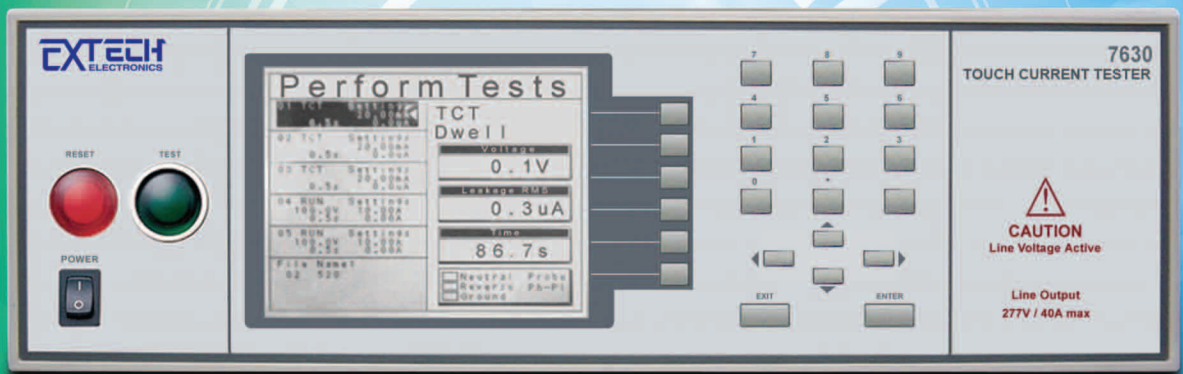


# 7630 全功能接触电流测试仪

全自动测试，组合性强，兼具大功率负载  
量测能力，及便利的测试资料收集功能



## 产品特点:

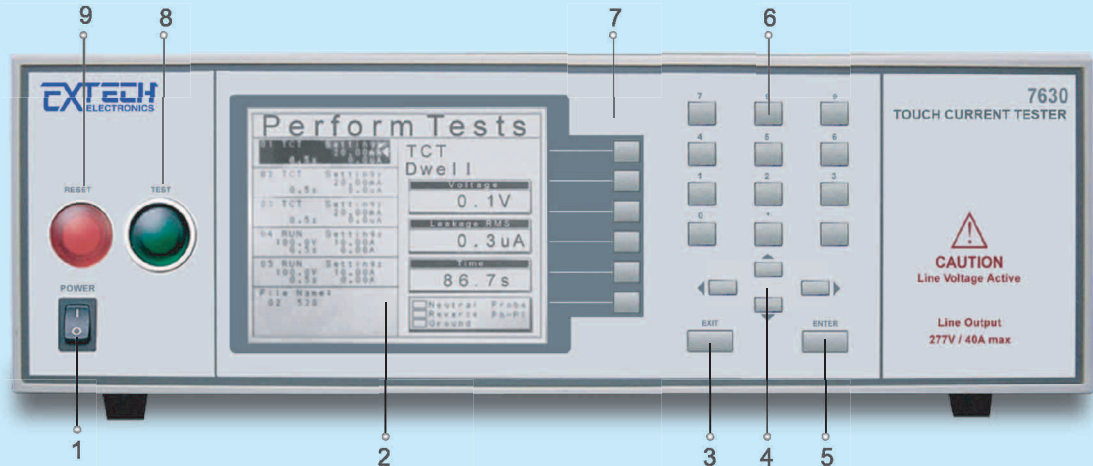
- 内建七组 MD,且可外扩一组 MD
- 量测频宽 DC ~ 1MHz
- 10KVA / 40A 负载可直接量测
- 模拟多种接触电流测试状态
- 选配 75mApeak / 35mArms 量测范围
- 选配 USB - A 测试资料收集功能
- 50 个记忆组，每组 30 个测试步骤

## 产品描述

全新开发7630 全功能接触电流测试器，其内建标准七组人体模拟阻抗模型 Measuring Device (MD)，基本涵盖了绝大部份安规标准MD要求。除了满足IEC60990接触电流量测方法的要求，也符合全新安规标准接触电流测试规范：如医疗器具 (IEC60601-1) 对地漏电流测试、外壳漏电流测试、患者漏电流测试及患者辅助漏电流测试的要求，资讯产品 (IEC60950-1) 的测试标准、家用电器 (IEC60335-1) 的测试标准、音视频产品 (IEC60065) 测试标准…等。另外还提供一组外接 MD 方便客户扩充使用，以因应非常特殊标准要求。此外，还可选择量测接触电流为有效值(RMS)或峰值(Peak)，量测频宽从DC~1MHz，且 MD 透过 BNC 量测端子，可外接示波器或电压表方便对漏电流进行分析。7630 全功能接触电流测试器可直接测试大功率负载 (Max.10KVA / 40A) 的接触电流，同时，仪器可以模拟多种安规标准中要求接触电流测试状态，使得测试过程快捷、准确。

