC voltage source to terminals “2” and "3" (negative) and "4" (positive) of electronics.
NOTE: Terminals “2” and “3” must be connected together.

4. Apply power to electronics.

5. With 0 Volts from the DC Voltage source, the mA should be clamped at 4.00 mA. If it is not correct, Adjust I Zero Potentiometer R4 until 4.00 mA. R4 is located above the 7-pin terminal strip to the far right.

6. Locate calibration data sheet in the instruction manual "Component Values Determined at Calibration".

7. Turn on the DC Voltage source and set the voltage beyond the full scale EXC voltage (1 volt higher for example). The mA output should clamp at 20.00 mA. If it is not correct, then Adjust I Span Potentiometer R6 until 20.00 mA. R6 is located above the 7-pin terminal strip to the far right.

8. You may have to go back to step 5 and repeat the procedure due to the I Zero and the I Span offset each other a little.

9. Set the DC Voltage source for 10% transducer output (EXC Voltage). Milliamp output should be 10%, 5.6 mA. If it is not correct, Adjust F Zero Potentiometer R35 until 5.6 mA. R35 is located on the Range Board, which is to the left of the Main Board and above the 3-pin terminal strip (110 VAC connection).

10. Set the DC Voltage source for 90% transducer output (EXC Voltage). The mA output should be 18.4 mA. If it is not correct, Adjust F Span Potentiometer R33 until 18.4 mA. R33 is also located on the Range Board.

11. You may have to go back to step 9 and repeat the procedure due to the F Zero and the F Span offset each other a little.

12. After 10% and 90% are set check 0, 20, 30, 40, 50, 60, 70, 80, and 100%.

13. If the output is satisfactory, continue to next step, otherwise recheck steps taken and if necessary contact Thermal Instrument Company for further instructions.

14. Turn power off at electronics.

15. Remove the DC Voltage source and reconnect the transducer cable.

16. Apply power to the electronics. The meter should now be in normal operation.

FIELD CALIBRATION CHECK TWO TERMINAL STRIP MODEL 926

The two terminal strip 926 electronic signal conditioner output can be calibrated by simulating the voltage output of the flow element with an external variable D.C. voltage source.

1. Turn power off at electronics.
2. Disconnect flow transducer cable from electronics terminal 1, 2, 3, 4 & 5. Note the wiring labeling and/or colors for placing back on correctly later.
3. Connect an external variable DC voltage source to terminals "3" (negative) and "4" (positive) of electronics.
4. Apply power to electronics.
5. With 0 Volts from the DC Voltage source, the mA should be clamped at 4.00 mA. If it is not correct, Adjust I Zero Potentiometer R30 until 4.00 mA.
6. Locate calibration data sheet in the instruction manual "Component Values Determined at Calibration".
7. Turn on the DC Voltage source and set the voltage beyond the full scale EXC voltage (1 volt higher for example). The mA output should clamp at 20.00 mA. If it is not correct, then Adjust I Span Potentiometer R32 until 20.00 mA.
8. You may have to go back to step 5 and repeat the procedure due to the I Zero and the I Span offset each other a little.
9. Set the DC Voltage source for 10% transducer output (EXC Voltage). The mA output should be 10%, 5.6 mA. If it is not correct, Adjust F Zero Potentiometer R13 until 5.6 mA.
10. Set the DC Voltage source for 90% transducer output (EXC Voltage). The mA output should be 18.4 mA. If it is not correct, Adjust F Span Potentiometer R11 until 18.4 mA.
11. You may have to go back to step 9 and repeat the procedure due to the F Zero and the F Span offset each other a little.
12. After 10% and 90% are set check 0, 20, 30, 40, 50, 60, 70, 80, and 100%.
13. If the output is satisfactory, continue to next step, otherwise recheck steps taken and if necessary contact Thermal Instrument Company for further instructions.
14. Turn power off at electronics.
15. Remove the DC Voltage source and reconnect the transducer cable.
16. Apply power to the electronics. The meter should now be in normal operation.

Troubleshooting

Troubleshooting of a malfunctioning flow meter is a process of isolating the particular circuit area which is out of range and then finding the components causing the failure. Before looking into possible circuit problems it will be profitable in most cases to first determine that the problem is not internal to the electronics. As odd as it may sound, most apparent flow meter malfunctions are a result of incorrect installation or changes in process operating conditions.

Typical installation problems are:

- Fluid not flowing.
- Flow rate or temperature out of calibration range.
- Fluid not identical to calibration fluid.
  (Ex: Air instead of C02 or Water instead of Glycol)
- Fluid has coated flow element.
  (Ex: Very dirty gas or liquid that leaves a film or layers)
- Flow element installed too close to upstream or downstream flow disturbance.
  (Minimum 10 pipe diameters upstream and 5 pipe diameters downstream)
- Power not on or incorrect voltage.
  (Ex: Connecting 24 VDC in place of 110 VAC)
- Flow element wiring incorrect.
- Output wiring incorrect.

