

**"OUTPUT ENABLE"**  
 a) "ON" WHEN INITIATION INPUT IS "ON".  
 b) STAYS "ON" AS LONG AS LD18 IS "ON".

**"OUTPUT ENABLE"**  
 (SIGNAL FROM CONTROL BOARD)  
 "ON" AFTER INITIATION DURING ALL STAGES OF THE RUNNING PROGRAM

**"ON" or "OFF" ACCORDING TO RUNNING PROGRAM.**

**"VALVE OUTPUT"**

SV1  
SV2  
SV3  
SV4

**"WATER SAVER VALVE"**

SWWS

a) TURNS "ON" WHEN LED18 TURNS "ON".  
 b) STAYS "ON" FOR 1 minute AFTER LED18 TURNS "OFF".

**"RELAY AT THE END OF THE RUNNING PROGRAM"**

EHR

**"RELAY AT THE MOMENT OF FAULT OCCURRENCE"**

MAJOR FAULT  
MINOR FAULT  
SPECIAL

UNITROL ELECTRONICS, INC.  
 782 LANDWEHR RD.  
 NORTHBROOK, ILL. 60062

POWER SUPPLY & I/O BOARD #90808-3  
 THE LED & NEON LAMP INDICATORS

Size Number # 1765  
 Date 81.06.88 Drawn by G.L.  
 File Name S24M.ED1.PCB Sheet 1 of 1

**LP1 ORANGE**  
**OUTPUT 115VAC**  
 (or 24VDC optional) WITH SPURIOUS OPERATION SAFETY  
 "ON" WHEN LD19 IS "ON"

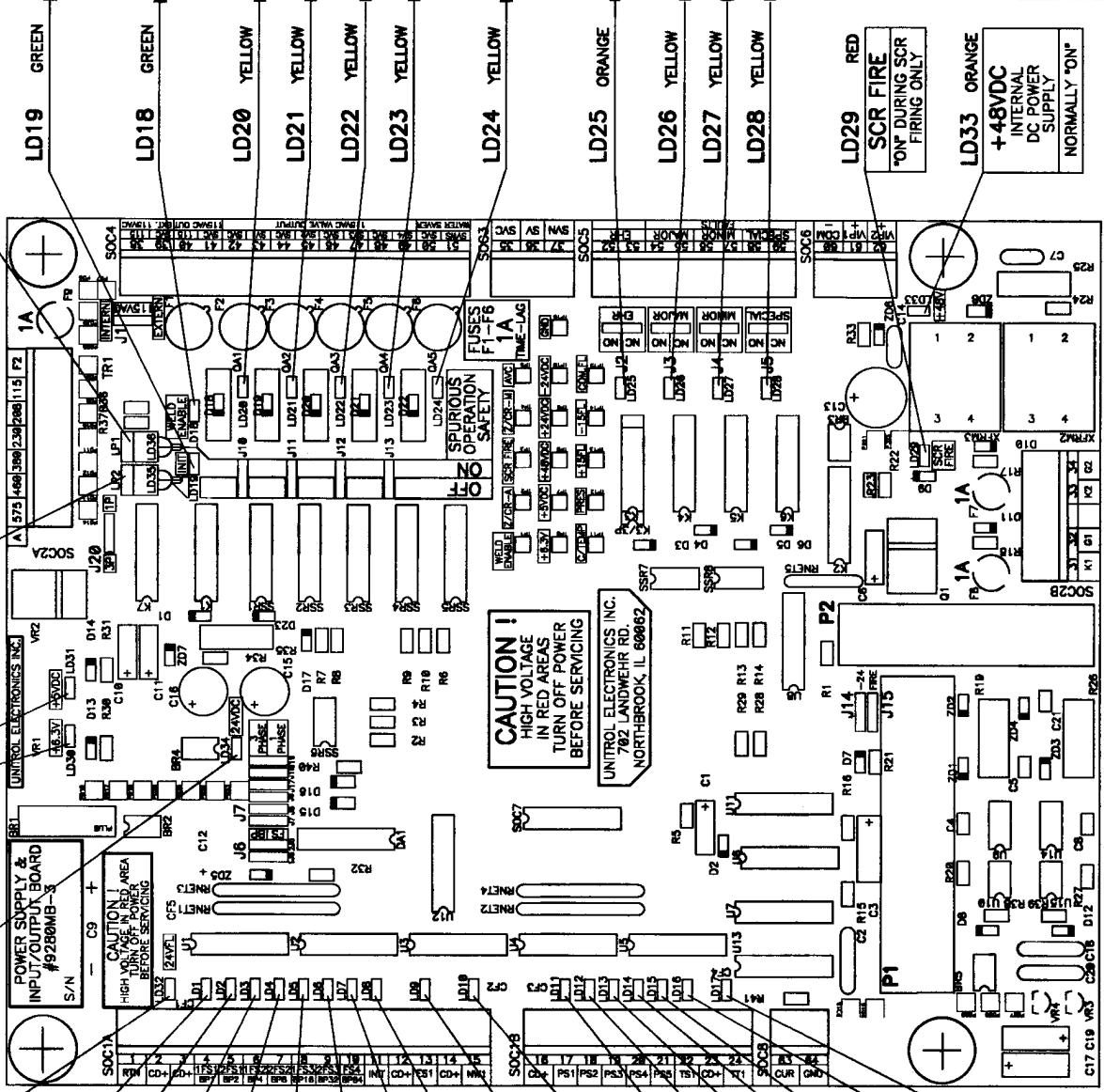
**LP2 ORANGE**  
**OUTPUT 115VAC**  
 (or 24VDC optional) WITHOUT SPURIOUS OPERATION SAFETY  
 a) TURNS "ON" WHEN LD18 TURNS "ON".  
 b) STAYS "ON" PERMANENTLY.  
 (TO TURN "OFF" - INITIATE "EM. STOP")