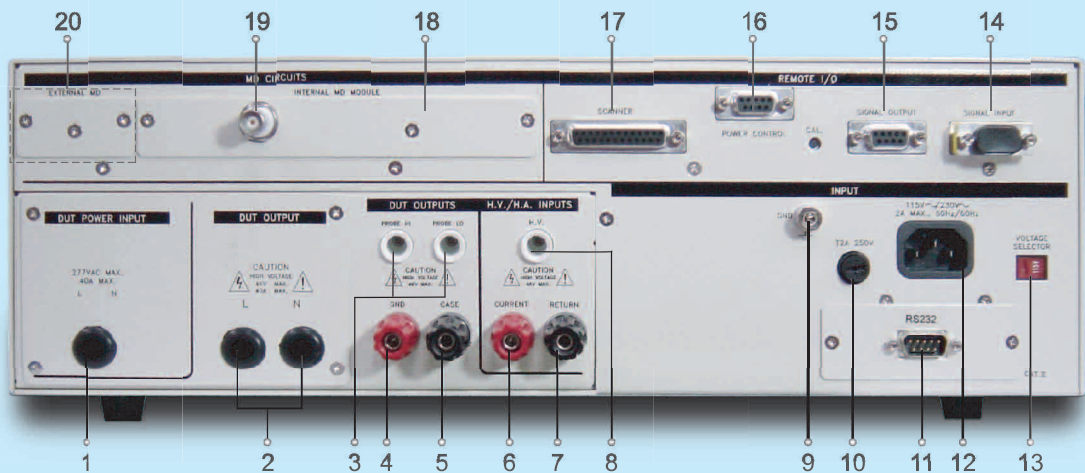
## 面版简易说明

7630 正面:



- |                              |                |             |
|------------------------------|----------------|-------------|
| 1. POWER 输入电源开关              | 4. CURSOR 方向按键 | 7. 功能选择键    |
| 2. 320 x 240 Graphic LCD 显示器 | 5. ENTER 键     | 8. TEST 开关  |
| 3. EXIT 键                    | 6. 数字键         | 9. RESET 开关 |

7630 背面: (含选配)



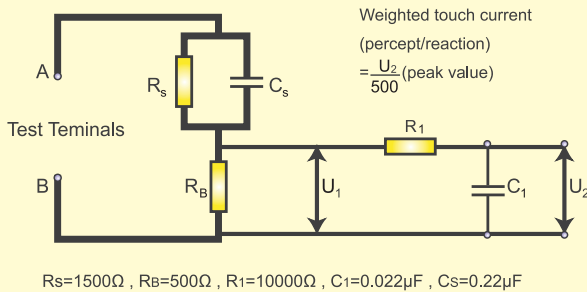
- |                         |                      |                        |
|-------------------------|----------------------|------------------------|
| 1. 被测物电源供应端子            | 8. H. V. 端子          | 15. SIGNAL OUTPUT 端子排  |
| 2. 输出至被测物 L/N 端子        | 9. 接地端子              | 16. POWER CONTROL 端子   |
| 3. PROBE HI/PROBE LO 端子 | 10. 保险丝座             | 17. SCANNER 端子         |
| 4. GND 端子               | 11. INTERFACE 装置     | 18. 内部七个标准 MD 模组       |
| 5. CASE 端子              | 12. 输入电源座            | 19. MD 输出讯号(外接示波器/电压表) |
| 6. CURRENT 端子           | 13. 输入电压选择开关         | 20. 外部扩充 MD            |
| 7. RETURN 端子            | 14. SIGNAL INPUT 端子排 |                        |