Figure #1

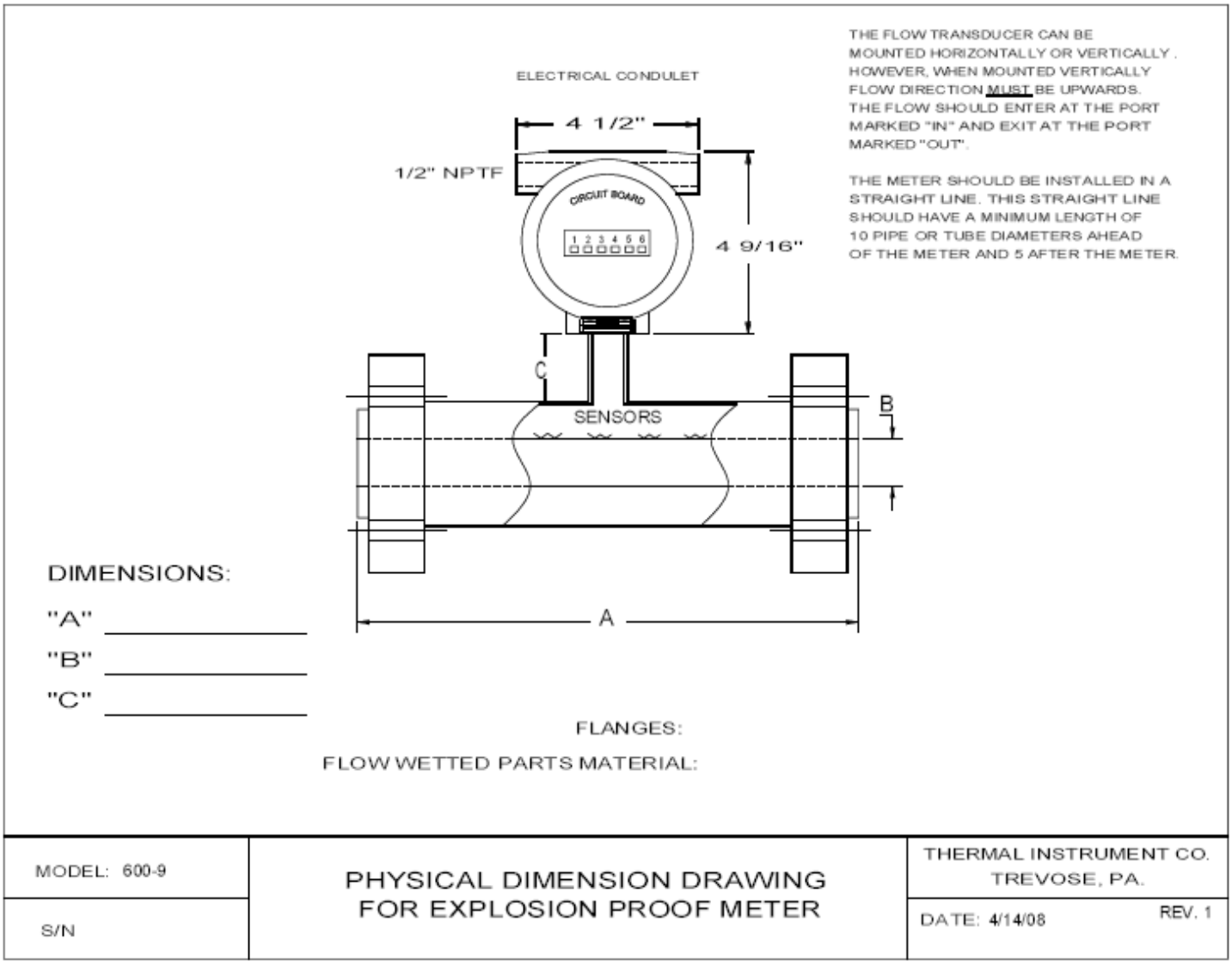

ELECTRICAL CONDULET
4 1/2"
1/2" NPTF
CIRCUIT BOARD
1 2 3 4 5 6
4 9/16"
C
SENSORS
B
A
THE FLOW TRANSDUCER CAN BE MOUNTED HORIZONTALLY OR VERTICALLY . HOWEVER, WHEN MOUNTED VERTICALLY FLOW DIRECTION MUST BE UPWARDS. THE FLOW SHOULD ENTER AT THE PORT MARKED "IN" AND EXIT AT THE PORT MARKED "OUT".
THE METER SHOULD BE INSTALLED IN A STRAIGHT LINE. THIS STRAIGHT LINE SHOULD HAVE A MINIMUM LENGTH OF 10 PIPE OR TUBE DIAMETERS AHEAD OF THE METER AND 5 AFTER THE METER.
DIMENSIONS:
"A" _____
"B" _____
"C" _____
FLANGES:
FLOW WETTED PARTS MATERIAL:
MODEL: 600-9
S/N
PHYSICAL DIMENSION DRAWING FOR EXPLOSION PROOF METER
THERMAL INSTRUMENT CO. TREVOSE, PA.
DATE: 4/14/08
REV. 1

Figure #2

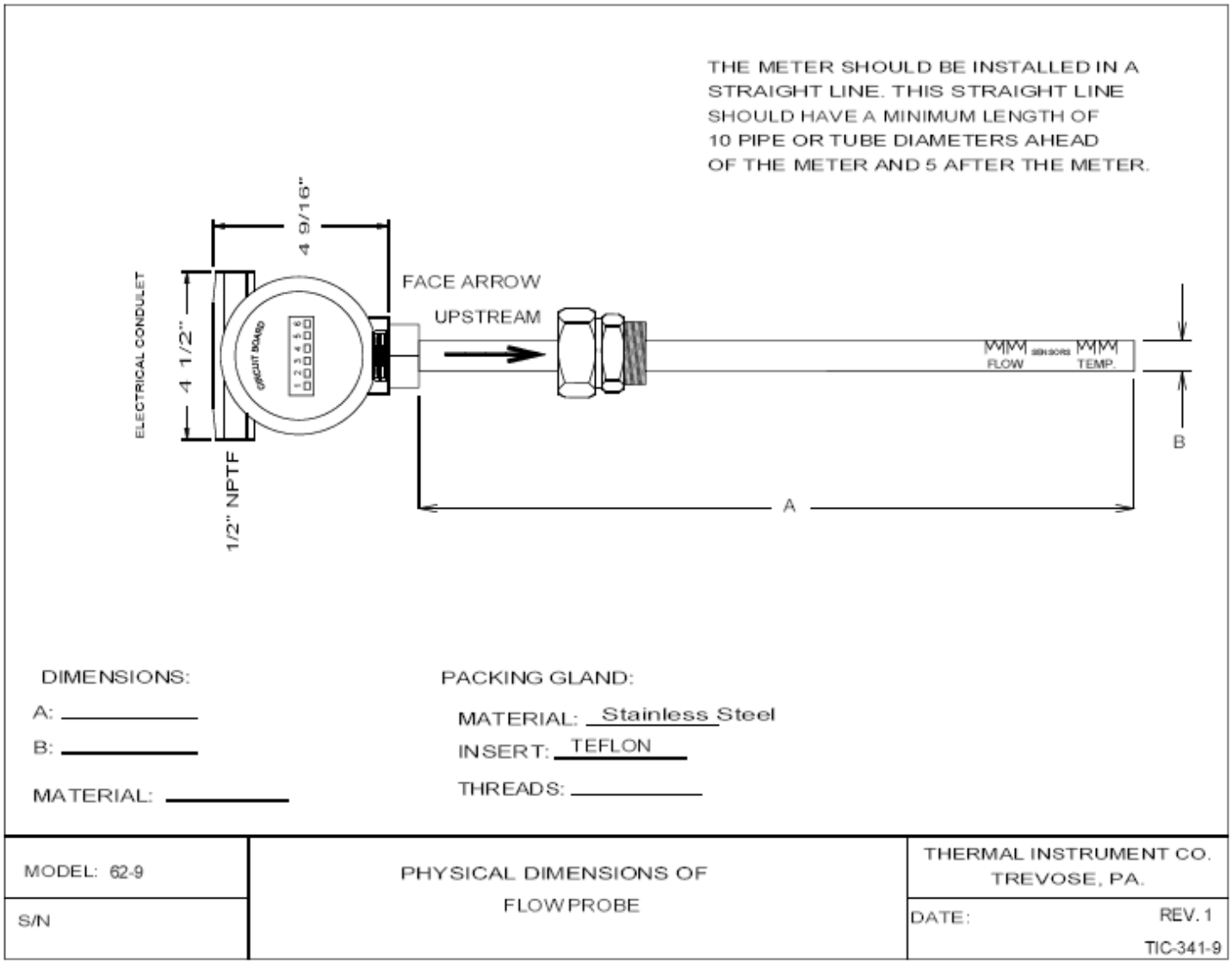

THE METER SHOULD BE INSTALLED IN A STRAIGHT LINE. THIS STRAIGHT LINE SHOULD HAVE A MINIMUM LENGTH OF 10 PIPE OR TUBE DIAMETERS AHEAD OF THE METER AND 5 AFTER THE METER.
4 9/16"
4 1/2"
ELECTRICAL CONDULET
1/2" NPTF
FACE ARROW
UPSTREAM
FLOW SENSORS TEMP.
B
A
DIMENSIONS:
A:
B:
MATERIAL:
PACKING GLAND:
MATERIAL: Stainless Steel
INSERT: TEFLON
THREADS:
MODEL: 62-9
S/N
PHYSICAL DIMENSIONS OF FLOW PROBE
THERMAL INSTRUMENT CO. TREVOSE, PA.
DATE:
REV. 1
TIC-341-9

