






Manual Supplement

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This supplement contains information necessary to ensure the accuracy of the above manual.

Change #1, 65400

On page iv add the following to the **Symbols**:

	Conforms to relevant North American Safety Standards.
	Conforms to relevant South Korean EMC Standards.
	Conforms to relevant Australian Standards
	Conforms to European Union directives
CAT II	Measurement Category II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation.
	Consult user documentation.

Under the **Warnings** add:

- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**
- **Use the Product only as specified, or the protection supplied by the Product can be compromised.**

On page A-1, add the following under **Specifications**:

Safety IEC 61010-1: CAT II 300 V, Pollution Degree 2
 Operating Altitude..... 2000 m

Electromagnetic Compatibility (EMC)

International IEC 61326-1: Basic Electromagnetic Environment

CISPR 11: Group 1, Class A

Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.

Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.

Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.

Korea (KCC) Class A Equipment (Industrial Broadcasting & Communication Equipment)

Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.

USA (FCC) 47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.

Change #2, 212, 357

On page vii, add the following Warning:

- **Connect an approved three-conductor mains power cord to a grounded power outlet.**

On page viii, under **Users Safety**, remove the **Canadian Standards Association CAN/CSA** and replace the **UL 3101-1** with:

UL 61010-1 - Issued: 2012/05/11 Ed: 3 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory use - Part 1: General Requirements.

CSA C22.2 #61010-1 - Issued: 2012/05/11 Ed: 3 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory use - Part 1: General Requirements.

UL 61010-2-030 - Issued: 2012/05/11 Ed:1 UL Standard for Safety for Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory use - Part 2-030: Particular requirements for testing and measuring circuits

CSA C22.2#61010-2-030 - Issued: 2012/05/11 Ed: 1 Safety Requirements for Electrical Equipment for Measurement, control, and Laboratory use - Part 2-030: Particular Requirements for Testing and Measuring Circuits”

Change #3, 435

On pages 8-5, 8-6 and 8-7, replace the following pages of the Table with:

IEC 601-1 Controlled Power Sequence and Test Limits for Auto and Step Tests

DC-Only tests will only be performed if DC readings are enabled. The types (B, BF, and CF) represent applied parts for Insulation Resistance, Patient Leakage Current, Patient Auxiliary, and Mains on Applied Part.

IEC 601-1 STANDARD DESCRIPTION	DUT OUTLET		CLASS I			CLASS II			CLASS IP		
	POLARITY	CIRCUIT	B	BF	CF	B	BF	CF	B	BF	CF
Line Voltage V	N/A	OFF	NL	NL	NL	NL	NL	NL	NT	NT	NT
Protective Earth Resistance Ω^{**}	N/A	OFF	0.2	0.2	0.2	NT	NT	NT	NT	NT	NT
Insulation Resistance L1-L2-Case $M\Omega^{***}$	N/A	OFF	NL	NL	NL	NT	NT	NT	NT	NT	NT
Insulation Resistance All Case $M\Omega$	N/A	OFF	NT	NL	NL	NT	NT	NT	NT	NT	NT
Startup Delay (Auto only)	Norm	Norm									
Current in L2 -- A	Norm	Norm	NL	NL	NL	NL	NL	NL	NT	NT	NT
Enclosure Leakage -- μA	Norm	Norm	100	100	100	100	100	100	100	100	100
Patient Leakage Current -- μA	Norm	Norm	100	100	10	100	100	10	100	100	10
Patient Leakage Current -- μA - DC Only	Norm	Norm	10	10	10	10	10	10	10	10	10
Patient Auxiliary -- μA	Norm	Norm	100	100	10	100	100	10	100	100	10
Patient Auxiliary -- μA - DC Only	Norm	Norm	10	10	10	10	10	10	10	10	10
Mains on AP -- μA ****	Norm	Norm	NT	5000	50	NT	5000	50	NT	5000	50
Earth Leakage -- μA	Norm	No E	5000	5000	5000	NT	NT	NT	NT	NT	NT
Enclosure Leakage-- μA	Norm	No E	500	500	500	NT	NT	NT	NT	NT	NT
Patient Leakage Current -- μA	Norm	No E	500	500	50	NT	NT	NT	NT	NT	NT
Patient Leakage Current -- μA - DC Only	Norm	No E	50	50	50	NT	NT	NT	NT	NT	NT
Patient Auxiliary -- μA	Norm	No E	500	500	50	NT	NT	NT	NT	NT	NT
Patient Auxiliary -- μA - DC Only	Norm	No E	50	50	50	NT	NT	NT	NT	NT	NT