## 产品特点和优势

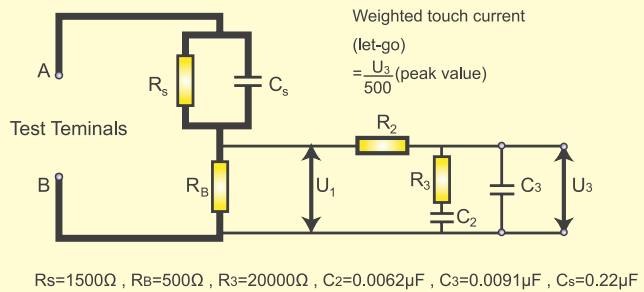
- 内建 7 组 MD，且可外扩一组 MD
  - 一台仪器就可以满足多种安规标准的测试要求
- 可选配 IEC60065 最大接触电流量测
  - 最大峰值 75mA<sub>peak</sub> / 有效值 35mA<sub>rms</sub>
- 量测频宽 DC~1MHz
  - 完全符合 IEC 标准的量测规定
- 可直接测试大功率负载的接触电流
  - 最大容量 10KVA / 40Arms，启动瞬间可承受 250A<sub>peak</sub> 不作切断保护
- 可以直接验证仪器内部 MD 线路
  - 符合 IEC60990 要求，直接验证 MD 线路
- MD 具有外接 BNC 端子
  - 可外接电压表或示波器，方便对漏电流进行分析
- 模拟多种接触电流测试状态
  - 自动完成测试状态，不用人工切换测试开关
- GPIB or RS232 通讯界面
  - 提供多种控制界面，方便客户使用
- 多功能界面卡
  - 内建 USB-A 界面，可储存 10 万测试资料，方便客户进行资料的收集
- 可选配产品电气性能 (RUN) 测试模组
  - 可量测功率 / 电压 / 电流 / 功率因数
- 可与华仪电子其他安规测试器连结
  - 组成安规六合一测试系统
  - ACW / DCW / IR / GB / RUN & TC (LLT)
- 超大型 320 x 240 Graphic LCD
  - 可同时显示量测电压/接触电流及测试时间
- 50 个记忆组，每组 30 个测试步骤
  - 可以设定产品的类别及测试条件，提高测试效率
- 保护密码设定
  - 当密码设定後可以限制使用者操作权限，防止误操作

## 内建七个人体模拟阻抗模型 (MD)，且可扩充一组

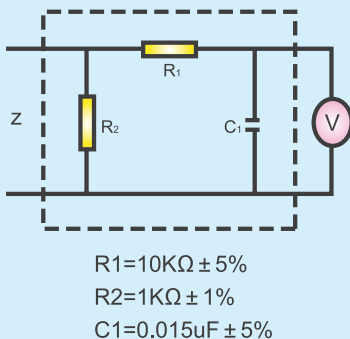
MD1=IEC60990 Fig4 U<sub>1</sub> & U<sub>2</sub>, IEC60950-1



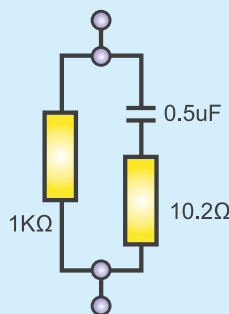
MD2=IEC60990 Fig5 U<sub>1</sub> & U<sub>3</sub>, IEC60598-1



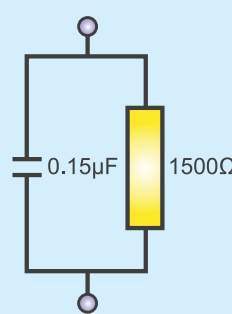
MD3=IEC60601-1



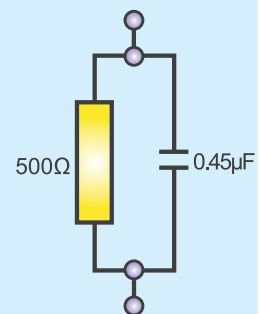
MD4=UL544P



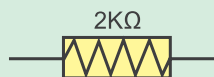
MD5=UL544NP



MD6=UL1563



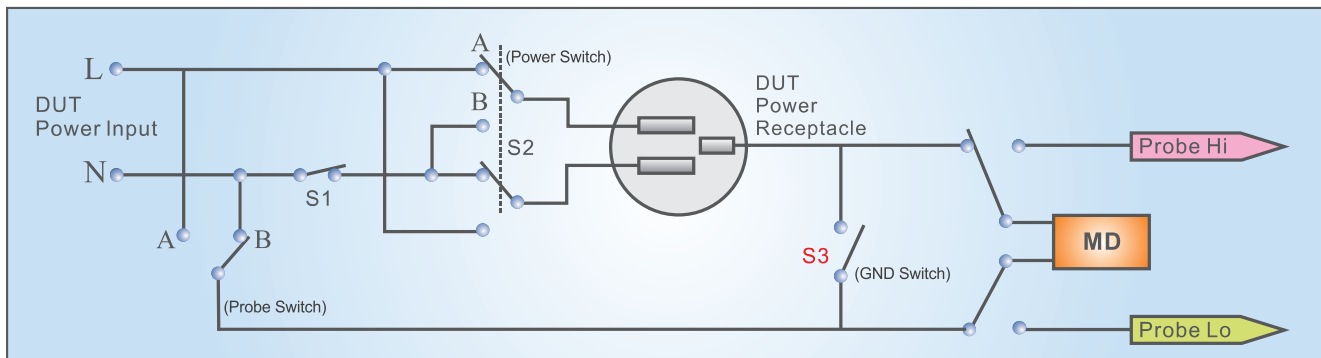
MD7=IEC60950-1 (Limit Values) (For RUN Test)