Figure #3

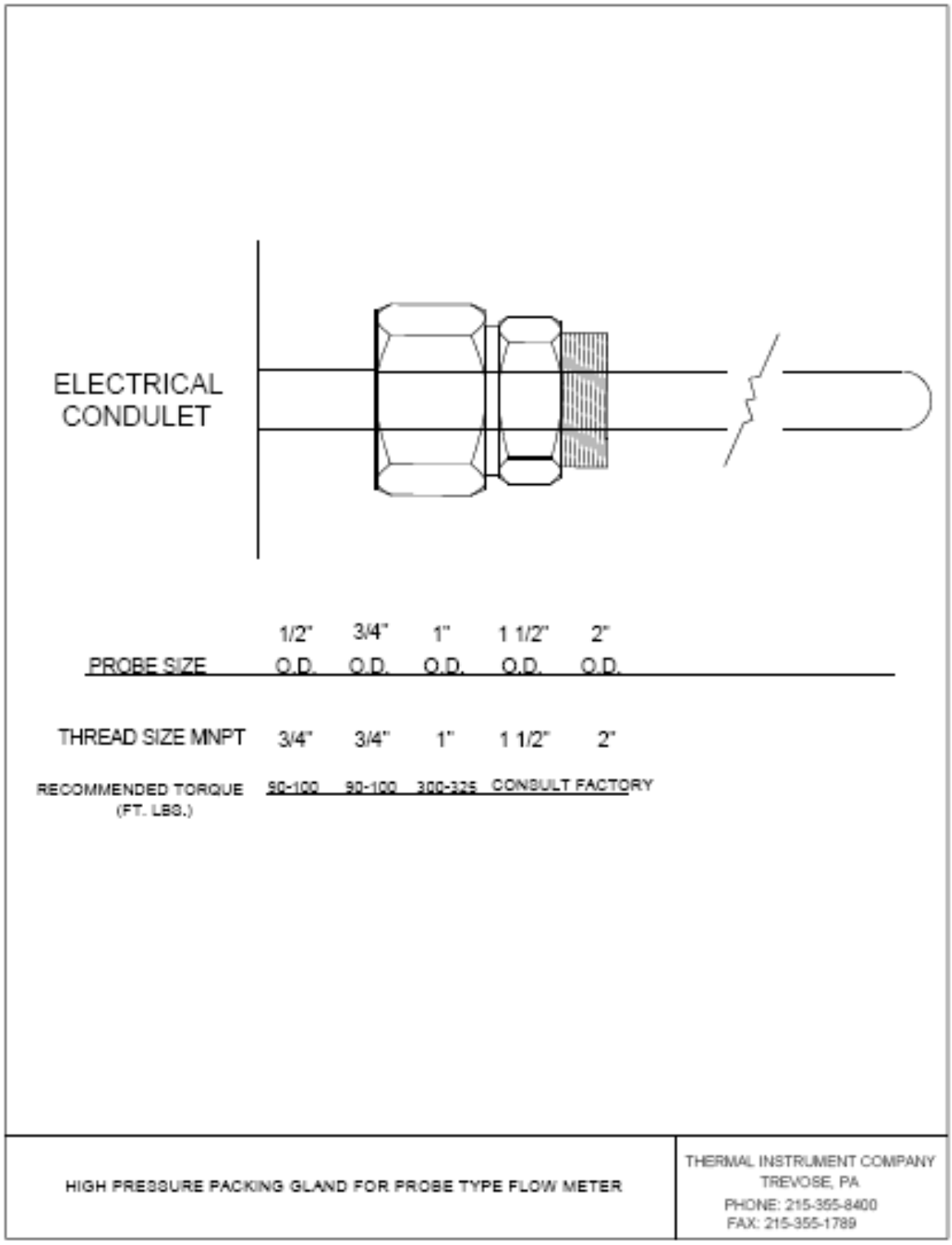
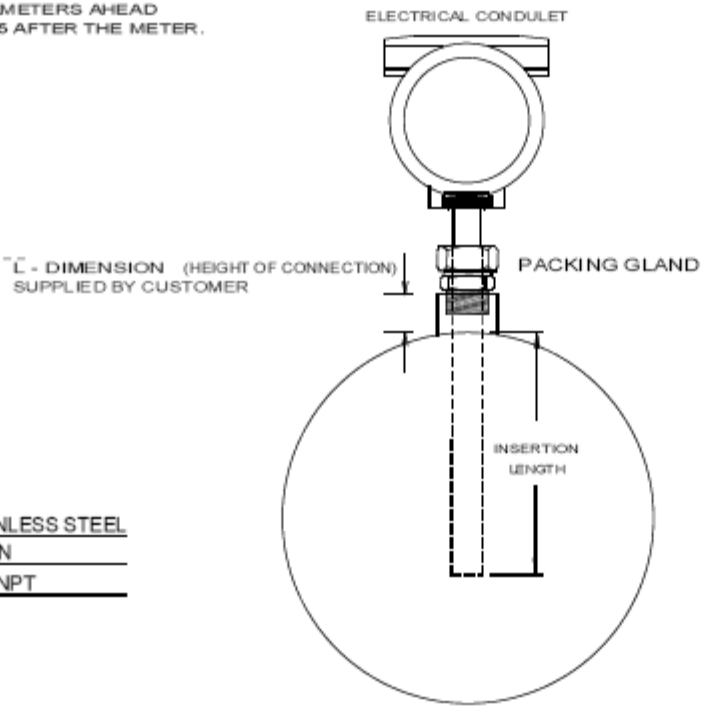

ELECTRICAL
CONDULET
1/2" 3/4" 1" 1 1/2" 2"
PROBE SIZE O.D. O.D. O.D. O.D. O.D.
THREAD SIZE MNPT 3/4" 3/4" 1" 1 1/2" 2"
RECOMMENDED TORQUE (FT. LBS.) 90-100 90-100 300-325 CONSULT FACTORY
HIGH PRESSURE PACKING GLAND FOR PROBE TYPE FLOW METER
THERMAL INSTRUMENT COMPANY
TREVOSE, PA
PHONE: 215-355-8400
FAX: 215-355-1789

Figure #4

THE METER SHOULD BE INSTALLED IN A STRAIGHT LINE. THIS STRAIGHT LINE SHOULD HAVE A MINIMUM LENGTH OF 10 PIPE OR TUBE DIAMETERS AHEAD OF THE METER AND 5 AFTER THE METER.



RECOMMENDED INSERTION LENGTHS

LINE SIZE I.D.	PROBE TIP INSERTION LENGTH
2"	1 3/4"
3"	2 3/4"
4"	3 3/4"
5"	4 3/4"
6"	5 3/4"
7"	6 3/4"
8"	7 1/2"
10"	8 1/2"
12"	9 1/2"
16"	11 1/2"
18"	12 1/2"
24"	15 1/2"
30"	18 1/2"
36"	21 1/2"
48"	27 1/2"

PACKING GLAND:
MATERIAL: STAINLESS STEEL
INSERT: TEFLON
THREADS: 3/4" MNPT

PROBE DIAMETER: 1/2" O.D.

PROBE MATERIAL: 316 S.S.

