

CENTERLINE Motor Control Centers Bulletins 2100/2500 Standard Witness Tests

The following are standard witness tests performed at Rockwell Automation Facilities

Standard Witness Test Procedure is one 8 hour day and will include a sample of the order that can be completed in this time period. One Rockwell Automation System Tester will accompany the customer at all times and will perform all testing.

Electrical Testing:

- Voltage Test
- HI-POT of the bus insulation where applicable
- Phase Check Vertical Bus
- Main Breaker
- Electrical/Mechanical Operation
- Smart Motor Controller Test
- Drives Test
- IntelliCENTER / Network Devices
- Verify Fan Operation
- Verify Transformers
- Verify space heaters/thermostats and their indicators
- Verify control station lights/indicators, selector switches, push buttons, E-Stops
- Verify existing measuring systems

Unpowered / Additional Inspections:

- Documentation Requirements
- General Workmanship and Quality of Work
- Wiring Check
- Component Inspection
- Circuit Protective Devices
- Structure
- Labels and Nameplates
- Bus Splice Check

Additional witness testing not included in this standard requires the approval of the Project Manager or Engineer during the Kickoff Meeting.

Electrical Test Definitions

Voltage Test: Apply the correct incoming voltage per the manufacturing documentation and check for a correct voltage readout on the appropriate components.

Hi-POT: A.C. Dielectric strength test to stress the device under test to an AC high voltage and check that there is no apparent breakdown or degradation.

Phase Check Vertical Bus: Ensure that the stabs contact the vertical bus (on all three phases) and that the phase rotation is correct for all plug in units/modules. Ensure correct phasing on all power wires for frame mounted equipment and verify that all wires are connected to the correct points.

Main Breaker: Energize the breaker and verify phasing and connections.

Electrical / Mechanical Operation: Test the solid-state controllers per the manufacturer's test requirements and operate electromechanical devices.

Smart Motor Controller (SMC) Test: Connect motor to the load terminal connections in the unit and verify start, run, and stop commands as specified within the SMC Manual.

Drives Test: Verify that the drive ramps up and down properly when using speed potentiometer, HIM's, or other inputs that control drive speed. Exercise the drives using internal or external control.

IntelliCENTER / Network Devices: Verify that all inputs and outputs are per the requirements and functioning and that the Input Output mapping is correct.

Verify Fan Operation: Verify that the fan is working and that airflow direction is correct. Check voltage ratings by verifying that the correct voltage fan is connected to the correct power supply.

Verify transformers: Check the transformers for proper connection and jumper installation according to the transformer unit label. Also verify primary voltages on the label (matching the application specified on the drawings). Check the ground connection by pull test, and the secondary side grounding if present with a continuity test and pull test.

Verify space heaters / thermostats & their indicators: Check mechanical installation, perform a wires connection and pull test, verify that the heating components match the documentation and verify devices are operational. Check that the wires are not in contact with any hot surfaces. Check the indicators by switching the heater ON&OFF and observe the status lights where applicable.

Verify control station lights / indicators, selector switches, buttons, E-Stops: Verify the order, colors, and description of control station lights, push buttons, selector switches, and E-stops. Check for functionality by assuring that corresponding devices react when pressing the button or switching the selector and verify that the lights light according to their function.

Verify existing measuring systems: Verify measuring systems for reliable and proper measurements, including voltage, current, and frequency.

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