**LD31 ORANGE**  
**+5VDC**  
 INTERNAL DC POWER SUPPLY  
 NORMALLY "ON"

**LD30 ORANGE**  
**+6.3VDC**  
 INTERNAL DC POWER SUPPLY  
 NORMALLY "ON"

**LD34 ORANGE**  
**+/-24VDC**  
 INTERNAL DC POWER SUPPLY  
 NORMALLY "ON"

**LD32 ORANGE**  
**24 VDC ISOLATED**  
 INTERNAL DC POWER SUPPLY  
 NORMALLY "ON"



1FS1 or BP1  
2FS1 or BP2  
1FS2 or BP4  
2FS2 or BP8  
1FS3 or BP16  
2FS3 or BP32  
FS4 or BP64  
INIT

**INPUTS INITIATION GROUP**

"ON" WHEN INITIATED

ES1  
EMERGENCY STOP  
NW1  
NO WELD

**INPUTS "SAFETY" GROUP #1**  
 NORMALLY "ON"

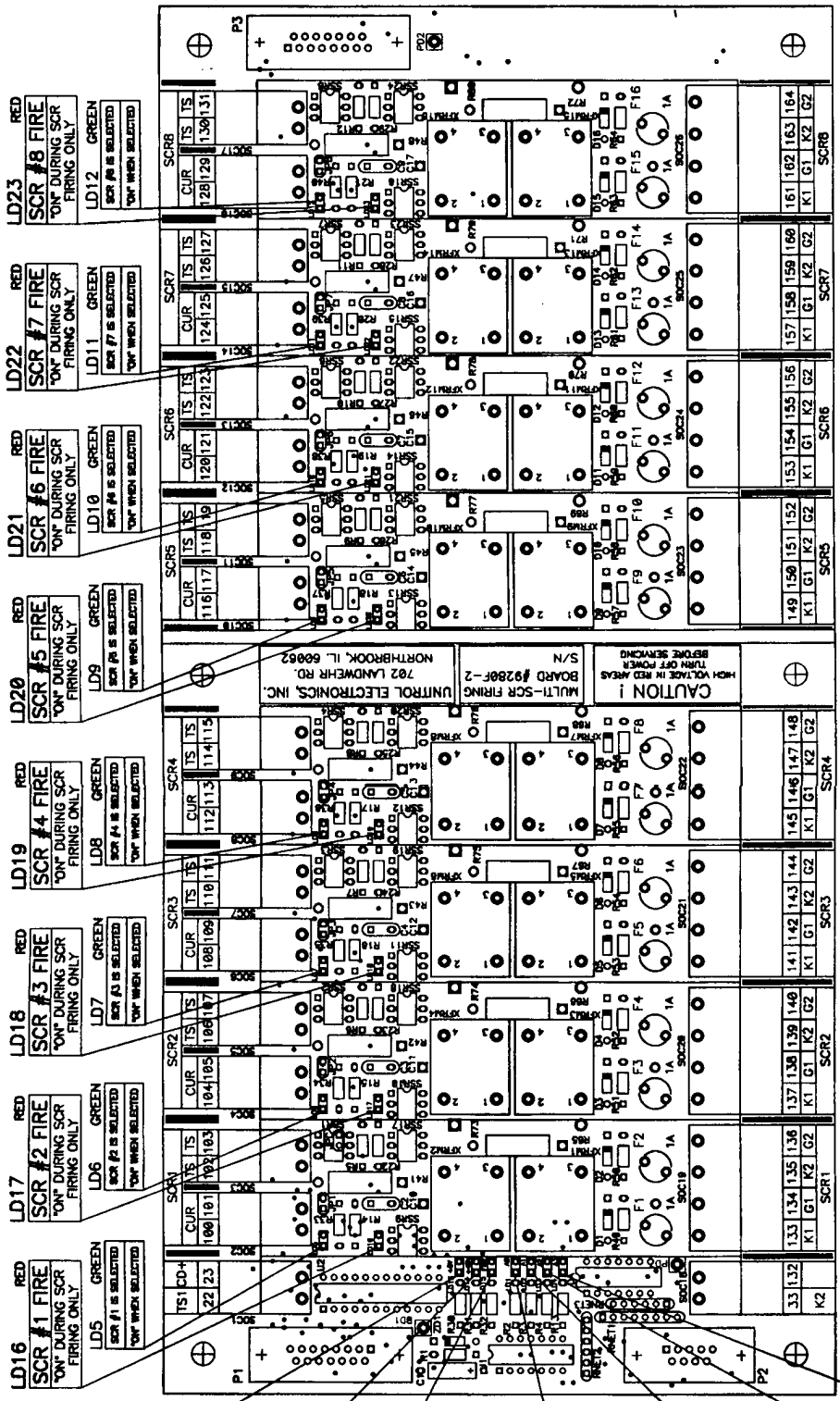
PS1  
PS2  
PS3  
PS4  
PS5

**INPUTS "WELDER STATUS SWITCHES"**

"ON" WHEN INITIATED

TS1  
SCR TEMP. SENSOR  
TT1  
WELD TRANSF. TEMP. SENSOR

**INPUTS "SAFETY" GROUP #2**  
 NORMALLY "ON"



