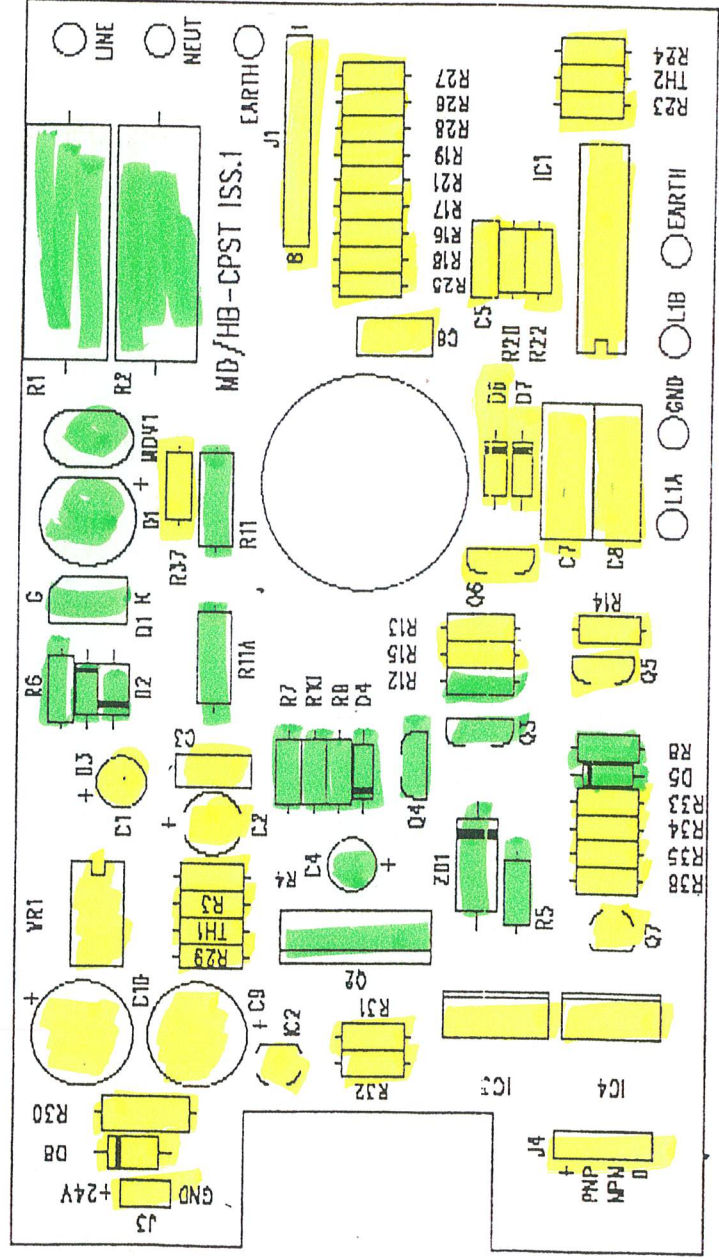


MODULE LAYOUT CAN BE BUILT AS

NO WIRE ZIGZAG OR ZIGZAG MEN AND OR ONLY FIT RELEVANT COMPONENTS

Reverse

**FITTED**  
**NOT FITTED**

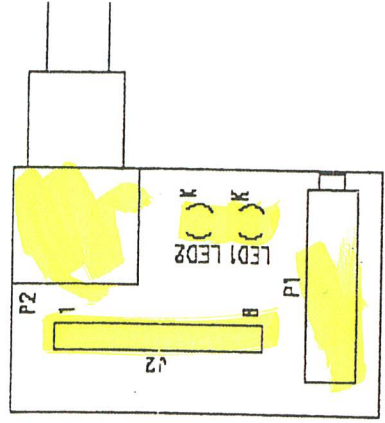


long range from

Blue



MD/HB-CPST ISS.1  
TOP SIDE LAYOUT



MATERIAL LIST

QTY.	DESIGNATION	DESCRIPTION	DWG. NO.	PART NO.	ITEM	P
1		BARE CIRCUIT BOARD	C-49173-001	49173-001	1	
			B-60314	60314-031	2	
			B-60301	60301-087	3	O
1	R4	RESISTOR 1/4W, 1%, RN60, 169K	B-60309	60309-023	4	
1	R29	RESISTOR 1/4W, 1%, RN60, 562K <i>RS 164-987</i>	B-60309	60309-073	5	
1	R3	RESISTOR 1/4W, 1%, RN60, 866K	B-60309	60309-091	6	
			B-60300	60300-301	7	N
1	R28	RESISTOR 1/4W, 5%, 150 OHMS	B-60300	60300-043	8	
2	R27,R15	RESISTOR 1/4W, 5%, 1K	B-60300	60300-063	9	
1	R21	RESISTOR 1/4W, 5%, 3.3K	B-60300	60300-075	10	
1	R23	RESISTOR 1/4W, 5%, 4.7K	B-60300	60300-079	11	M
1	R22	RESISTOR 1/4W, 5%, 10K	B-60300	60300-087	12	
3	R17,R18,R19	RESISTOR 1/4W, 5%, 22K	B-60300	60300-095	13	
1	R24	RESISTOR 1/4W, 5%, 18K	B-60300	60300-093	14	
1	R26	RESISTOR 1/4W, 5%, 47K	B-60300	60300-103	15	
1	R14	RESISTOR 1/4W, 5%, 51K <i>RS 148-900</i>	B-60300	60300-104	16	L
1	R16	RESISTOR 1/4W, 5%, 75K	B-60300	60300-108	17	
1	R13	RESISTOR 1/4W, 5%, 100K	B-60300	60300-111	18	
			B-60300	60300-123	19	
1	R25	RESISTOR 1/4W, 5%, 470K	B-60300	60300-127	20	
			B-60300	60300-135	21	K
1	R20	RESISTOR 1/4W, 5%, 510K <i>RS 149-155</i>	B-60300	60300-128	22	
1	TH1	THERMISTOR, MSC203K <i>RS 148-933</i>	A-47292	47292-010	23	
1	TH2	THERMISTOR, MSB103K <i>RS 148-927</i>	A-47292	47292-009	24	
			A-47288	47288-104	25	J
			A-57355	57355-264	26	
			A-47288	47288-081	27	
2	D6,D7	DIODE, 1N4148	A-47891	47891-065	28	
						I
1	C5	CAPACITOR, 470pF <i>RS 127-105</i>	B-60316	60316-173	29	
2	C7,C8	CAPACITOR, POLYPROPYLENE, .022/50 <i>22uF</i>	B-60316	60316-196	30	
1	C6	CAPACITOR, POLYCARBONATE, .1/50 <i>RS 115-</i>	B-60316	60316-224	31	
1	C3	CAPACITOR, .15/50	B-60316	60316-174	32	
