1. Purpose

To define the standard procedure for measuring and evaluating contact block resistance in PV modules to ensure compliance with the required quality standards.

2. Scope

This WI is applicable to all solar PV modules manufactured at Gautam Solar Pvt. Ltd. where junction box and cable connections are assembled.

3. Frequency

- The contact block resistance check shall be performed **once every week** on each production line.

4. Responsibility

Role	Responsibility
IPQC Inspector	Carry out the resistance measurement and fill the checksheet
IPQC Supervisor	Review results and approve any rework
QA Team	Maintain records and ensure compliance

5. Equipment Required

- Micro-Ohmmeter (0–100 mΩ range, 4-wire Kelvin method)
- ESD Wrist Strap and Safety Gloves
- Gautam Solar Standard Checksheet (Doc No.: GSPL/IPQC/QC/012)

6. Procedure

6.1 Preparation

- Ensure the micro-ohmmeter is calibrated.
- Disconnect module from any power source.
- Place the module securely on an inspection bench.
- Wear ESD protection gear.

6.2 Measurement Process

1. Identify the **Contact Block Number** and **Line Number**.
2. Measure the resistance between the terminal inside the junction box and the corresponding cable pin using the micro-ohmmeter.
3. Record the value under **Measured Resistance (0 to 40 mΩ)**.
4. Determine the status as **PASS** if < 40 mΩ or **FAIL** if ≥ 40 mΩ.
5. If FAIL, perform rework and re-measure. Record the result under **Corrected Resistance**.
6. Fill in the **Final Cable Status** and **Remarks**, if any.

7. Acceptance Criteria

- Contact block resistance for each connection must be **less than 40 mΩ**.
- Consistency and uniformity in connection.
- No visible damage, burn marks, or looseness.

8. Rejection Criteria

- Resistance equal to or greater than **40 mΩ**.
- Loose or improperly crimped connectors.
- Damaged or oxidized terminals.
- Failures after rework.

9. Recording Format

Use the standard checksheet as shown below:

Contact Block No.	Line No.	Measured Resistance (mΩ)	Measured Status (PASS/FAIL)	Corrected Resistance (mΩ)	Final Cable Status	Remark
GS-001	L1	25.2	PASS	—	OK	—

- **Date**: [Insert Date]
- **Done By**: [Inspector's Name]
- **Reviewed By**: [Supervisor's Name]

10. Safety and Handling

- Always handle cables and junction boxes using insulated gloves.
- Use only calibrated equipment.