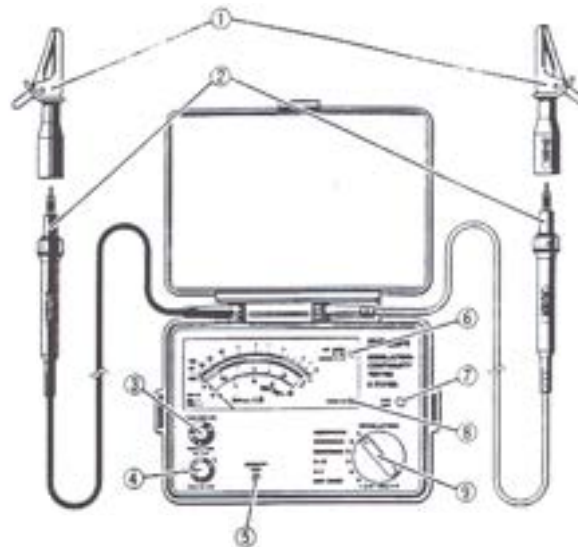


K3131DL

SERVICE INFORMATION

K3131DL

INSULATION-CONTINUITY TESTER



- ① Crocodile Clip ② Prod
- ③ Ohms Zero Adjust ④ Test Button
- ⑤ Meter Movement Zero Adjust
- ⑥ Live Circuit Warning Lamp
- ⑦ Light Switch ⑧ Power-on Indication Lamp
- ⑨ Range Switch

	Components of the product supplied. Description.	Visually inspect for clean unmarked appearance and for the following.
1.	K3131DL Insulation-Continuity Tester.	Calibration accuracy within the Lo and Hi 70% limits detailed on page 2. Operational integrity.
2.	SL20 Test Leads c/w Snap-fit Crocodile Clips tied together.	Electrical continuity.
3.	Black Test Lead Pouch.	Correct Pouch.
4.	Certificate of Conformity.	Standard Robin form with correct serial number.
5.	Instruction Manual.	Correct Instruction Manual.
6.	Warranty Registration Card.	Standard Robin Warranty Registration Card.
7.	Carrying Strap in clear stapled bag.	Correct strap.
8.	Shoulder Pad.	Correct Shoulder Pad with Robin logo.
9.	Assembly instruction sheet for Carrying Strap and Shoulder Pad.	Correct instructions.
10.	6x R6 1.5V Alkaline Batteries.	Correct type.
11.	2x sheets of bubble-wrap packing material.	
12.	Carton.	Correct carton with current address, logos and references.

K3131DL Insulation-Continuity Tester

Range	Reading	Tol +/-	Lo Limit	Hi Limit	Lo 70%	Hi 70%	Minimum Output	
Insulation *	+/- 5% of indicated value							
250V/100MΩ	0.250 kΩ	0.013	0.237	0.263	0.241	0.259	250V	1.000mA
	0.500 kΩ	0.025	0.475	0.525	0.483	0.518		
	1.000 MΩ	0.050	0.950	1.050	0.965	1.035		
500V/200MΩ	0.250 kΩ	0.013	0.237	0.263	0.241	0.259	500V	1.000mA
	0.500 kΩ	0.025	0.475	0.525	0.483	0.518		
	1.000 MΩ	0.050	0.950	1.050	0.965	1.035		
1000V/400MΩ	0.250 kΩ	0.013	0.237	0.263	0.241	0.259	1000V	1.000mA
	0.500 kΩ	0.025	0.475	0.525	0.483	0.518		
	1.000 MΩ	0.050	0.950	1.050	0.965	1.035		
Continuity *	+/- 3% of scale length							
x1	0.200 Ω	0.006	0.194	0.206	0.196	0.204		200mA
	0.500 Ω	0.015	0.485	0.515	0.490	0.511		
	1.000 Ω	0.030	0.970	1.030	0.979	1.021		
x10	10.00 Ω	0.30	9.70	10.30	9.79	10.21		

* These Readings are illustrative only, they will vary according to the TX8000 Calibrator employed. Limits are individually calculated using the specification.