**LD13** ORANGE  
+5VDC  
INTERNAL  
DC POWER  
SUPPLY  
NORMALLY 'ON'

**LD14** ORANGE  
+48 VDC  
INTERNAL  
DC POWER  
SUPPLY  
'ON' DURING SCR  
FIRING ONLY

**LD15** RED  
SCR FIRE  
'ON' DURING SCR  
FIRING ONLY  
(COMMON FOR ALL SCRs)

**LD1** GREEN  
SCR SELECTION  
BIT A0 (LSB) OF THE BINARY  
4-BIT ADDRESS  
'ON' WHEN A0 BIT VALUE IS '1'  
'OFF' WHEN A0 BIT VALUE IS '0'

**LD2** GREEN  
SCR SELECTION  
BIT A1 OF THE BINARY  
4-BIT ADDRESS  
'ON' WHEN A1 BIT VALUE IS '1'  
'OFF' WHEN A1 BIT VALUE IS '0'

**LD3** GREEN  
SCR SELECTION  
BIT A2 OF THE BINARY  
4-BIT ADDRESS  
'ON' WHEN A2 BIT VALUE IS '1'  
'OFF' WHEN A2 BIT VALUE IS '0'

**LD4** GREEN  
SCR SELECTION  
BIT A3 (MSB) OF THE BINARY  
4-BIT ADDRESS  
'ON' WHEN A3 BIT VALUE IS '1'  
'OFF' WHEN A3 BIT VALUE IS '0'

