



Review dynamic façade maintenance for motors and sensors

Review dynamic façade maintenance strategy for motors, actuators, and sensors with an interactive checklist—commentable and export as PDF/Excel—to boost uptime, safety, and energy performance.

Project:

Date:

Filled by:

Strategy Governance & Documentation Review

1	Confirm asset register lists every motor, actuator, and sensor with location, make, model, serial, and QR tag; cross-check against as-built drawings via field walkdown; acceptance: 100% coverage; evidence: photos, exported register, reviewer signature.
2	Verify maintenance plan defines preventive and condition-based intervals based on duty cycles (cycles/day) and environment; acceptance: intervals stated in months and cycles with approval; evidence: annotated schedule and sign-off.
3	Review vendor manuals and per approved project specifications for lubrication, torque, calibration, and replacement methods; acceptance: procedures explicitly reference supplier documents; evidence: controlled method statement revision and approval record.
4	Assess risk register for failure modes (jammed louver, overcurrent, sensor drift) using FMEA; acceptance: severity, occurrence, and detection ratings documented; evidence: signed risk log and mitigation actions.

Motors Maintenance Strategy

5	Specify motor inspection tasks: capture nameplate photo, measure run current with clamp meter, measure temperature rise with IR camera; acceptance: $I \leq \text{rated} \times 1.10$ and $\Delta T \leq 60 \text{ K}$; evidence: readings and images.
6	Define insulation resistance test frequency and thresholds using 500 V DC megohmmeter; acceptance: $\geq 5 \text{ M}\Omega$ at 20 °C (correct for temperature); evidence: test report with ambient noted.
7	Set lubrication policy distinguishing sealed vs. serviceable bearings; acceptance: grease type per vendor, quantity recorded, no purge contamination; evidence: lubricant batch, applicator ID, and timestamped photo.
8	Establish vibration monitoring trigger using accelerometer on motor housing; acceptance: RMS velocity $\leq 3.5 \text{ mm/s}$; exceedance initiates corrective action plan; evidence: trend graph and work order.

Actuators & Mechanisms Strategy

9	Establish stroke time verification with stopwatch from 0–100% travel; acceptance: within $\pm 10\%$ of commissioning baseline; evidence: timestamped video and recorded times.
10	Check end-stop/limit switch function using multimeter continuity at setpoints; acceptance: positive switching and no chatter; evidence: test sheet, photos of switch positions.
11	Measure mechanical backlash/torsion using dial indicator or feeler gauge at output linkage; acceptance: $\leq 1.0 \text{ mm}$ play; evidence: measurement photo and gauge reading.
12	Define torque verification with in-line torque meter where applicable; acceptance: $\geq 20\%$ margin over design torque; evidence: calibrated meter certificate and recorded values.

Sensors & Calibration Strategy	
13	Calibrate light sensors using a reference lux meter at multiple points; acceptance: $\pm 5\%$ at 200–2000 lx; evidence: calibration certificate and comparison table.
14	Verify wind sensor accuracy using anemometer or vendor jig; acceptance: ± 0.5 m/s across 5–20 m/s; evidence: test log, serial numbers, and photos.
15	Validate temperature sensors against a traceable thermometer; acceptance: ± 0.5 K at 20–30 °C; evidence: readings, instrument ID, and calibration due dates.
16	Review sensor placement for line-of-sight and avoidance of reflected glare per façade geometry; acceptance: unobstructed view documented; evidence: marked site photos and updated layout.

Controls & Monitoring Strategy	
17	Map BMS/PLC alarms (jam, overcurrent, lost feedback) to maintenance actions; acceptance: alarm-to-ticket workflow within 5 min; evidence: CMMS screenshots and workflow diagram.
18	Define seasonal functional tests during equinox/solstice with live scripts; acceptance: $\geq 95\%$ devices complete cycle without fault; evidence: test report and exception list.
19	Set data logging for movement cycles, current draw, wind, and lux; acceptance: ≥ 1 min interval during motion; evidence: archive path, retention policy, and sample trends.

Access, Safety & Spares Strategy	
20	Confirm access and LOTO procedure per elevation using MEWP/BMU; acceptance: signed method statement and rescue plan; evidence: permits, toolbox talk records, and photos.
21	Establish critical spares list (motors, gearboxes, actuators, sensors); acceptance: on-site stock covers 90 days average failures; evidence: inventory with part numbers and min/max levels.
22	Agree vendor response and warranty terms; acceptance: service level ≤ 48 h site attendance; evidence: executed contract clause and primary contacts.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Review dynamic façade maintenance strategy for motors, actuators, and sensors is a focused framework for facility teams to evaluate preventive maintenance, condition-based monitoring, and lifecycle planning across automated shading, blinds, and louver systems. The scope centers on electro-mechanical drives, linear and rotary actuators, and environment-sensing devices tied to BMS control, excluding structural glazing and aesthetic cleaning. By reviewing service intervals, access and lockout procedures, lubrication methods, calibration tolerances, and spares strategy, you reduce jamming, overheating, nuisance alarms, and energy waste. You also improve uptime, wind safety response, daylight performance, and occupant comfort. This checklist emphasizes clear acceptance criteria, evidence capture, and traceable approvals per approved project specifications and authority requirements. Use it to align vendors, technicians, and asset managers on one practical plan that withstands seasonal loads and real duty cycles. Start in interactive mode: tick items, add comments, attach photos, and export results to PDF/Excel with a secured QR code for easy re-verification.	1. Preparation: Gather vendor manuals, approved project specifications, asset register, BMS access, CMMS login, IR camera, clamp meter, megohmmeter (500 V DC), lux meter, anemometer, calibrated thermometer, and site access permits, PPE, and LOTO equipment. 2. Open interactive mode: Select building, elevation, and zone. Scan asset QR tags to auto-fill records. Tick items as you proceed, and add comments where the current strategy lacks clarity. 3. Work through sections: Governance, Motors, Actuators, Sensors, Controls, and Access. Apply acceptance criteria, record measurements where sampled, and link supporting photos, certificates, and method statements. 4. Attach documentation: Upload vendor pages cited, calibration certificates, risk assessments, and training records. Reference drawing numbers and asset IDs for traceability. 5. Export and share: Generate a versioned PDF/Excel report with embedded QR code for re-verification. Circulate to facility, vendor, and client representatives for review. 6. Sign-Off: Capture digital signatures from maintenance lead, vendor, and client. Archive the report in the CMMS, schedule follow-up actions, and lock controlled documents.