Power Off Delay	Norm	No L2 No E									
Earth Leakage -- μ A	Norm	No L2 No E	10000	10000	10000	NT	NT	NT	NT	NT	NT
Enclosure Leakage-- μ A	Norm	No L2	500	500	500	500	500	500	NT	NT	NT
Patient Leakage Current -- μ A	Norm	No L2	500	500	50	500	500	50	NT	NT	NT
Patient Leakage Current -- μ A – DC Only	Norm	No L2	50	50	50	50	50	50	NT	NT	NT
Patient Auxiliary -- μ A	Norm	No L2	500	500	50	500	500	50	NT	NT	NT
Patient Auxiliary -- μ A - DC Only	Norm	No L2	50	50	50	50	50	50	NT	NT	NT
Startup Delay	Reverse	Norm									
Enclosure Leakage-- μ A	Reverse	Norm	100	100	100	100	100	100	NT	NT	NT
Patient Leakage Current -- μ A	Reverse	Norm	100	100	10	100	100	10	NT	NT	NT
Patient Leakage Current -- μ A – DC Only	Reverse	Norm	10	10	10	10	10	10	NT	NT	NT
Patient Auxiliary -- μ A	Reverse	Norm	100	100	10	100	100	10	NT	NT	NT
Patient Auxiliary -- μ A - DC Only	Reverse	Norm	10	10	10	10	10	10	NT	NT	NT
Mains on AP – μ A *	Reverse	Norm	NT	5000	50	NT	5000	50	NT	NT	NT
Earth Leakage -- μ A	Reverse	No E	5000	5000	5000	NT	NT	NT	NT	NT	NT
Enclosure Leakage-- μ A	Reverse	No E	500	500	500	NT	NT	NT	NT	NT	NT
Patient Leakage Current -- μ A	Reverse	No E	500	500	50	NT	NT	NT	NT	NT	NT

IEC 601-1 Controlled Power Sequence and Test Limits for Auto and Step Tests (Continued)

IEC 601-1 STANDARD DESCRIPTION	DUT OUTLET		CLASS I			CLASS II			CLASS IP		
	POLARITY	CIRCUIT	B	BF	CF	B	BF	CF	B	BF	CF
Patient Leakage Current -- μ A– DC Only	Reverse	No E	50	50	50	NT	NT	NT	NT	NT	NT
Patient Auxiliary -- μ A	Reverse	No E	500	500	50	NT	NT	NT	NT	NT	NT
Patient Auxiliary -- μ A - DC Only	Reverse	No E	50	50	50	NT	NT	NT	NT	NT	NT
Power Off Delay	Reverse	No L2 No E									
Earth Leakage -- μ A	Reverse	No L2 No E	10000	10000	10000	NT	NT	NT	NT	NT	NT
Enclosure Leakage-- μ A	Reverse	No L2	500	500	500	500	500	500	NT	NT	NT
Patient Leakage Current -- μ A	Reverse	No L2	500	500	50	500	500	50	NT	NT	NT
Patient Leakage Current -- μ A – DC Only	Reverse	No L2	50	50	50	50	50	50	NT	NT	NT
Patient Auxiliary -- μ A	Reverse	No L2	500	500	50	500	500	50	NT	NT	NT
Patient Auxiliary -- μ A - DC Only	Reverse	No L2	50	50	50	50	50	50	NT	NT	NT

*This test takes one minute in **Step** mode.

**The limit for Protective Earth Resistance is dependent upon the device under test: 0.2Ω for devices with a non-detachable power supply cord; 0.1Ω for devices with an appliance inlet.

***Limits for Insulation Resistance are not specified in IEC 601-1.

****Patient Leakage Current, Mains on Applied Part -- Normal Outlet is performed with NORMAL OUTLET polarity and both Normal and Reversed phase isolated 110% of mains. Patient Leakage Current, Mains on Applied Part -- Reversed Outlet are performed in the same manner as with a normal outlet except with REVERSE OUTLET polarity.

The limits have been removed for the Enclosure Leakage test with Class IP due to the fact that zero readings are always expected.

Delays are not applied to Class IP sequences.

IEC 601-1 Conventional Test Sequence and Test Limits for Auto and Step Tests

DC-Only tests will only be performed if DC readings are enabled. The types (B, BF, and CF) represent applied parts for Insulation Resistance, Patient Leakage Current, Patient Auxiliary, and Mains on Applied Part.