UNITROL ELECTRONICS, INC.  
782 LANDWEHR RD.  
NORTHBROOK, ILL. 60062

MULTI-SCR FIRING  
BOARD #9280F-2  
S/N

CAUTION!  
HIGH VOLTAGE IN RED AREAS  
BEFORE SERVICING

**LP1** ORANGE  
**OUTPUT 115VAC**  
 WITHOUT SPURIOUS OPERATION SAFETY  
 a) TURNS "ON" WHEN LD19 TURNS "ON".  
 (LD19 IS POSITIONED ON POWER SUPPLY & I/O BOARD).  
 b) STAYS "ON" PERMANENTLY.  
 (TO TURN "OFF" - INITIATE "EM. STOP")

**DS9** ORANGE  
 +24VDC  
 INTERNAL  
 DC POWER  
 SUPPLY  
 NORMALLY "ON"

**DS11** ORANGE  
 +5VDC  
 INTERNAL  
 DC POWER  
 SUPPLY  
 NORMALLY "ON"

**LD10** RED  
 VALVE SV6  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD9** RED  
 VALVE SV5  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD12** RED  
 VALVE SV8  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD11** RED  
 VALVE SV7  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD14 (OPTIONAL)** RED  
 VALVE SV10  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD13 (OPTIONAL)** RED  
 VALVE SV9  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

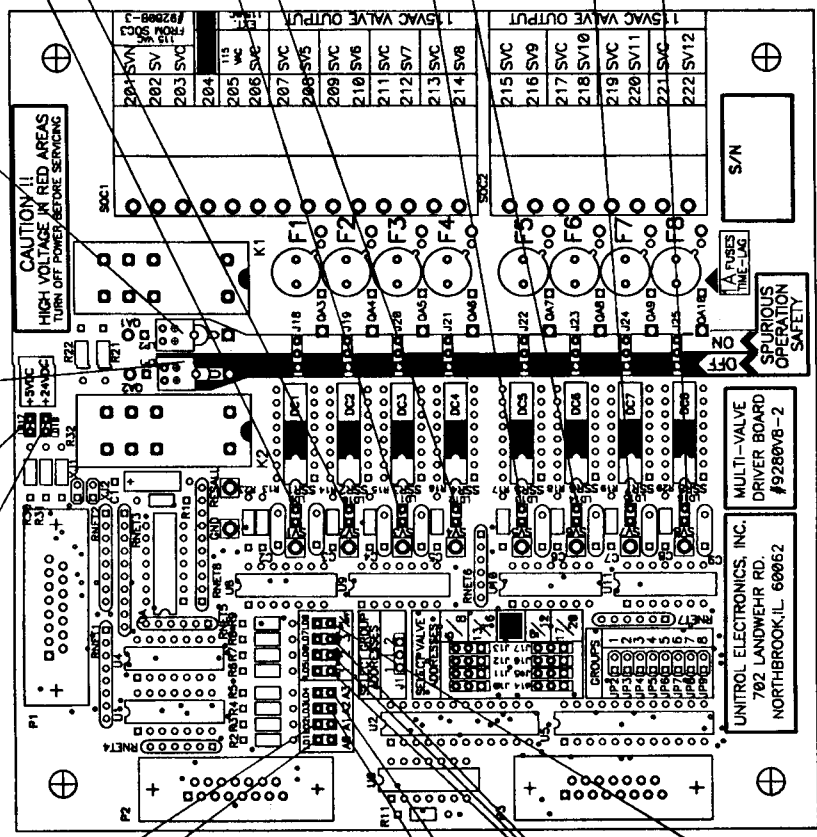
**LD16 (OPTIONAL)** RED  
 VALVE SV12  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD15 (OPTIONAL)** RED  
 VALVE SV11  
 OUTPUT 115VAC  
 "ON" WHEN VALVE IS "ON"  
 "OFF" WHEN VALVE IS "OFF"

**LD1** GREEN  
 VALVE SELECTION  
 BIT A0 (LSB) OF THE BINARY  
 4-BIT ADDRESS  
 "ON" FOR SHORT TIME IF  
 A0 BIT VALUE IS "1"  
 VALVE SV5 STATUS  
 (VALVES AND TRANSDUCERS  
 HAVE COMMON ADDRESS/DATA  
 MUXED BUS)  
 "ON" WHEN SV5 IS "OFF"  
 "OFF" WHEN SV5 IS "ON"