MODEL: 62-9	PROBE INSTALLATION	THERMAL INSTRUMENT CO. TREVOSE, PA.
		DATE: 4/14/08

Figure #5

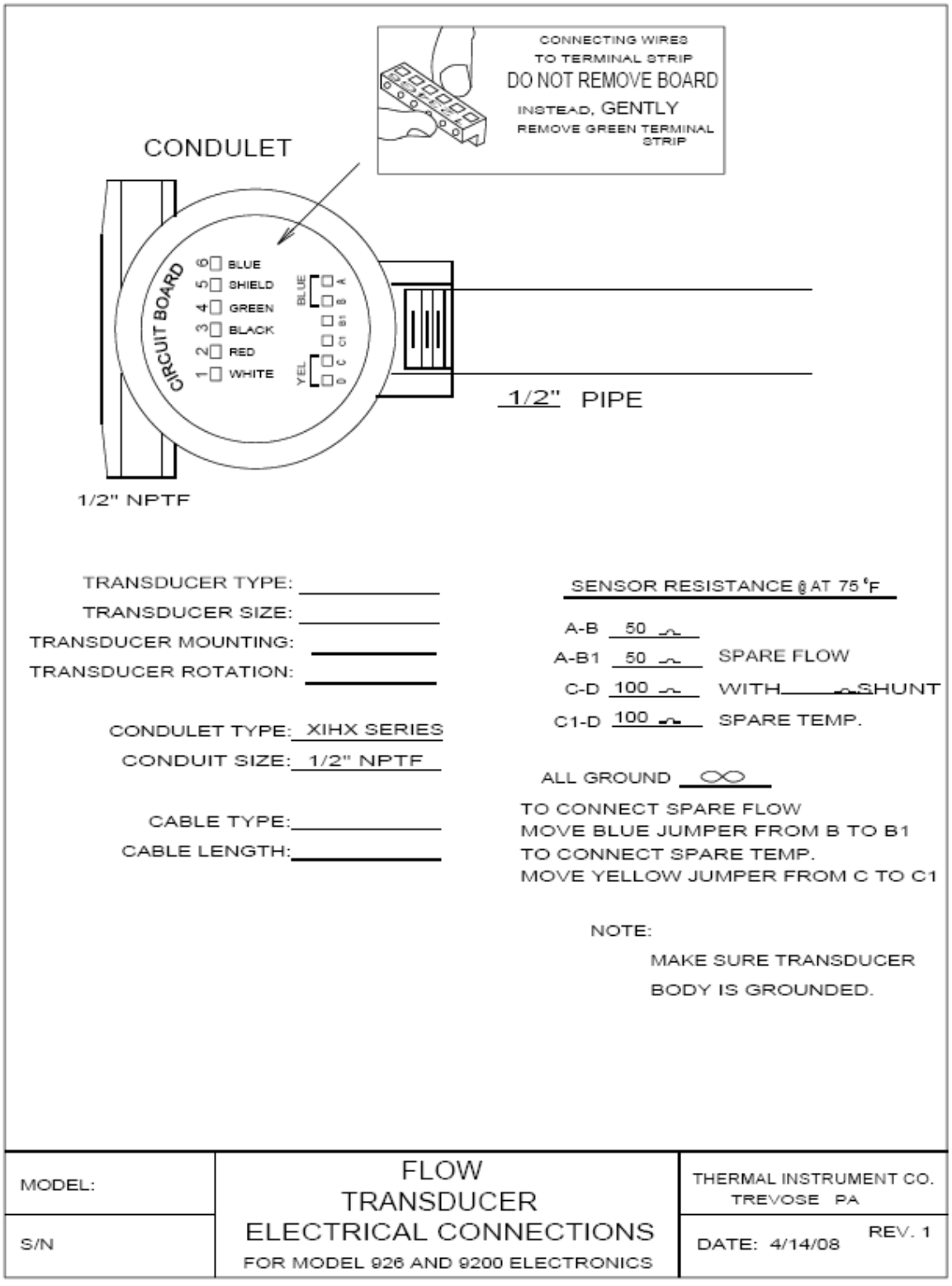

CONNECTING WIRES
TO TERMINAL STRIP
DO NOT REMOVE BOARD
INSTEAD, GENTLY
REMOVE GREEN TERMINAL STRIP
CONDULET
CIRCUIT BOARD
6 BLUE
5 SHIELD
4 GREEN
3 BLACK
2 RED
1 WHITE
BLUE
A
B
B1
YEL
C
C1
D
1/2" PIPE
1/2" NPTF
TRANSDUCER TYPE:
TRANSDUCER SIZE:
TRANSDUCER MOUNTING:
TRANSDUCER ROTATION:
CONDULET TYPE: XIHX SERIES
CONDUIT SIZE: 1/2" NPTF
CABLE TYPE:
CABLE LENGTH:
SENSOR RESISTANCE @ AT 75 °F
A-B 50 Ω
A-B1 50 Ω SPARE FLOW
C-D 100 Ω WITH Ω SHUNT
C1-D 100 Ω SPARE TEMP.
ALL GROUND
TO CONNECT SPARE FLOW
MOVE BLUE JUMPER FROM B TO B1
TO CONNECT SPARE TEMP.
MOVE YELLOW JUMPER FROM C TO C1
NOTE:
MAKE SURE TRANSDUCER
BODY IS GROUNDED.
MODEL:
S/N
FLOW
TRANSDUCER
ELECTRICAL CONNECTIONS
FOR MODEL 926 AND 9200 ELECTRONICS
THERMAL INSTRUMENT CO.
TREVOSE PA
DATE: 4/14/08
REV. 1

Figure #6

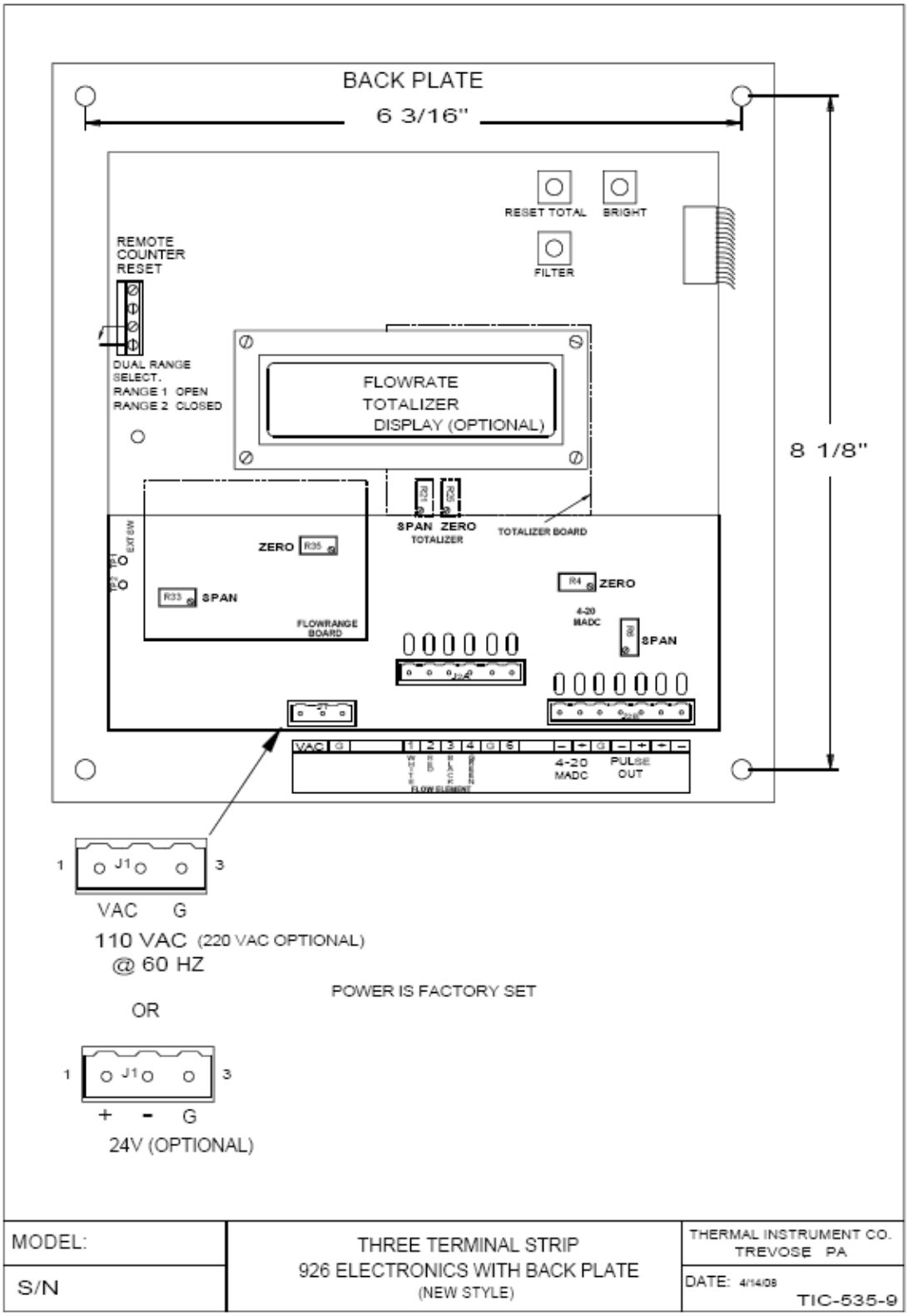

BACK PLATE
6 3/16"
8 1/8"
RESET TOTAL
BRIGHT
FILTER
REMOTE COUNTER RESET
DUAL RANGE SELECT.
RANGE 1 OPEN
RANGE 2 CLOSED
FLOWRATE TOTALIZER DISPLAY (OPTIONAL)
SPAN ZERO
TOTALIZER
TOTALIZER BOARD
ZERO R35
SPAN R33
FLOWRANGE BOARD
R4 ZERO
4-20 MADC
SPAN
VAC G 1 2 3 4 G 5 4-20 MADC PULSE OUT
1 J1 3
VAC G
110 VAC (220 VAC OPTIONAL)
@ 60 HZ
POWER IS FACTORY SET
OR
1 J1 3
+ - G
24V (OPTIONAL)
MODEL:
S/N
THREE TERMINAL STRIP
926 ELECTRONICS WITH BACK PLATE
(NEW STYLE)
THERMAL INSTRUMENT CO.
TREVOSE PA
DATE: 4/14/08
TIC-535-9

