

Low Voltage Bypass/Isolation Automatic Transfer Switch Preventative Maintenance Statement of Work

EQUIPMENT

1. Verify that the equipment installation complies with O&M documentation.
2. Enclosure is properly secured to wall or floor.
3. Equipment interior is clear of debris and unit may be safely transferred.
4. Verify with site personnel that equipment may be transferred and occasional service interruptions are acceptable.
5. If an engine-generator is a secondary source, verify with site personnel that the engine-generator is in the AUTOMATIC POSITION and may be started and operated under load.

POWER

1. Verify that the transfer switch nameplate values are correct with the application (voltage, current, etc.).
2. Verify that the equipment ground connection is properly terminated.
3. Torque main lug terminals for S1 and S2 connections.
4. Torque main lug terminals for load connections if permitted. Power outage will be required.
5. Verify that the phase rotations of both sources are matched.
6. Perform a MX Controller calibration for S1 and S2 source voltages.
7. Measure and record S1 voltage and frequency.
8. Measure and record S2 voltage and frequency.
9. Measure and record a millivolt drop test across the movable contact assemblies.
10. Measure and record a millivolt drop test across transfer switch load-side finger assemblies.

CONTROL CIRCUITS

1. Verify any engine start connections are properly terminated.
2. Verify that any customer auxiliary contacts are properly terminated (position, pre-signal, etc.).
3. If applicable, verify that any load control wiring is properly terminated (load add, shed, etc.).
4. Review communications connections to an external SCADA or Building Automation System if applicable.

MAINTENANCE

1. Lubricate all moving linkages, bearings, main power connectors, rails and chains, etc.
 2. Adjust mechanical limit switches if necessary.
 3. Apply dielectric grease to movable finger assemblies if possible.
 4. If applicable, review and set clock and engine-exerciser period according to on-site personnel.
 5. Take thermal readings of each socket after the socket has been energized for at least 3 hours. Any readings on the socket surface that exceed 65 degrees Celsius above ambient indicates a need to replace the socket. When taking the thermal readings, be sure to record the amperage levels as well.
 6. With the transfer switch removed, locate the bolt that retains the Pin for each power connector and ensure that it is properly torqued. Also, with the bypass de-energized, locate the bolt that retains the Socket for each power connector (where accessible) and verify that it is properly torqued.
- * **Note:** *This maintenance regimen should be performed at least every 12 months*

TESTING

1. Perform a NO-LOAD TEST of the transfer switch through the MX Controller.
2. Perform a FAST LOAD TEST or LOAD TEST of the transfer switch through the MX Controller.
3. Measure and record transfer results including time periods.
4. Adjust time delays if necessary and review sequence with on-site personnel.
5. Perform a second LOAD TEST of the transfer switch. With the transfer switch in the S2 position, open the S2 source breaker and verify immediate re-transfer to S1 position.
6. Place the unit in BYPASS MODE and rack the transfer switch in the TEST POSITION. Repeat a FAST LOAD TEST of the transfer switch through the MX Controller.
7. Place the unit in ISOLATE MODE and observe proper operations and interlocking.

SERVICE REPORT

1. Recorded values of all measurements taken, voltages, amperage, frequency and millivolt.
2. Note any field adjustments.
3. Record MX Controller transfer log details.
4. Note any recommendations relative to repairs or upgrades.
5. 6-month parts and labor limited warranty period on any repairs performed.