**LD3** GREEN  
 VALVE SELECTION  
 BIT A2 OF THE BINARY  
 4-BIT ADDRESS  
 "ON" FOR SHORT TIME IF  
 A2 BIT VALUE IS "1"  
 VALVE SV7 STATUS  
 (VALVES AND TRANSDUCERS  
 HAVE COMMON ADDRESS/DATA  
 MUXED BUS)  
 "ON" WHEN SV7 IS "OFF"  
 "OFF" WHEN SV7 IS "ON"

**LD5, LD6, LD7** RED  
 VALVE STATUS INITIATION  
 SELECTABLE BY GROUP ADDRESS  
 (AT PRESENT ALL VALVES  
 HAVE GROUP ADDRESS "1" AND  
 LDBLD7 ARE NOT USED)  
 "ON" DURING INITIATION PULSE  
 (THE "ON" PULSE MAY BE TOO SHORT  
 TO BE NOTICEABLE)  
**LD8** YELLOW  
 "ON"/"OFF" VALVE STATUS CONTROL SIGNAL  
 "ON" BEFORE ANY SV HAD TO BE TURNED "ON"  
 "OFF" BEFORE ANY SV HAD TO BE TURNED "OFF"



YELLOW

GREEN

GREEN

GREEN

ORANGE

ORANGE

ORANGE

ORANGE

RED

GREEN

GREEN

<b>LD5, LD6, LD7</b>	<p>PRESSURE TRANSDUCER OUTPUT STATUS INITIATION SELECTED BY GROUP ADDRESS (AT PRESENT ALL PRESSURE TRANSDUCERS HAVE GROUP ADDRESS "2" AND LD5, LD7 ARE NOT USED)</p> <p>"ON" DURING INITIATION PULSE (THE "ON" PULSE MAY BE TOO SHORT TO BE NOTICEABLE)</p>
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<b>LD14</b>	<p>+24VDC INTERNAL DC POWER SUPPLY</p> <p>NORMALLY "ON"</p>
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<b>LD8</b>	<p>"ON"/"OFF" PRESSURE TRANSDUCER OUTPUT STATUS CONTROL SIGNAL</p> <p>"ON" BEFORE ANY PRESSURE TRANSDUCER OUTPUT HAD TO BE TURNED "ON".</p> <p>"OFF" BEFORE ANY PRESSURE TRANSDUCER OUTPUT HAD TO BE TURNED "OFF".</p>
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<b>LD9</b>	<p>PRESSURE TRANSDUCER "1" IS SELECTED</p> <p>"ON" WHEN SELECTED</p>
<b>LD10</b>	<p>PRESSURE TRANSDUCER "2" IS SELECTED</p> <p>"ON" WHEN SELECTED</p>

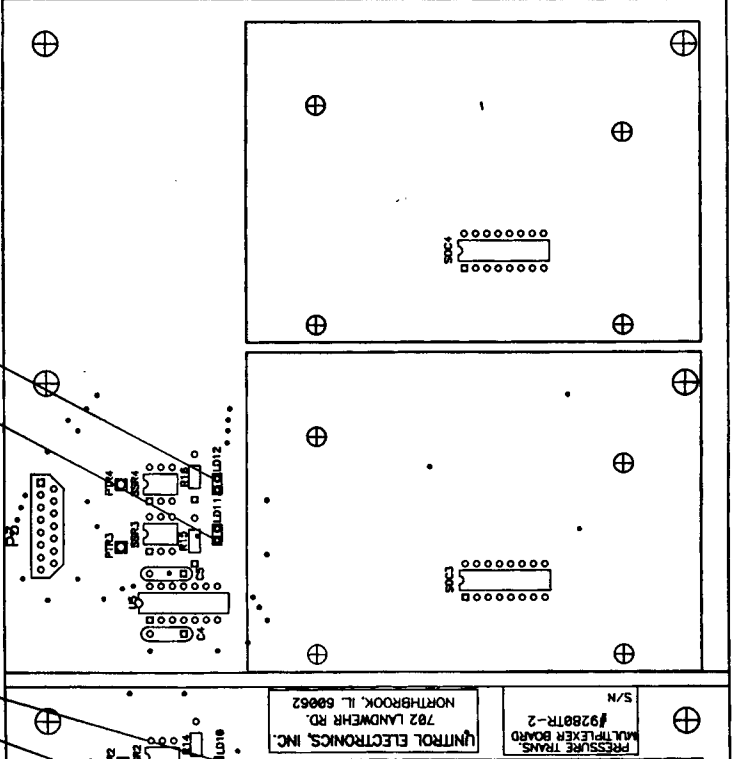
<b>LD11</b>	<p>PRESSURE TRANSDUCER "3" IS SELECTED</p> <p>"ON" WHEN SELECTED</p>
<b>LD12</b>	<p>PRESSURE TRANSDUCER "4" IS SELECTED</p> <p>"ON" WHEN SELECTED</p>