Authorised



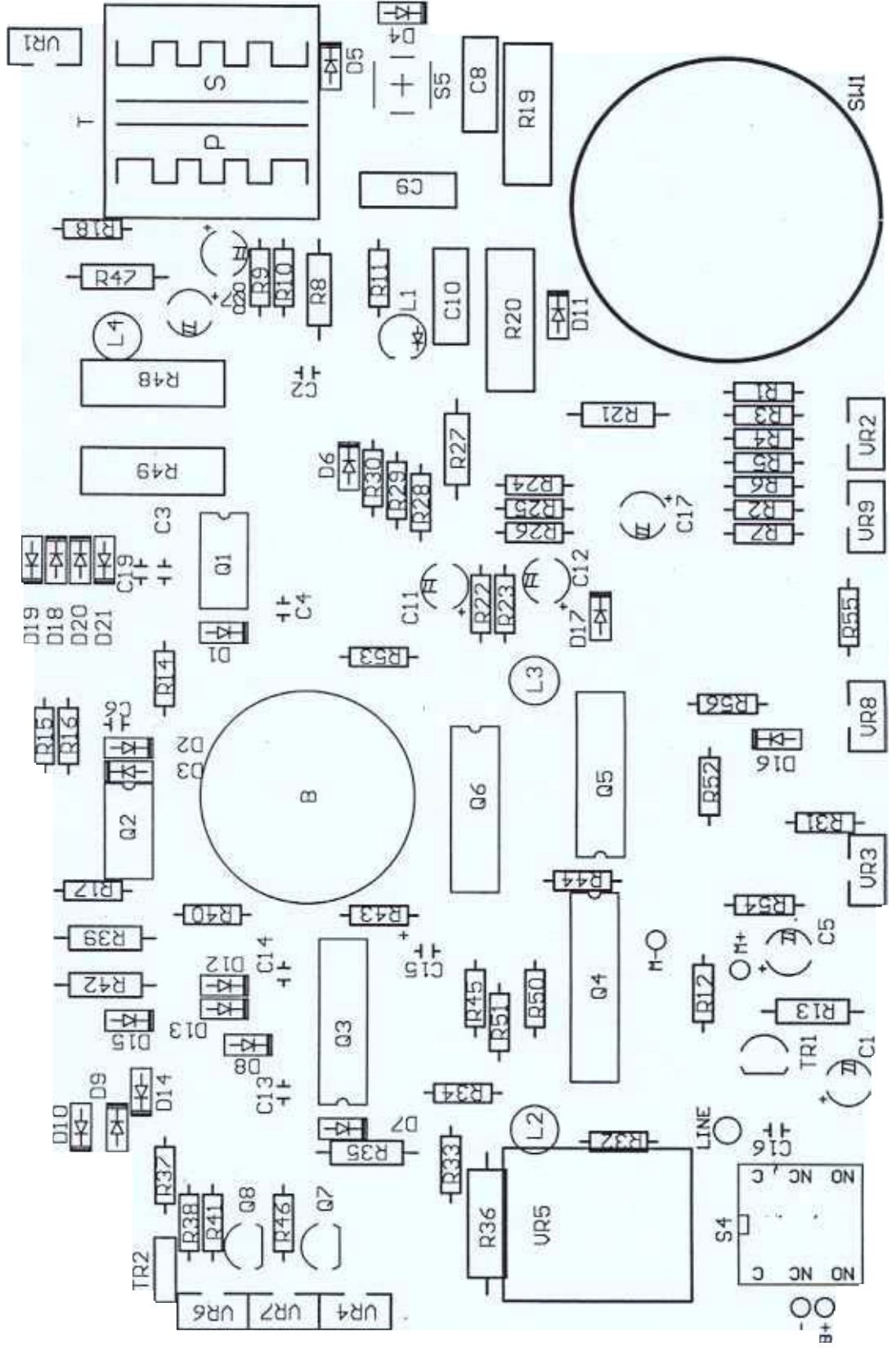
Service Manager

Date

11/11/99

MODEL 313 50 355B

REEN	



承認	8.10.31	井上	96.10.29	小玉
検図	96.10.30	井上	96.10.29	小玉
検図	96.10.30	井上	96.10.29	小玉
検図	96.10.30	井上	96.10.29	小玉

承認
検図
検図
検図



Calibration Procedures for Model 3131 Analogue Insulation Tester
(for corrected units with P.C.B. No.00-1755J as currently supplied.)

