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**Specifications**

**of**

**1.2kW (60V, 20A)**

**Li-Ion EV Charger**

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| **Prepared By:** |  Mr. Raju |  | 11-07-20 |
|  **Verified By:** |  Mr. Suresh  |  | 11-07-20 |
|  **Approved By:** |  Mr. JVSR |  | 11-07-20 |

**Product**  : 1.2KW EV Charger

**Product Output rating** : 60V @ 20A

**Features:**

* Wide Input operating Voltage
* Efficiency - >80%
* Precision Constant Voltage & Constant Current Limit
* Over charge protection with auto cutoff
* Input Under voltage & Over voltage Protection
* Battery reverse polarity protection
* Short circuit & Over Load Protection - Auto Recovery
* **Surge Protection - as per IEC 61000-4-5 : 2 kV (L-N, L-E & N-E)**
* **EFT - as per IEC 61000-4-4 : 2kV (L-N, L-E & N-E)**

| **Sr** | **Parameter** | **Requirements** |
| --- | --- | --- |
| **A** | **INPUT REQUIREMENTS** |
| **1** | **Nominal Input Voltage** | 230V AC |
| **2** | **Operating Voltage Range** | 180V to 270V AC |
| **3** | **Phase** | Single Phase |
| **4** | **Frequency Range** | 47-63 Hz |
| **5** | **Input Current** | ≤ 13A @ 180V AC  |
| **6** | **In-rush Current** | < 40A @ 230V AC |
| **7** | **Input Protection** | Fuse of appropriate rating to be used for prevention of fire hazard.  |
| **8** | **Efficiency** | >80% at 230V AC & Full Load |
| **9** | **Input High Voltage Cut-off** | Between 280-290V AC Unit will shutdown and auto recovery with 5-10V hysteresis  |
| **10** | **Input Low Voltage Cut-off** | Between 160-170V AC Unit will shutdown and auto recovery with 5-10V hysteresis  |
| **B** | **OUTPUT REQUIREMENTS** |
| **1** | **Output Voltage** | Vo = 24-60V |
| **2** | **Output Current**  | IO = 0-20A  |
| **3** | **Ripple and Noise** | <3% Pk-Pk |
| **4** | **Line Regulation - CC** | < ±2% |
| **5** | **Load Regulation**  | < ±2%  |
| **6** | **Overcharge Protection with Auto cut-off** | Yes |
| **7** | **Over Load Protection** | Yes (Constant Current Limit) |
| **8** | **Short Circuit Protection** | Auto Recovery |
| **9** | **Open Circuit Voltage** |  64-66V |
| **10** | **Battery Reverse Protection** | Yes |
| **11** | **Indications** | 1. Battery Charging (25%, 50%, 75%)
2. Battery Fully Charged (100%)
3. Mains ON
 |
| **C** | **SAFETY REQUIREMENTS** |
| **1** | **Isolation (Hi-Pot Test)** | L, N to DC Output : Should withstand 1.5KV Input to Earth : Should withstand 1.5KV  |
| **2** | **Insulation Resistance** | >100MΩ at 500V DC  |
| **3** | **Earth Leakage Current** | <5mA |
| **D** | **ENVIRONMENTAL REQUIREMENTS** |
| **1** | **Operating Temperature** | -5°C to +50°C |
| **2** | **Operating Relative Humidity** | 20-90% RH |
| **3** | **Cooling** | Forced Air Cooling |
| **E** | **EMC REQUIREMENTS** |
| **1** | **Surge Immunity** | As per IEC-61000-4-5; (DM-2kV) |
| **2** | **Electrical Fast Transients** | As per IEC-61000-4-4; ( DM-2kV) |
| **F** | **MECHANICAL** |  |
| **1** | **Enclosure** | Aluminum  |
| **2** | **Connectors** | AC Input : 1.5 sq.mm, 16A, 250V Power cord with length of 1.5MtsOutput : 2.5 sq.mm, 50A, 600V Plug type Battery Charger Connector (1 set) |
| **3** | **Dimensions** | Overall dimensions 260mm x 160mm x 90mm |

**Mechanical Drawing**

