

DESCRIPTION

PRODUCT COVERED:

Component - Power Supplies, Models LPT45-M and LPT42-M for Use in Medical and Dental Equipment.

ELECTRICAL RATINGS:

| Model   | Input        | Maximum<br>Output Current | Maximum<br>Output Voltage |
|---------|--------------|---------------------------|---------------------------|
| LPT45-M | 100-250 V ac | 5 A                       | +5 V dc                   |
|         | 50/60 Hz     | 2.5 A                     | +15 V dc                  |
|         | 1.6 A        | 0.7 A                     | -15 V dc                  |
|         | 140-300 V dc |                           |                           |
|         | 1.0 A        |                           |                           |
| LPT42-M | 100-250 V ac | 5 A                       | +5 V                      |
|         | 50/60 Hz     | 2.5 A                     | +12 V                     |
|         | 1.6 A        | 0.7 A                     | -12 V                     |
|         | 140-300 V dc |                           |                           |
|         | 1.0 A        |                           |                           |

ENGINEERING CONSIDERATIONS: (Not For Field Representative Use)

For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - When installed in the end-use equipment, the following are the considerations to be made:

1. These components have been judged on the basis of the required creepages and clearances in the First Edition of the Standard for Medical Electrical Equipment, UL 2601-1, Subclause 57.10, which covers the end-use product for which the component was designed.

2. The device shall be installed in compliance with the enclosure, mounting spacing, casualty, markings and segregation requirements of the end-use application.
3. The need for conducting leakage current tests is to be determined as part of the end-product evaluation.
4. The temperature test was conducted in a 30 CFM forced air box measuring 29.8 by 22.2 by 12.1 cm. See ILL 1 (C9900366.I00) for details. Transformer T1 and Choke L3 employ a Class F electrical insulation system. Consideration should be given to measuring the temperature on power electronic components and transformer windings when the power supply is installed in the end-use equipment.
5. If the Fuse Replacement Marking is covered up on the Power Supply, then a Fuse Replacement Marking must be provided on the end-use product.
6. The input and output connectors are not acceptable for field connections and are only intended for connections to mating connectors of internal wiring inside the end-use product. The acceptability of these and the mating connectors relative to secureness, insulating materials, and temperatures shall be considered in the end-use product.
7. These power supplies have not been evaluated for patient connected applications.
8. The secondary output of transformer T1 is unearthed Safety Extra Low Voltage. Double Insulation, as described in Subclauses 57.9.4 and 57.10, separates the primary circuits from the secondary circuits in this power supply.
9. These power supplies have been evaluated for use in Class 1 equipment as defined in UL 2601-1, First Edition. An additional evaluation shall be made if the power supply is intended for use in other than Class 1 equipment.
10. These power supplies are not directly connected to earth ground of the branch circuit, they shall be properly bonded to earth ground in the end-use product.

## RESULTS

| Test                 | Protection | Thermocouple Location<br>Measured Temperatures °C |       |      |     | Test<br>Current (A) | Duration |
|----------------------|------------|---|-------|------|-----|---------------------|----------|
|                      |            | Core  | PRI * | Amb. | SEC |                     |          |
| <u>Short Circuit</u> |            |   |       |      |     |                     |          |
| +5 V dc              |            | 50  | N/A   | 48   | 50  | N/A                 | 1 s #    |
| +12 V dc             |            | 51  | N/A   | 49   | 51  | N/A                 | 1 s #    |
| -12 V dc             |            | 50  | N/A   | 49   | 51  | N/A                 | 1 s #    |
| <u>Overload</u>      |            |   |       |      |     |                     |          |
| +5 V dc              |            | 82  | N/A   | 48   | 91  | 10.25               | 4 hr     |
| +12 V dc             |            | 84  | N/A   | 48   | 95  | 4.85                | 5 hr     |
| -12 V dc             |            | 88  | N/A   | 48   | 97  | 1.75                | 1.5 hr   |

The measured temperatures did not exceed the maximum allowable temperatures.

\* - Inaccessible

# - Unit folded back immediately

TEST RECORD SUMMARY

The results of this investigation indicate that the products evaluated comply with the applicable requirements, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:

Reviewed by:

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CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the class and the products are judged to be eligible for Component Recognition and Follow-Up Service. Under the Service the manufacturer is authorized to use the Recognized Marking described in the Follow-Up Service Procedure on such products which comply with said Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Recognized Marking are considered as Recognized Components by Underwriters Laboratories Inc.

Report by:



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