1. Output Voltage Calibration

Set the 3131 to 1000V/400M ohm range, ammeter to 200uA range and resistance box to 10M ohm. Using variable resistor VR 7, adjust output voltage so that the ammeter reads 105.0-106.0uA.

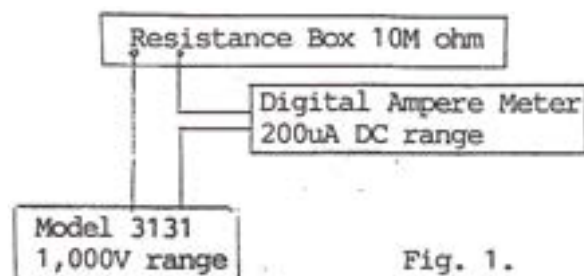


Fig. 1.

2. Mid-Scale Calibration

With the resistance box set to 4M ohm, adjust VR 5 so that the meter pointer moves to mid-scale.

3. Output Voltage Calibration for 1000V/400M ohm Range at 1M ohm load.

Set the resistance box and ammeter shown in Fig. 1 to 1M ohm and 2mA respectively. Adjust VR 1 so that output current becomes 1.01mA to 1.03mA.

4. Zero Adjustment

With the resistance box set to 0 ohm, adjust VR 6 so that the meter pointer rests at the zero position.

5. Checking Mid-Scale

Zero adjustment as outlined in section 4 causes errors at mid-scale. Repeat steps 2 and 4 until zero and mid-scale points are calibrated as required.

6. Checking 0.2 & 0.5M ohm Points on Meg ohm Scale

Check above two points. If in error, they must be calibrated using VR 9. When VR 9 is adjusted, both zero and mid-scale points go out of calibration. Follow steps 2, 4 and 6 in that order until zero and mid-scale points are calibrated.

7. Ohm Range Calibration

Use VR 4 for ohm range calibration.

8. Infinity (∞) Adjustment on Ohm Range

Use VR 3 for infinity adjustment.

Note: As you will see from the PCB layout drawing No. 50-1221D,
VR 9 was added for linearity adjustment.

Normally, battery check calibration is not required.

= E N D =

回路図 部品表

MODEL 3131

部品No	図面番号・記号	品名	規格	数	
	Q1	IC	IR3M03A	1	
	Q2	"	NJM2904D	1	
	Q3	"	NJM2902N	1	
	Q4	"	μ PD4052BC	1	
	Q5.6	"	μ PD4066C	2	
	Q7.8	"	NJM78L02A	2	
	TR1	FET	2SK679	1	
	TR2	トランジスタ	2SB744	1	
	D1	ダイオード	(7:1 \rightarrow) WZ090	1	
	D2.3.6.7.8	"	(シリコン) 1N4448	5	
	D12~15.18~21	"	(") 1N4448	8	
	D4.5.11	"	(") TFR-1T	3	
	D9	"	(") 1N4007	1	
	D10	"	(") 1N4003	1	
	D16.17	"	(7:1 \rightarrow) HZ5C-2	2	
	C1	コンデンサー	(電解) 470 μ F 16V	1	
	C2	"	(マイ) 0.022 μ F 50V	1	
	C3	"	(積層セラ) 0.1 μ F 50V	1	
	C4	"	(マイ) 0.001 μ F 50V	1	
	C5	"	(電解) 10 μ F 50V	1	
	C6	"	(MKT) 0.22 μ F 63V	1	
	C7.11.12.15	"	(電解) 1 μ F 50V	4	
	C8.9.10	"	(MF) 0.047 μ F 630V	3	
	C13	"	(マイ) 0.01 μ F 50V	1	
	C14	"	(セラミック) 1000PF 50V	1	
	C16	"	(セラミック) 0.003 μ F 2kV	1	
	C17	"	(電解) 2.2 μ F 50V	1	
	C19	"	(積層セラ) 0.47 μ F 50V	1	①
	C20	"	(電解) 10 μ F 50V	1	①

