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| **TECHNICAL SPECIFICATION OF HYBRID ELECTRIC SYSTEM** |
| **1.0** | **Details of Hybrid System Manufacturer / Supplier / Installer** |  |
| a. | Name of the HES Manufacturer / HES Supplier: |  |
| b. | Address: |  |
| c. | Telephone No. and Fax No.: |  |
| d. | Contact person: |  |
| **2.0** | **System Identification** |  |
| a. | Identification No.: |  |
| b. | Variants, if any: |  |
| **3.0** | **Electric Motor** |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type: (e.g. Asynchronous AC Induction, Synchronous Permanent Magnet AC, BLDC, SRM etc.) |  |
| d. | No. of Phases: |  |
| e. | Maximum Power (kw @ xxxx rpm): |  |
| f. | Maximum torque (Nm @ xxxx rpm): |  |
| g. | Maximum Thirty Minutes Power, kW: |  |
| h. | Maximum Thirty Minutes speed km/h: |  |
| i. | Cooling System (Liquid /Air / Naturally air cooled): |  |
| j. | International Protection (IP)-Code: |  |
| **4.0** | **Motor Controller Unit**  |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No: |  |
| c. | Type: |  |
| d. | Control Principle: (e.g vectorial / open loop / closed / other) |  |
| e. | Cooling System (Liquid /Air / Naturally air cooled): |  |
| f. | International Protection (IP)-Code: |  |
| **5.0** | **REESS** |  |
| a. | Name of manufacturer: |  |
| b. | Identification No.: |  |
| c. | Type: (e.g Lead Acid/ Li-Ion etc.) |  |
| d. | Voltage: |  |
| e. | Capacity (kWh): |  |
| f. | End of discharge voltage value: |  |
| g. | No. of batteries used: |  |
| h. | Weight of REESS: |  |
| **6.0** | **Charger (Applicable only for Externally Chargeable HEV’s)** |  |
| a. | Name of the manufacturer |  |
| b. | Model name/Identification No. |  |
| c. | Type |  |
| d. | Rating |  |
| e. | Charger (on board / external): |  |
| f. | Specifications of mains |  |
|  | i | mains (single phase/ three phase): |  |
|  | ii | Nominal Voltage (V) and frequency (Hz) with tolerances: |  |
| g. | Recommended duration of a complete charge: |  |
| h. | In case of on-board charger |  |
|  | i | Continuous rating of charger socket (A): |  |
|  | ii | Maximum initial in-rush current (A): |  |
| **7.0** | **Charging / interlocking Socket** |  |
| a. | Name of the manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type: |  |
| d. | Rating: |  |
| **8.0** | **Power Harness** |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type : FLRY |  |
| d. | Operating Temperature: |  |
| e. | Insulation material used: |  |
| f. | IEC protection class |  |
| g. | Conduits provided Yes / No: |  |
| h. | Cable size ( DC side ) sqmm: |  |
| i. | Cable size ( AC side ) sqmm: |  |
| j. | Electrical circuit diagram and Layout: |  |
| **9.0** | **Control Harness** |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type: FLRY |  |
| d. | Operating Temperature |  |
| e. | Insulation material used: |  |
| f. | IEC protection class: |  |
| g. | Conduits provided Yes / No: |  |
| h. | Cable size in sqmm: |  |
| i. | Electrical circuit diagram and Layout: |  |
| **10.0** | **REESS State of Charge (SOC) and Fault indicator / HMI** |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No: |  |
| c. | Type: |  |
| d. | Details of indication when state of charge of the REESS reaches a levelwhen the manufacturer recommends re-charging |  |
|  | i  | Indication format: |  |
|  | ii | Relationship of state of charge indicator and the indication: |  |
| **11.0** | **Hybrid Controller Unit**  |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type: |  |
| **12.0** | **REESS Management System (Popularly known as Battery Management System, BMS)** |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type: |  |
| **13.0** | **Brief Description of System Including Dimensional Layout for Hybrid Electric System components Installation in the vehicle.** Typical layout shall indicate details of circuit brakers, MCBs used, location of charger, etc., and key Hybrid Electric System (HES) components |  |
| **14.0** | **Catalytic Converter (OE fitted)** |  |
| a. | Name of manufacturer: |  |
| b. | Model name/Identification No.: |  |
| c. | Type: |  |
| **15.0** | **Current Limiting Device (Fuse)** |  |
| a. | Name of manufacturer: |  |
| b. | Identification No.: |  |
| c. | Voltage/current rating: |  |
| d. | Type: |  |
| **16.0** | **Main Contactor / REESS Cut-off Switch** |  |
| a. | Name of manufacturer: |  |
| b. | Identification No.: |  |
| c. | Voltage/current rating: |  |
| d. | Type: |  |