Figure #7

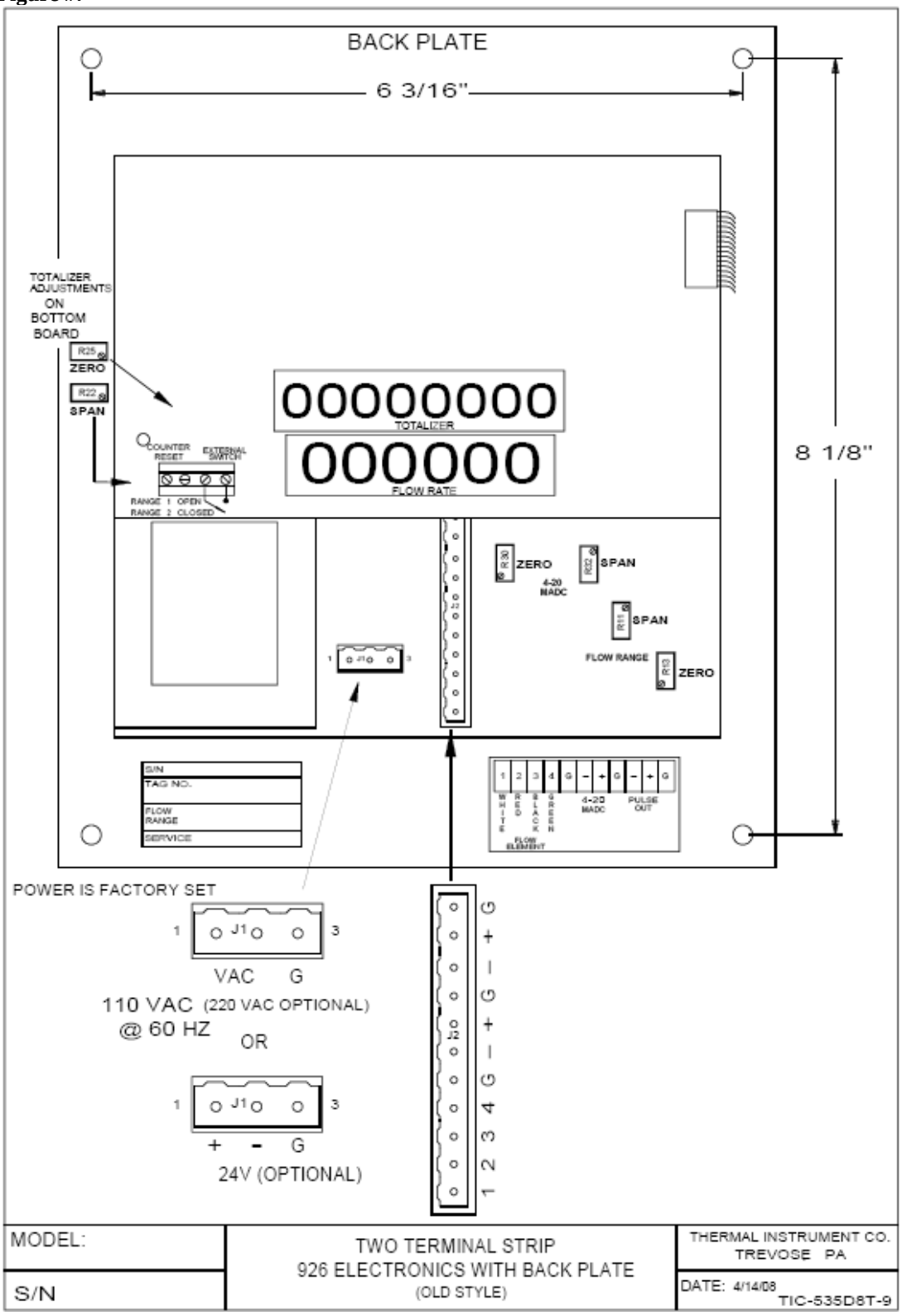
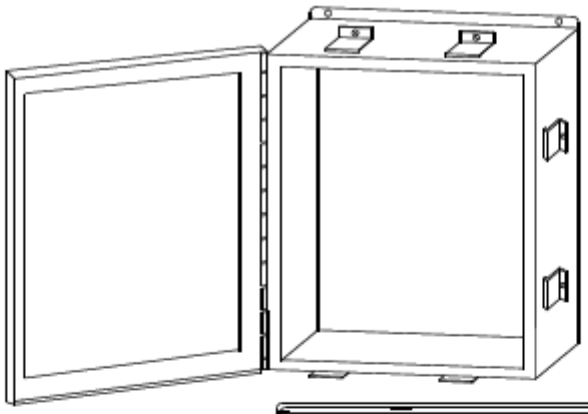

BACK PLATE
6 3/16"
8 1/8"
TOTALIZER ADJUSTMENTS ON BOTTOM BOARD
R25 ZERO
R22 SPAN
00000000
TOTALIZER
000000
FLOW RATE
COUNTER RESET
EXTERNAL SWITCH
RANGE 1 OPEN
RANGE 2 CLOSED
R30 ZERO
4-20 MADC
R22 SPAN
R11 SPAN
FLOW RANGE
R13 ZERO
J1
J2
SIN
TAG NO.
FLOW RANGE
SERVICE
WHITE
RED
BLACK
GREEN
4-20 MADC
PULSE OUT
FLOW ELEMENT
POWER IS FACTORY SET
1 J1 3
VAC G
110 VAC (220 VAC OPTIONAL)
@ 60 HZ
OR
1 J1 3
+ - G
24V (OPTIONAL)
1 2 3 4 G - + G - + G
MODEL:
S/N
TWO TERMINAL STRIP
926 ELECTRONICS WITH BACK PLATE
(OLD STYLE)
THERMAL INSTRUMENT CO.
TREVOSE PA
DATE: 4/14/08
TIC-535D8T-9

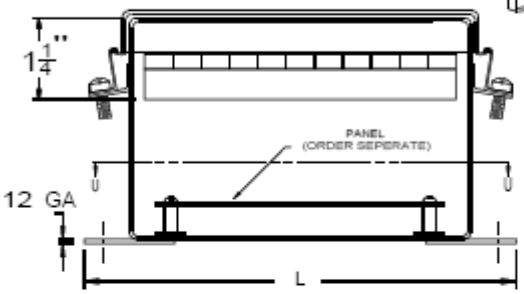
Figure #8

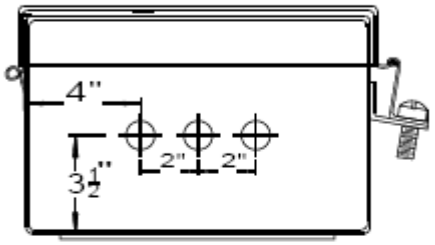
INDUSTRY STANDARD

NEMA Type 4, Type 4X, Type 12, and Type 13
UL 50 Type 4 and Type 4x
JIC standard EGP-1-1967
CSA Enclosure 4 (Specify CSA label when ordering)
IEC 529, IP66

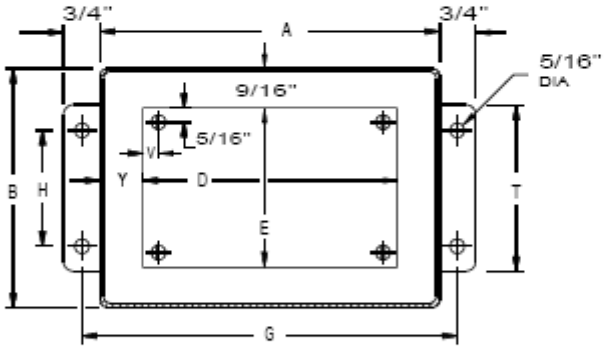
SHOWN WITHOUT WINDOW OPTION



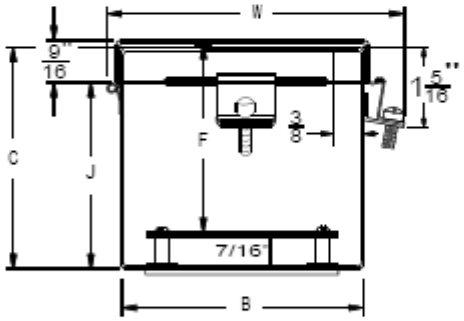




3 – 1/2" conduit holes



SECTION U-U



NOTE: 1. Panels are 14 gauge steel.
2. Panel screws are # 10-32 pan head.
3. External mounting feet are 12 gauge steel.

STANDARD SIZES

BOX CATALOG NUMBER	GAUGE	BOX SIZE A X B X C	* PANEL CATALOG NUMBER	PANEL SIZE D X E	MOUNTING G X H	OVERALL L X W	F	J	T	V	Y
A-1212CHNF	14	12.00x12.00x6.00 (305x305x152)	A-12P12	10.75x10.88 (273x276)	12.75x10.00 (324x254)	13.50x12.94 (343x329)	5.50 (140)	5.56 (141)	11.00 (279)	0.25 (6)	0.62 (16)
A-1614CHNF	14	16.00x14.00x6.00	A-16P14	14.75x12.88 (375x327)	16.75x12.00 (425x305)	17.50x14.94 (445x379)	5.50 (140)	5.56 (141)	13.00 (330)	0.25 (6)	0.62 (16)

Millimeter dimensions () are for reference only: do not convert metric dimensions to inch.
* Panels must be ordered seperately. Optional stainless steel and aluminum panels are also available for most sizes.