規格番号 00-1882

改訂番号

D

ページ

1/3

共立電気計器株式会社

部品No	図面番号・記号	品名	規格	数	
	R1~7	抵抗	(カーボン)1/4WJ 100k	7	
	R8	"	(金皮) 1/2WJ 0.2Ω	1	
	R9	"	(カーボン)1/4WJ 180Ω	1	
	R10	"	(カーボン)1/4WJ 200Ω	1	
	R11	"	(カーボン)1/4WJ 390Ω	1	
	R12.34.41.43.45	"	(カーボン)1/4WJ 10k	5	
	R13	"	(カーボン)1/2WJ 2.7M	1	
	R14	"	(金皮) 1/4WF 10k	1	
	R15	"	(金皮) 1/4WF 40.2k	1	
	R16.22	"	(金皮) 1/4WF 56k	2	
	R17	"	(金皮) 1/4WF 27k	1	
	R18	"	(金皮) 1/4WF 1.5k	1	
	R19.20	"	(SPR) 3WJ 100k	2	
	R21	"	(メタール)1/2WF 19.6M	1	
	R23	"	(金皮) 1/4WF 91k	1	
	R24.50	"	(金皮) 1/4WF 47k	2	
	R25.26	"	(金皮) 1/4WF 24k	2	
	R27	"	(メタール)1/2WF 20M	1	
	R28	"	(金皮) 1/4WF 49.9k	1	
	R29.30	"	(金皮) 1/4WF 24.9k	2	
	R31	"	(金皮) 1/4WF 11k	1	
	R32	"	(金皮) 1/4WF 300Ω	1	
	R33	"	(金皮) 1/4WF 6.8k	1	
	R35	"	(SPR) 1WJ 10k	1	
	R36	"	(巻線) 1WF 3.9Ω	1	
	R37	"	(カーボン)1/4WJ 1k	1	
	R38	"	(カーボン)1/4WJ 3.6k	1	
	R39	"	(金皮) 1/2 WF 180k	1	BA
	R40	"	(金皮) 1/4WF 20k	1	B
	R42	"	(SPR) 1WJ 10k	1	A
	R44	"	(金皮) 1/4WF 9.09k	1	
	R46	"	(金皮) 1/4WF 2k	1	
	R47	"	(SPR) 1WJ 510k	1	
	R48.49	"	(SPR) 3WJ 51k	2	
	R51	"	(金皮) 1/4WF 10k	1	*cal.
	R52	"	(金皮) 1/4WF 20k	1	

部品No	図面番号・記号	品名	規格	数	
	R53	抵抗	(SPR) 1/2WJ 510Ω	1	
	R55.56	"	(ジ・ソノ・) 1.4W 0Ω	2	
	R51	cal. 抵抗	(金皮) 1.4W 9.8k 9.09k	1	Ⓒ
	R54	"	(金皮) 1.4W 10k 40.2k	1	Ⓒ
	VR1	半固定抵抗	KVSP639A B-500Ω	1	
	VR2	"	KVSP639A B- 1M	1	
	VR3.7	"	KVSP639A B- 2k	2	
	VR4	"	KVSP639A B- 10k	1	
	VR5	※テフソマー	Y012LPV30KS B- 10k	1	
	VR6	半固定抵抗	KVSP639A B- 5k	1	-
	VR8	"	KVSP639A B- 20k	1	
	VR9	"	KVSP639A B- 1k	1	
	L1	LED	GL5AR2	1	
	L2.3	ランプ	RM5-6.3V50	2	
	L4	ネオン管	NE-1M	1	
	T 65-1110	トランス	028-25-008-2K-G-05	1	
	B	ブザー	CB24PA	1	
	FUSE	ヒューズ	0.5A/250V520HP [Ⓒ] 認定	1	
	SW1.2.3	ロータリースイッチ	KMP5404	1	
	SW4	プッシュスイッチ	8R2022	1	
	SW5	タクトスイッチ	SKHHBS	1	
	BATT.	電池	SUM-3	6	