<b>LD1</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A0 (LSB) OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A0 BIT VALUE IS "1"</p> <p>VALVE SV5 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV5 IS "OFF"</p> <p>"OFF" WHEN SV5 IS "ON"</p>
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<b>LD2</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A1 OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A1 BIT VALUE IS "1"</p> <p>VALVE SV6 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV6 IS "OFF"</p> <p>"OFF" WHEN SV6 IS "ON"</p>
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<b>LD3</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A2 OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A2 BIT VALUE IS "1"</p> <p>VALVE SV7 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV7 IS "OFF"</p> <p>"OFF" WHEN SV7 IS "ON"</p>
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<b>LD4</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A3 (MSB) OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A3 BIT VALUE IS "1"</p> <p>VALVE SV8 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV8 IS "OFF"</p> <p>"OFF" WHEN SV8 IS "ON"</p>
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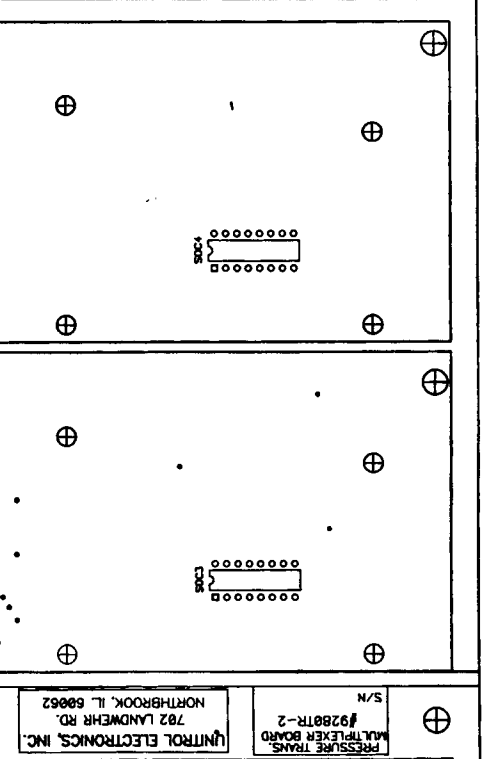


<b>LD1</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A0 (LSB) OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A0 BIT VALUE IS "1"</p> <p>VALVE SV5 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV5 IS "OFF"</p> <p>"OFF" WHEN SV5 IS "ON"</p>
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<b>LD2</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A1 OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A1 BIT VALUE IS "1"</p> <p>VALVE SV6 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV6 IS "OFF"</p> <p>"OFF" WHEN SV6 IS "ON"</p>
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<b>LD3</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A2 OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A2 BIT VALUE IS "1"</p> <p>VALVE SV7 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV7 IS "OFF"</p> <p>"OFF" WHEN SV7 IS "ON"</p>
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<b>LD4</b>	<p>PRESSURE TRANSDUCER SELECTION BIT A3 (MSB) OF THE BINARY 4-BIT ADDRESS</p> <p>"ON" FOR SHORT TIME IF A3 BIT VALUE IS "1"</p> <p>VALVE SV8 STATUS (VALVES AND TRANSDUCERS HAVE COMMON ADDRESS/DATA MIXED BUS)</p> <p>"ON" WHEN SV8 IS "OFF"</p> <p>"OFF" WHEN SV8 IS "ON"</p>
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UNITROL ELECTRONICS, INC.  
 702 LANDWEHR RD.  
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Title: PRESSURE TRANSDUCER MULTIPLEXER BOARD #9280TR-2  
 LED INDICATORS

Size: Number #1619-TR2  
 Date: 06.31.86  
 Drawn by: G.L.

Filename: PRESS.MAL.PCB Sheet 1 of 1