MODEL:	926 ELECTRONIC HOUSING SPECIFICATION	THERMAL INSTRUMENT COMPANY
S/N:		DATE: 4/14/08
		TIC-279/900

Figure #9

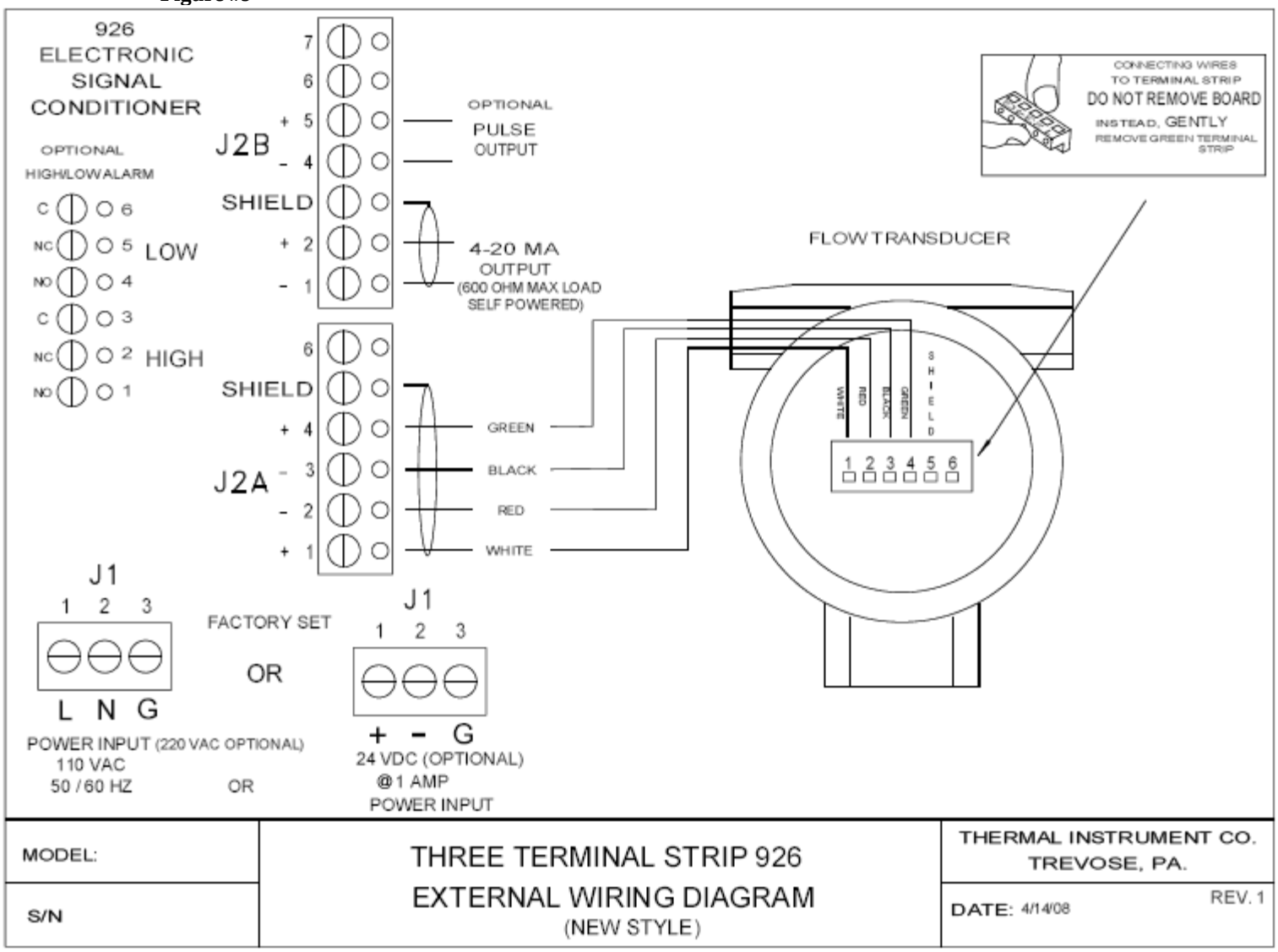

926
ELECTRONIC
SIGNAL
CONDITIONER
OPTIONAL
HIGH/LOW ALARM
C 6
NC 5 LOW
NO 4
C 3
NC 2 HIGH
NO 1
J2B
7
6
+ 5
- 4
SHIELD
+ 2
- 1
OPTIONAL
PULSE
OUTPUT
4-20 MA
OUTPUT
(600 OHM MAX LOAD
SELF POWERED)
J2A
6
SHIELD
+ 4
- 3
- 2
+ 1
GREEN
BLACK
RED
WHITE
CONNECTING WIRES
TO TERMINAL STRIP
DO NOT REMOVE BOARD
INSTEAD, GENTLY
REMOVE GREEN TERMINAL
STRIP
FLOW TRANSDUCER
WHITE
RED
BLACK
GREEN
SHIELD
1 2 3 4 5 6
J1
1 2 3
L N G
POWER INPUT (220 VAC OPTIONAL)
110 VAC
50 / 60 HZ
FACTORY SET
OR
OR
J1
1 2 3
+ - G
24 VDC (OPTIONAL)
@1 AMP
POWER INPUT
MODEL:
S/N
THREE TERMINAL STRIP 926
EXTERNAL WIRING DIAGRAM
(NEW STYLE)
THERMAL INSTRUMENT CO.
TREVOSE, PA.
DATE: 4/14/08
REV. 1