External MD (Option)



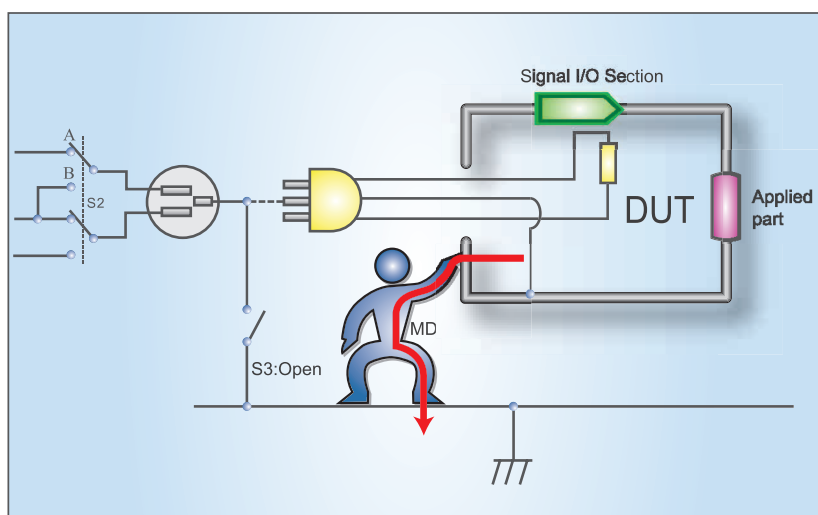
上述人体模拟阻抗模型，基本涵盖了目前通用的 IEC、UL 等标准，包括 IT、家用电器、医疗设备、音频视频产品、灯具、电动工具等。對於特殊的其他标准，可以通过外接 MD 方式使用。



泄漏电流测试

◆ 对地漏电流 (Earth Leakage Current), G-L

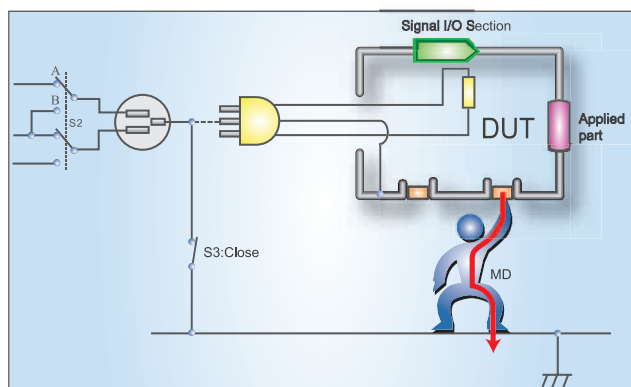
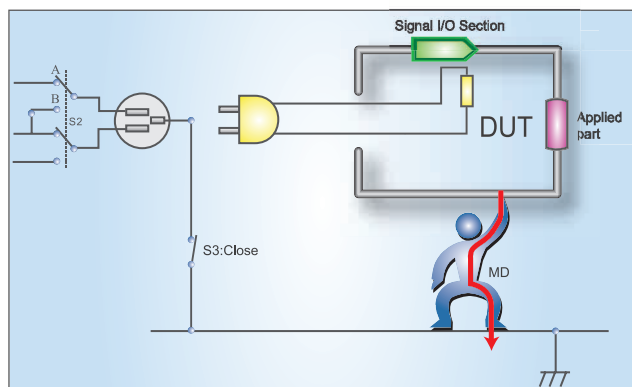
对地漏电流测试主要是针对 Class I 的产品，模拟当接地保护导体 (Protective Conductor) 到接地线断路时，经由人体流到地 (GND) 产生的漏电流。