1	C2	CAPACITOR, TANTALUM, 10/20	B-60316	47351-000	33	
1	C1	CAPACITOR, ELECTROLYTIC, 10/50	B-60316	60316-234	34	
			B-60316	60316-215	35	
2	C4,10	<i>22uF 63V 1000uS</i>				
			A-47289	47289-007	36	
			A-47293	47293-096	37	
2	Q5,Q6	TRANSISTOR, NPN, MPSA06	A-47293	47293-067	38	
1	IC1 <i>SEE OTHER SHEET</i>	TRANSISTOR ARRAY, CA3183	B-47277	47277-183	39	
1	VR1	VOLTAGE REGULATOR, TPS7101QP (8 PIN DIP)	A-47966	47966-019	40	
			A-47891	47891-004	41	F
0.5	JMP1,JMP2,JMP3 JMP4,JMP5	WIRE, INSULATED SOLID 22 AWG CUT AS NEEDED (ANY COLOR WILL DO)	-	820-101-00-22	42	E
1	LED1	LED T1 RED <i>3mm</i>	A-47288	47288-056	43	
1	LED2	LED T1 YELLOW <i>3mm</i>	A-47288	47288-055	44	
1	P1	POTENTIOMETER 10 TURN 20K	A-48915	48915-011	45	D
1	P2	POTENTIOMETER CERMET SINGLE TURN 5K	A-57468	57468-061	46	
1		PANEL MOUNT ADAPTER FOR 10 TURN POT	A-57468	57468-062	47	
1		8 COND. FLAT JUMPER CABLE .1" PITCH 6" LNG	A-48806	48806-005	48	
2		INSULATING TUBING .047" ID 1/2" LONG	A-57304	57304-012	49	C

EE NOTES  
6

SCORE LINE

E  
OF R29.  
(LONGEST)

THE

48)

ID J2.

C-49173-100

ALSO FIT ADDITIONAL  
COMPONENTS ON NEXT PAGE

MATERIAL LIST CONTINUED. (24VDC NPN/PNP)

R30	100Ω 0.5W	RS 169-644
R31	2K 1/8W 1% $\frac{1}{4}$ W	
R32	270R 1/8W 1% $\frac{1}{4}$ W	
R33	22K 1/8W 1% $\frac{1}{4}$ W	
R34	22K 1/8W 1% $\frac{1}{4}$ W	
R35	22K 1/8W 1% $\frac{1}{4}$ W	
R36	22K 1/8W 1% $\frac{1}{4}$ W	
R37	2K7 1/4 W	
C9	22 $\mu$ F 63V LOW ESR (LOW IMPEDANCE)	
- C10	22 $\mu$ F 63V LOW ESR (LOW IMPEDANCE)	
D8	1N4001 or 1N4002	
Q7	BC 337	
IC2	LM317LZ	TO92 PACKAGE RS <del>303177</del> <sup>533-3711</sup>
IC3	NJM 3548TA2	RS <del>657-167</del>
IC4	PBD 3545-1	RS <del>657-151</del>
- P1	20k 10 Turn POT $\frac{3}{4}$ "	RS 162-243
P1	Power mount ADAPTOR	RS 855-305
P2	5k Curves POT 1 Turn	RS 484-8569
	POT CLAMPS for 5k POT	RS 509-316
TH1	MSC 203k	RS 148-933
TH2	MSC 103k	RS 148-927
C1	10 $\mu$ F 35V AL ELEC	RS 208-671
C2	10 $\mu$ F 25V TANT BEAD	RS 200-6088
C3	100nF 50V or 63V Polyester	RS 114-860