Figure #10

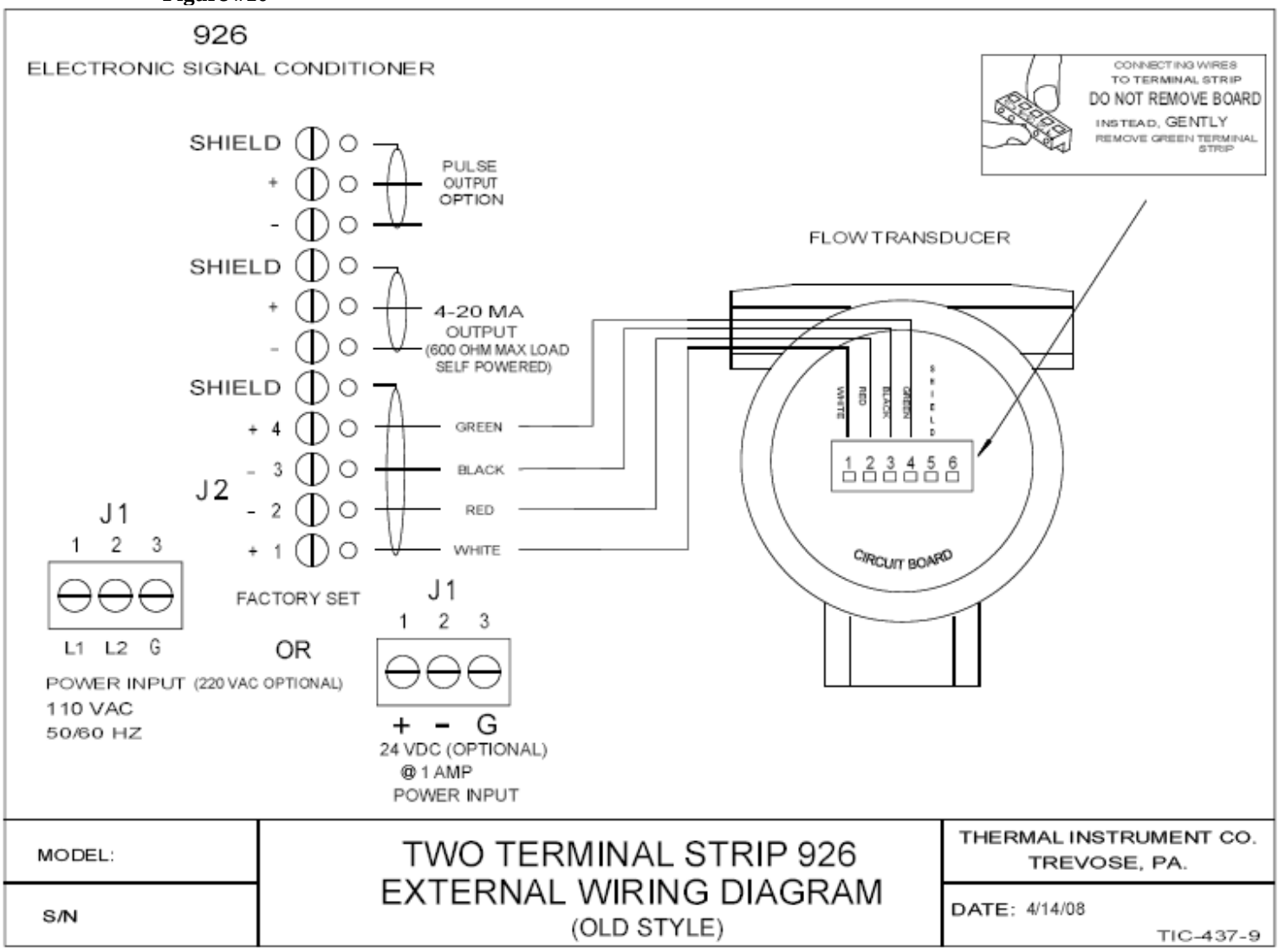

926
ELECTRONIC SIGNAL CONDITIONER
CONNECTING WIRES TO TERMINAL STRIP
DO NOT REMOVE BOARD
INSTEAD, GENTLY
REMOVE GREEN TERMINAL STRIP
SHIELD
+
-
PULSE OUTPUT OPTION
SHIELD
+
-
4-20 MA OUTPUT
(600 OHM MAX LOAD SELF POWERED)
SHIELD
+ 4
- 3
- 2
+ 1
J2
GREEN
BLACK
RED
WHITE
FLOW TRANSDUCER
1 2 3 4 5 6
CIRCUIT BOARD
J1
1 2 3
L1 L2 G
POWER INPUT (220 VAC OPTIONAL)
110 VAC
50/60 HZ
FACTORY SET
OR
J1
1 2 3
+ - G
24 VDC (OPTIONAL)
@ 1 AMP
POWER INPUT
MODEL:
S/N
TWO TERMINAL STRIP 926
EXTERNAL WIRING DIAGRAM
(OLD STYLE)
THERMAL INSTRUMENT CO.
TREVOSE, PA.
DATE: 4/14/08
TIC-437-9

Figure #11

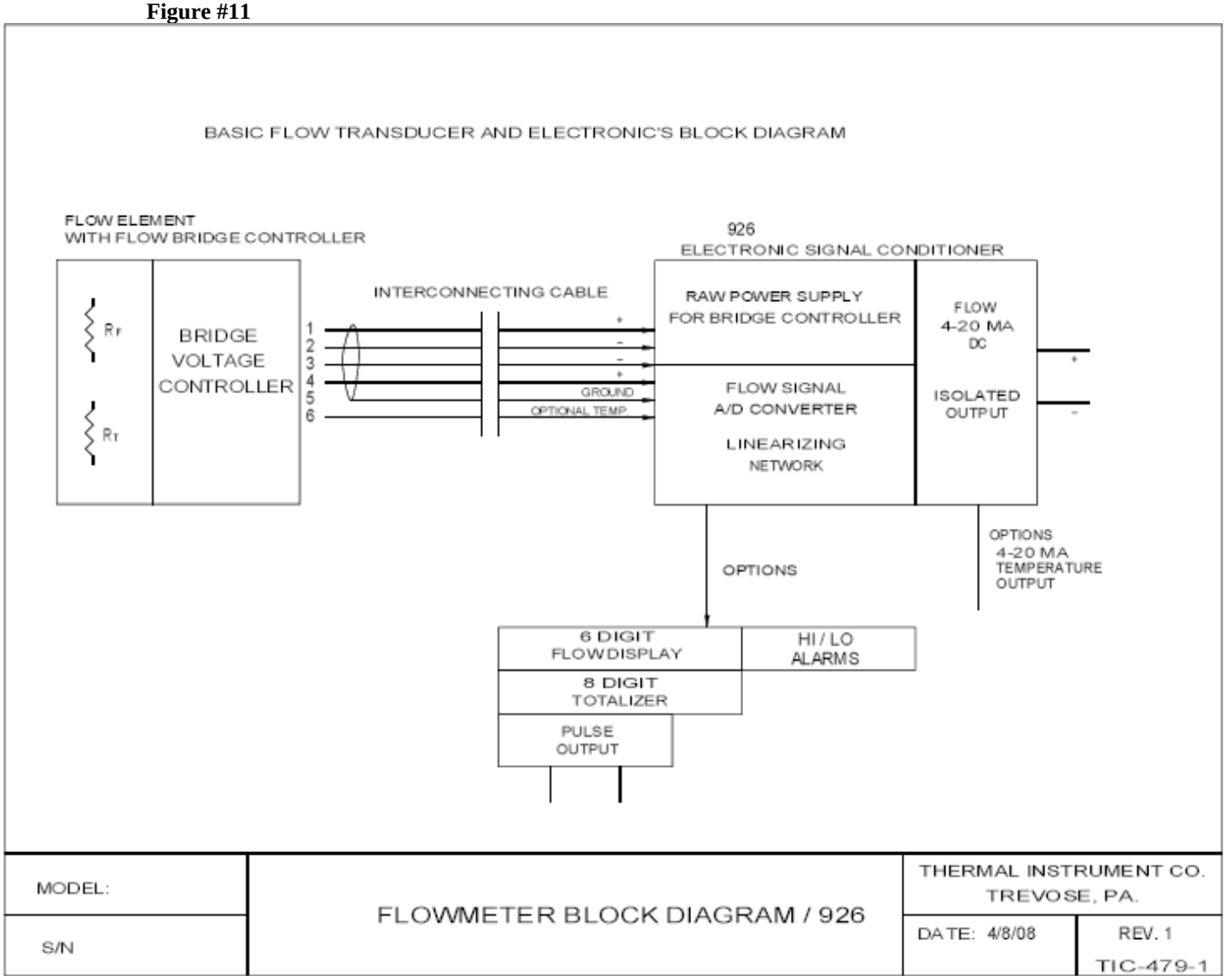

BASIC FLOW TRANSDUCER AND ELECTRONIC'S BLOCK DIAGRAM
FLOW ELEMENT
WITH FLOW BRIDGE CONTROLLER
926
ELECTRONIC SIGNAL CONDITIONER
INTERCONNECTING CABLE
Rr
Rr
BRIDGE
VOLTAGE
CONTROLLER
1
2
3
4
5
6
+
-
-
+
GROUND
OPTIONAL TEMP.
RAW POWER SUPPLY
FOR BRIDGE CONTROLLER
FLOW SIGNAL
A/D CONVERTER
LINEARIZING
NETWORK
FLOW
4-20 MA
DC
ISOLATED
OUTPUT
+
-
OPTIONS
4-20 MA
TEMPERATURE
OUTPUT
OPTIONS
6 DIGIT
FLOW DISPLAY
HI / LO
ALARMS
8 DIGIT
TOTALIZER
PULSE
OUTPUT
MODEL:
S/N
FLOWMETER BLOCK DIAGRAM / 926
THERMAL INSTRUMENT CO.
TREVOSE, PA.
DATE: 4/8/08
REV. 1
TIC-479-1