◆ 表面对地漏电流 (Surface to Line Leakage Current), P<sub>H-L</sub>

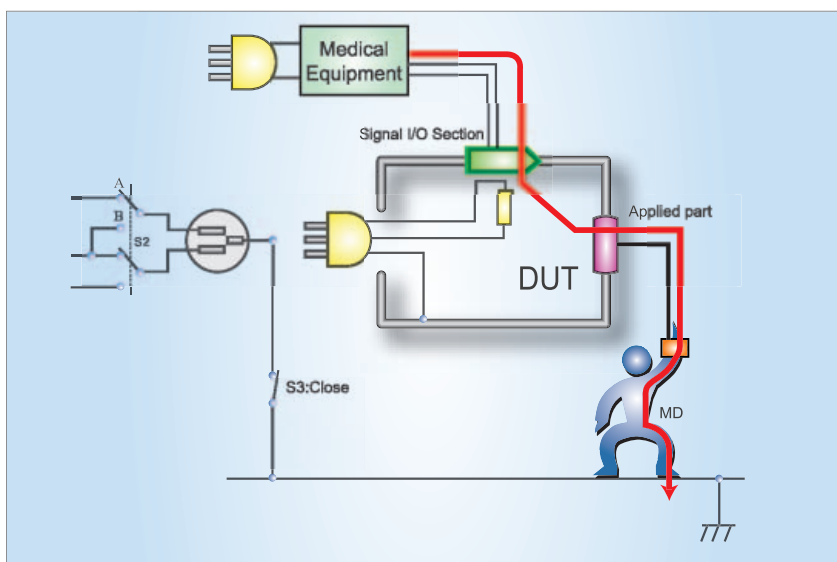
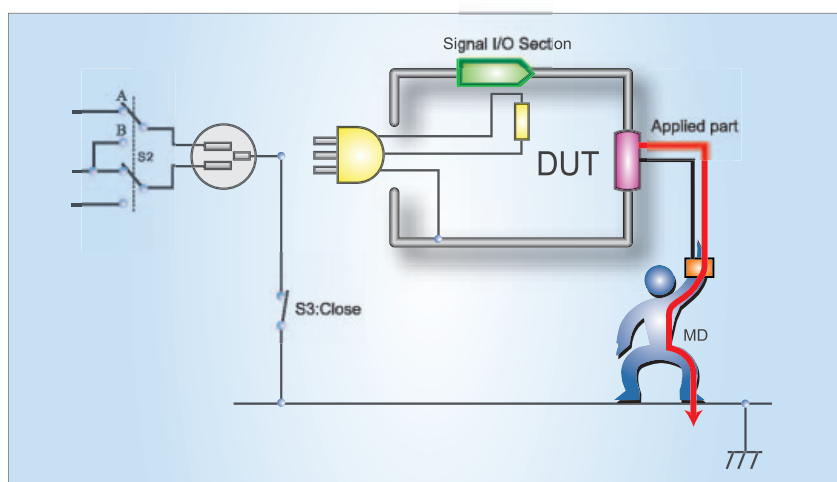
(1) 外壳漏电流 (Enclosure Leakage Current)

该电流主要针对 Class I 产品中的 Class II 结构，或者 Class II 产品外壳，模拟人体去接触被测物 (DUT) 非金属或是金属但与地 (GND) 非相连接部件产生的漏电流。



## (2) 患者漏电流 (Patient Leakage Current)

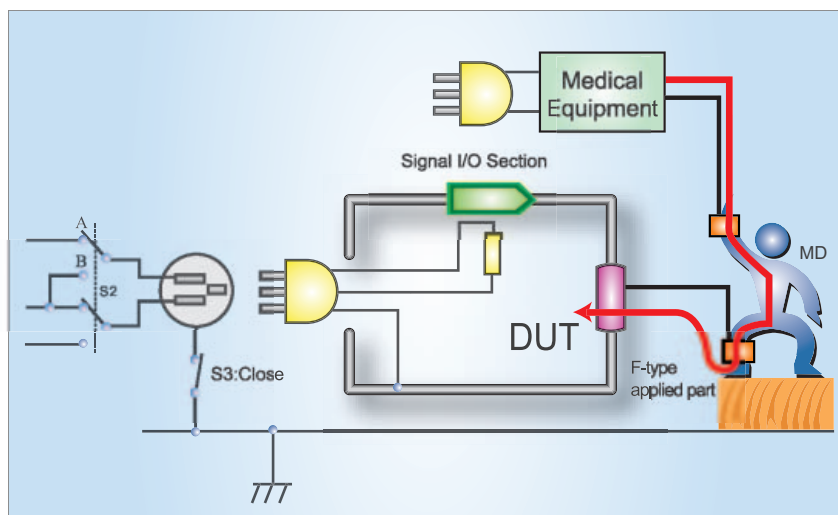
针对医疗设备的漏电流测试，从应用部件经患者流到地 (GND) 的漏电流，或被测物经外部输入 / 输出讯号 (Signal I/O Section) 量测从F型应用部件经患者流到地 (GND) 的漏电流。



