COMPANY PROFILE

TEMPSENS Instruments (I) Pvt. Ltd is a part of Pyrotech group which was established by four technocrats in 1976 at Udaipur, with its first product as Thermocouples and RTDs.

Today Tempsens is one of the world’s largest solution provider for thermal engineering products - ie. Temperature Sensors, Infrared Pyrometers, Heaters and Cables. The headquarters are based in India, an assembly plant in Germany and sales office in China.

Tempsens is an ISO 9001:2008, ISO 14001, OHSAS 18001 certified company with NABL Accredited Laboratories.

The company is involved into manufacturing of Thermocouples, RTDs, Thermowells, Cables, Non contact Pyrometers, Heaters and Calibration Equipments etc. with covered area of 2,70,000 Sq. Ft.

Tempsens is proud of its technical solution, quick delivery, high technical standards and outstanding quality which have been appreciated and valued by its customers worldwide.

Tempsens exports to more than 70 countries, in all the continents.
SOLAR CABLES (PV Modules to AJB/MJB to Inverter)
Solar cables are exclusively made for applications in photovoltaic power systems. A solar cable interconnects solar panels and other electrical components of photovoltaic system. These solar cables are designed to be UV & Ozone resistant, Chemical and Oil resistant, with excellent FR properties, propagates smoke with low capacity when burned with external source and contains absolutely ZERO or low halogen. This cable can survive extreme weather conditions. It can be used within a large temperature range and are generally laid outside. These cable can be installed at indoor in hazard area, in explosion areas, in industry and in agriculture.

SPECIAL PROPERTIES OF SOLAR CABLES

- Lasts up to 30 years even under tough external conditions.
- Flame retardant, fire retardant.
- Resists extreme temperatures (-40°C to 120°C maximum at the core) and ozone resistant.
- Fast & Easy installation with color identification.
- In accordance with new environmental regulations.
- Suitable to common connector types.
- Full protection against ultraviolet rays.
- In accordance with new environmental regulations.
- Low smoke emission & low toxicity / corrosivity during fire.
- Suitable to common connector types.

REQUIRED FEATURES OF SOLAR CABLE

**CHEMICAL PROPERTIES**
- Weather resistant & UV resistant
- Resistant to mineral oils & chemicals
- Resistant to acids & alkaline

**THERMAL PROPERTIES**
- Maximum Conductor temperature of operation at 120°C during 20000 hours
- Ambient temperature: -40°C to +90°C
- Generally conforming to National/International standards

**ELECTRICAL PROPERTIES**
- Voltage rating: 1.5 (1.8) KV DC / 0.6 / 1.0 (1.2) KV AC
- High voltage test 6.5KV DC for 5 minutes.
- Insulation resistance - 1000 MΩ/km
- Spark test - 6000 V AC(8000 V DC)

**MECHANICAL PROPERTIES**
- Resistant to Impact, tear & abrasion
- Minimum bending radius - 4 times of overall diameter.
- Safe pulling force -50 N/sqmm.
Design I: DC Solar cable are single core copper cables each for +ve and -ve, They are insulated with cross linkable polyolefin compound and sheathed with halogen free polyolefin compound. (generally conforming to BS EN 50618:2014)

<table>
<thead>
<tr>
<th>SIZE cross-sectional area in (sqmm)</th>
<th>Max. Conductor D.C. Resistance at 20 °C in ohm/ (km)</th>
<th>Average Diameter of Conductor (in mm)</th>
<th>Approx. Overall Diameter of cable (in mm)</th>
<th>Approximate Overall weight (in kg/km)</th>
<th>Minimum Bending radius (in mm)</th>
<th>Current rating under continuous operation 90°C and ambient temperature 40°C (in A)</th>
<th>Short circuit current rating for 1 sec. duration (in KA)</th>
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Design II: DC Solar cable are single core copper cables each for +ve and -ve, They are insulated and sheathed with cross linkable LSZH which has UV as well as ozone protection properties (generally conforming to BS EN 50618:2014).

Design III: DC Solar cable are single core copper cables each for +ve and -ve, They are insulated with HR105°C PVC Compound and sheathed with UV Stabilized HR 105°C PVC Compound (generally confirming to IS-694 and IS-1554 part 1 guideline).

Design IV: DC Solar cable are single core copper cables each for +ve and -ve, they are insulated with XLPE compound and Sheathed with UV Stabilized PVC ST2 Compound (generally confirming to IS 7098 Part 1 Guidelines).

POWER CABLES (Inverter to Transformer to Switchyard)

The Three phase AC output from inverter to Transformer/Switchyard through armoured cables also manufacture by Tempsens (Upto 1.1 KV voltage grade). These cables are Copper XLPE insulated, GI armoured, UV stabilised PVC ST2.