Figure #12

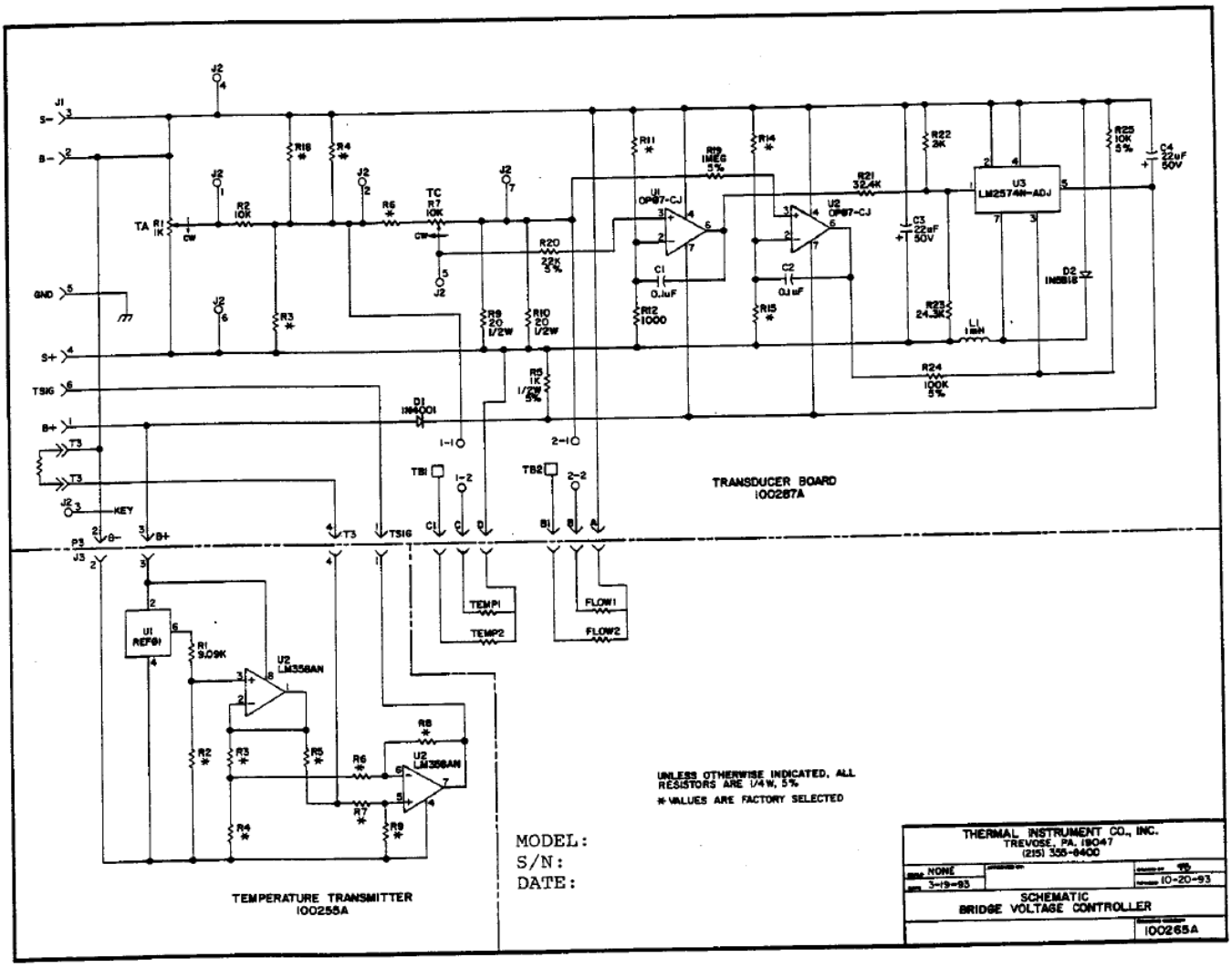
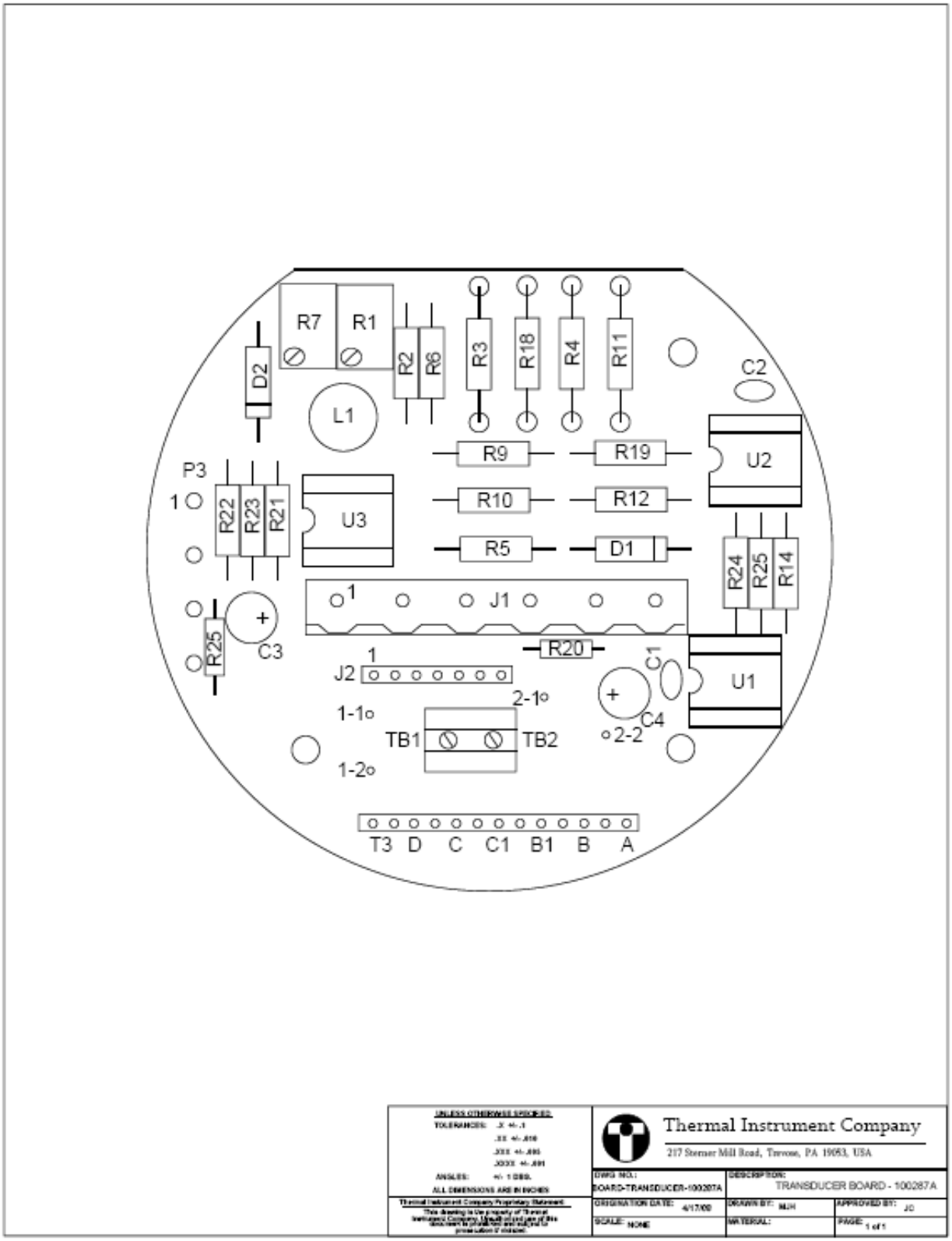

TRANSDUCER BOARD
100287A
TEMPERATURE TRANSMITTER
100255A
UNLESS OTHERWISE INDICATED, ALL RESISTORS ARE 1/4W, 5%
* VALUES ARE FACTORY SELECTED
MODEL:
S/N:
DATE:
THERMAL INSTRUMENT CO., INC.
TREVOSE, PA. 19047
(215) 355-8400
SCHEMATIC
BRIDGE VOLTAGE CONTROLLER
100265A

Figure #13


R7
R1
R2
R6
R3
R18
R4
R11
D2
L1
C2
R9
R19
U2
P3
1
R22
R23
R21
U3
R10
R12
R5
D1
R24
R25
R14
J1
R25
C3
R20
C1
J2
U1
2-1
1-1
TB1
TB2
C4
2-2
1-2
T3 D C C1 B1 B A
UNLESS OTHERWISE SPECIFIED
TOLERANCES: .X +/-.1
.XX +/-.010
.XXX +/-.005
.XXXX +/-.001
ANGLES: +/- 1 DEG.
ALL DIMENSIONS ARE IN INCHES
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Thermal Instrument Company
217 Sterner Mill Road, Trevose, PA 19053, USA
DWG NO.: BOARD-TRANSDUCER-100287A
DESCRIPTION: TRANSDUCER BOARD - 100287A
ORIGINATION DATE: 4/17/08
DRAWN BY: MJH
APPROVED BY: JD
SCALE: NONE
MATERIAL:
PAGE: 1 of 1