## ◆ 表面间漏电流 (Surface to Surface Leakage Current) , $P_H - P_L$

### (1) 患者辅助漏电流 (Patient Leakage Current)

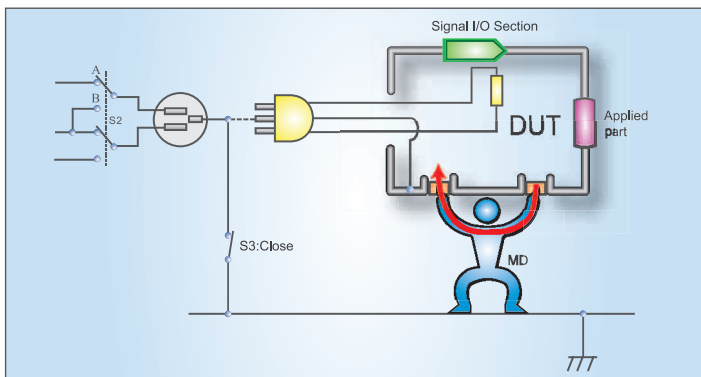
正常使用时，流入处于应用部份部件之间的患者的电流，此电流预期不产生生理效应。



F型应用部件：应用部件需与设备的所有其他部位相隔离，当电压等于 1.1 倍的最高额定电源电压施加于应用部件与地之间，在这样的条件下可容许患者漏电流在单一故障条件下不超过标准的容许值。

## (2)外壳任意两点间漏电流 (Enclosure to Enclosure Leakage Current)

该漏电流是量测被测物 (DUT) 的任意两点间与地 (GND) 无关流经人体的漏电流。



## 组成安规测试系统

7630 接触电流测试器，可以和华仪电子的其他安规测试仪器连结，组成安规自动测试系统如附图显示 7630 Link 7742(ACW/DCW/IR/GB) + 6700 系列可程式交流电源供应器。只要简单的按下一测试键，即可完成整合性安规六合一交流耐压 / 直流耐压、绝缘电阻、接地阻抗、接触电流 (泄漏电流)、产品电气性能综合测试，方便快捷，有效提高生产测试效率。



7630+7742+ 6700 系列 安规六合一  
ACW / DCW / IR / GB / RUN & Touch Current (TC)

## Specifications

<b>INPUT</b>			
Voltage	115/230 VAC $\pm$ 15%		
Frequency	50/60 Hz $\pm$ 5%		
Fuse	2A Slow-Blo 250V AC		
<b>Line condition</b>			
Power Switch	Reverse polarity switch for normal condition (on / off / auto setting)		
Neutral Switch	Neutral switch on/off selection for single fault condition		
Ground Switch	Ground switch on/off selection for class I single fault condition		
<b>Probe Setting</b>			
Surface to Surface (PH- PL)			
Surface to Line(PH - L)			
Ground to Line (G - L)			
Ground to Neutral (G - N)			
Auto Function (G - N & G - L)			
<b>SETTING</b>			
Touch Current High Limit (RMS)	Range:	0.0uA-99.9uA / 1000uA - 9999uA / 10.00mA-20.00mA	
	Resolution:	0.1uA/1uA/0.01mA	
Touch Current Low Limit (RMS)	Range:	0.0-999.9 uA	
	Resolution:	0.1uA	
Touch Current High Limit (Peak)	Range:	0.0uA - 999.9uA / 1000uA - 9999uA / 10.00mA - 30.00mA	
	Resolution:	0.1uA / 1uA / 0.01mA	
Touch Current Low Limit (Peak)	Range:	0.0 - 999.9uA	
	Resolution:	0.1uA	
<b>DISPLAY</b>			
Touch Current Display (RMS)	Range 1	0.0uA-999.9uA, frequency DC - 1MHz	
	Resolution	0.1uA	
	Accuracy	DC : $\pm$ (2% of reading + 3counts)	
		15Hz $\leq$ f < 100KHz : $\pm$ (2% of reading + 3counts)	
		100KHz $\leq$ f $\leq$ 1MHz : $\pm$ 5% of reading , 10.0uA-999.9uA	
	Range 2	1000uA-8500uA, frequency DC - 1MHz	
Resolution	1uA		
Accuracy	DC : $\pm$ (2% of reading + 3counts)		