IEC 601-1 STANDARD DESCRIPTION	DUT OUTLET		CLASS I			CLASS II			CLASS IP		
	POLARITY	CIRCUIT	B	BF	CF	B	BF	CF	B	BF	CF
Line Voltage V	N/A	OFF	NL	NL	NL	NL	NL	NL	NT	NT	NT
Protective Earth Resistance Ω^{**}	N/A	OFF	0.2	0.2	0.2	NT	NT	NT	NT	NT	NT
Insulation Resistance L1-L2- Case $M\Omega^{***}$	N/A	OFF	NL	NL	NL	NT	NT	NT	NT	NT	NT
Insulation Resistance All Case $M\Omega$	N/A	OFF	NT	2	2	NT	NT	NT	NT	NT	NT
Startup Delay (Auto only)	Norm	Norm							N/A	N/A	N/A
Current in L2 -- A	Norm	Norm	NL	NL	NL	NL	NL	NL	NT	NT	NT
Earth Leakage -- μA	Norm	No E	500	500	500	NT	NT	NT	NT	NT	NT
Power Off Delay	Norm	No L2 No E				N/A	N/A	N/A	N/A	N/A	N/A
Earth Leakage -- μA	Norm	No L2 No E	10000	10000	10000	NT	NT	NT	NT	NT	NT
Startup Delay (Auto only)	Reverse	No E				N/A	N/A	N/A	N/A	N/A	N/A
Earth Leakage -- μA	Reverse	No E	5000	5000	5000	NT	NT	NT	NT	NT	NT
Power Off Delay	Reverse	No L2 No E				N/A	N/A	N/A	N/A	N/A	N/A
Earth Leakage -- μA	Reverse	No L2 No E	10000	10000	10000	NT	NT	NT	NT	NT	NT
Startup Delay (Auto only)	Norm	Norm				N/A	N/A	N/A	N/A	N/A	N/A
Enclosure Leakage -- μA	Norm	Norm	100	100	100	100	100	100	NT	NT	NT
Power Off Delay	Norm	No L2							N/A	N/A	N/A
Enclosure Leakage -- μA	Norm	No L2	500	500	500	500	500	500	NT	NT	NT
Startup Delay	Norm	No E				N/A	N/A	N/A	N/A	N/A	N/A
Enclosure Leakage -- μA	Norm	No E	500	500	500	NT	NT	NT	NT	NT	NT
Power Off Delay	N/A	OFF							N/A	N/A	N/A
Startup Delay (Auto only)	Reverse	Norm							N/A	N/A	N/A
Enclosure Leakage -- μA	Reverse	Norm	100	100	100	100	100	100	NT	NT	NT
Power Off Delay	Reverse	No L2							N/A	N/A	N/A
Enclosure Leakage -- μA	Reverse	No L2	500	500	500	500	500	500	NT	NT	NT
Startup Delay	Reverse	No E				N/A	N/A	N/A	N/A	N/A	N/A
Enclosure Leakage -- μA	Reverse	No E	500	500	500	NT	NT	NT	NT	NT	NT
Power Off Delay	N/A	OFF							N/A	N/A	N/A
Startup Delay (Auto only)	Norm	Norm							N/A	N/A	N/A
Patient Leakage Current - μA	Norm	Norm	100	100	10	100	100	10	100	100	10
Power Off Delay	Norm	No L2							N/A	N/A	N/A
Patient Leakage Current - μA	Norm	No L2	500	500	50	500	500	50	NT	NT	NT
Startup Delay	Norm	No E				N/A	N/A	N/A	N/A	N/A	N/A
Patient Leakage Current - μA	Norm	No E	500	500	50	NT	NT	NT	NT	NT	NT
Power Off Delay	N/A	OFF							N/A	N/A	N/A
Startup Delay (Auto only)	Reverse	Norm							N/A	N/A	N/A
Patient Leakage Current - μA	Reverse	Norm	100	100	10	100	100	10	NT	NT	NT
Power Off Delay	Reverse	No L2							N/A	N/A	N/A
Patient Leakage Curren - μA	Reverse	No L2	500	500	50	500	500	50	NT	NT	NT

Change #4, 222, 223, 224

On page vii, under **Hazards Warning**, replace the 2nd paragraph with:

Use of an incompatible power receptacle or incorrect Mains Power cord may produce electrical shock and fire hazards. Acceptable Mains Voltage ranges are 90 V ac to 132 V ac, and 180 V ac to 240 V ac 47 Hz to 63 Hz. The current ratings for the 601PRO are as follows:

On page A-1, under **Specifications**, replace the Operating Voltage Range for full performance with:

Operating Voltage Range
for full performance: 90 V RMS to 132 V RMS
180 V ac to 240 V ac
47 Hz to 63 Hz
≤15 A

Change #5, 618

On page A-2, under **Protective Earth Resistance**, replace the first bullet with:

- Selectable test current for 1 A, 10.3 A, or 25 A with open circuit voltage less than 6 VAC RMS

On page A-3, under **Current Source Output**, replace the 10 Amp selection with:

10 Amp selection

9.80-10.80 Amps AC RMS (0.000-0.999 Ω)

2.00-10.80 Amps AC RMS (1.000-2.999 Ω)