# Specifications

Touch Current Display (RMS)	Accuracy	15Hz ≤ f < 100KHZ : ± (2% of reading + 3counts) 100KHZ ≤ f ≤ 1MHZ : ± 5% of reading , 10uA- 8500uA
	Range 3	8.00mA~20.00mA, frequency DC - 1MHz
	Resolution	0.01mA
	Accuracy	DC : ± (2% of reading + 3counts) 15Hz ≤ f ≤ 1MHZ : ± 5% of reading , 0.01mA-20.00mA
Touch Current Display (Peak)	Range 1	0.0uA~ 999.9uA, frequency DC - 1MHz
	Resolution	0.1uA
	Accuracy	DC : ± (2% of reading +2uA) 15Hz ≤ f ≤ 1MHZ : ±(10% of reading +2uA) , 10.0uA - 999.9uA
	Range 2	1000uA ~ 8500uA, frequency DC - 1MHz
	Resolution	1uA
	Accuracy	DC : ±(2% of reading +2counts) 15Hz ≤ f ≤ 1MHZ : ± (10% of reading +2counts) , 10uA - 8500uA
	Range 3	8.00mA ~ 30.00mA, frequency DC - 100KHz
	Resolution	0.01mA
	Accuracy	DC : ±(2% of reading +2counts) 15Hz ≤ f ≤ 100KHz : ± (10% of reading +2counts) , 0.01mA -30.00mA
	<b>Measuring Device Module</b>	
MD1	IEC60990 Fig4 U <sub>2</sub> , IEC 60950-1, IEC60335-1, IEC60598-1, IEC60065, IEC61010 IEC60990 Fig4 U <sub>1</sub> , IEC60065	
MD2	IEC60990 Fig5 U <sub>3</sub> , IEC60598-1 IEC60990 Fig5 U <sub>1</sub>	
MD3	IEC 60601-1	
MD4	UL544NP, UL484 , UL923, UL471, UL867, UL697	
MD5	UL544P	
MD6	UL1563	
MD7	IEC60950, IEC61010-1 FigA.2 (2K ohm) for RUN Test MD Circuit.	
External MD	Basic measuring element 1k ohm	
MD Voltage Limit	Maximum 70 Vpeak or 70 VDC	
Leakage Current Offset	Range:	0 - 999.9uA
	Resolution:	0.1uA
<b>DUT POWER</b>		
AC Voltage	0.0-277.0V	
AC Current	40Arms max continuous	
Over Current Protection	50Arms, Response Time < 3 sec / 250Apeak Response Time <10u sec	
AC Voltage High/Low Limit	Range:	0.0-277.0V
	Resolution:	0.1V/step
AC Voltage Display	Range:	0.0 - 277.0 V
	Resolution:	0.1 volt / step
	Accuracy:	±(1.5% of reading + 2 counts) , 60.0 - 277.0VAC
Delay time setting	Range:	0.5 -999.9 seconds
	Resolution:	0.1 second
Dwell time setting	Range:	0, 0.5 -999.9 seconds
	Resolution:	0.1 second
Timer display	Range:	0.0 - 999.9 seconds
	Resolution:	0.1 second
	Accuracy:	±(0.1% of reading + 0.05 seconds)
<b>GENERAL</b>		
PLC Remote Control	Input - Test, Reset, Interlock & Recall File 1 through10	
	Output - Pass, Fail, Test-in-Process, Start-Out, Reset-Out	
Scanner Control	It is applied to control Matrix Scanner (Model 7006)	
Memory	50 memories , 30steps per each memory. Max. Result Display 900 data (30 memories x 30 steps)	
Auto Reverse Function	AUTO Reverse ON / OFF parameter setting selection Automatic Reverse polarity switch for normal condition in one step setting menu. Only display maximum leakage current value.	
Scope Output Interface	At rear panel BNC type to connet scope for some IEC standards test requirement and application.	
Display	320 X 240 _graphic LCD	
LCD Contrast Setting	Range: 1-9; 1 is lightest character, 9 is darkest character.	
Alarm Volume Setting	Range: 0-9; 0=OFF, 1 is softest volume, 9 is loudest volume.	
Security	Lockout capability to avoid unauthorized access to test set-up programs.	
Calibration	Software and adjustments are made through front panel, Automatic Calibration alert function to signal operator when calibration is due.	
Results Display	All test result information will be displayed on the screen.	
Interface	RS232 standard	
Safety	Product with TUV / GS certificate	
Dimension	430 (W) x 133(H) x 300 (D) mm	
Weight	12Kg	

## Specifications

OPTION		
<b>RUN Module (Opt.752)</b>		
W	Range : 0-1KW / 1-10KW Resolution : 0.1W / 1W	
A	Range : 0.000 - 3.500A / 3.00 - 40.00A, Resolution : 0.001A/ 0.01A	
PF	0.000 -1.000	
Leakage Current	Range : 0.00 - 10.00mA , Resolution : 0.01mA	
AC Current High/Low Limit Setting	Range:	0-40A
	Resolution:	0.01A / step
AC Current Display	Range:	0.000 -3.500A/ 3.00 - 40.00A
	Resolution:	0.001A / 0.01A
	Accuracy :	± (2 % of reading + 5 counts) / ± (2 % of reading + 2 counts)
AC Power High/Low Limit Setting	Range:	0 - 10KW
	Resolution:	1W
AC Power Display	Range:	0.0 - 1000.0W / 1000 - 10000W
	Resolution:	0.1W / 1W
	Accuracy :	± (5 % of reading + 3 counts)
Power Factor High/Low Limit Setting	Range:	0.000 - 1.000
	Resolution:	0.001
Power Factor Display	Range:	0.000 - 1.000
	Resolution:	0.001
	Accuracy :	± (8 % of reading + 2 counts) , V > 60VAC & PF > 0.2
Leakage Current High/Low Limit Setting	Range:	0.00 - 10.00mA
	Resolution:	0.01mA
Leakage Current Display	Range:	0.00 - 10.00mA
	Resolution:	0.01mA
	Accuracy :	± (2 % of reading + 2 counts)
Delay Timer Setting	Range:	0.5 - 999.9 seconds
	Resolution:	0.1 second
Dwell Timer Setting	Range:	0, 0.1-999.9 sec (0=Continuous)
	Resolution:	0.1 second
Timer display	Range:	0.0- 999.9 seconds
	Resolution:	0.1 second
	Accuracy:	± (0.1% of reading + 0.05 seconds)
Power Control	It is applied to control Transformer Box (1931/1931S) or AC Power Source(6700/6800/6400 Series)	
<b>HV &amp; GB Link Module (Opt. 753)</b>		
Max. ACW 4000VAC, DCW 4000VDC & Max. Ground Bond 40A		
<b> GPIB Interface Card (Opt. 731)</b>		
<b> Printer Port Interface Card (Opt. 732)</b>		
<b> Multi-function Interface Card (Opt. 751)</b>		
<b> High Measurement Range 35mArms / 75mApeak &amp; 4MDs (Opt. 754 )</b>		
35mArms / 75mApeak for IEC60990 fig4(U1 and U2), IEC60990 fig5(U1 and U3), UL484, IEC60601		
Test Requirement , Notice : Option this MD circuit have to replace MD module all MD circuits .		
<b> Transformer Box (Option) Add this option must optional Opt.752 RUN Module.</b>		
1931 Series Transformer Box (500VA/ 1KVA/1.8KVA/3.6KVA)	Multi-Tape of 1.0, 1.06, 1.1 times of input voltage.	
1931-S Series Transformer Box (500VA/ 1KVA/1.8KVA/3.6KVA)	Multi-Tape of 0.8, 0.85, 0.9, 1.0, 1.06, 1.1 times of input voltage.	
<b> AC Power Source (Option) Add this option must optional Opt.752 RUN Module.</b>		
6800 Series Digital AC Power Source (6805, 6810 , 6820 , 6830 and 6840)		
6700 Series Programmable AC Power Source (6705, 6710 , 6720 , 6730 and 6740)		
6400 Series AC Power Source (6402, 6403, 6405, 6410)		

\* product specifications are subject to change without notice.

## Ordering Information

- ★ 7630 Touch Current Tester
- ★ Opt.752 RUN Module
- ★ Opt.753 HV & GB Link Module
- ★ Opt.754 High Measurement Range 35mArms / 75mApeak & 4MDs
- ★ Opt.731 GPIB Interface Card
- ★ Opt. 732 Printer Port Interface Card
- ★ Opt.751 Multi-function Interface Card
- ★ 1148 DUT Power Cable 40A
- ★ 1149 DUT Power & HV Cable 40A/4 KV
- ★ 1931 Series Transformer Box (500VA/ 1KVA/1.8KVA/3.6KVA)
- ★ 1931-S Series Transformer Box (500VA/ KVA/1.8KVA/3.6KVA)
- ★ 6800 Series Digital AC Power Source (6805, 6810 , 6820 , 6830 and 6840 )
- ★ 6700 Series Programmable AC Power Source (6705, 6710 , 6720 , 6730 and 6740 )
- ★ 6400 Series AC Power Source (6402, 6403, 6405, 6410 )
- ★ 7006 Matrix Scanner
- ★ 1932 LLT Receptacle Adaptor Box for 7630
- ★ 1101 Hipot Test Lead for 7630 P<sub>H</sub> / P<sub>L</sub>
- ★ 1223 Hipot / Ground Bond Output Link Lead for 7630 Link to 7440 / 7452

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