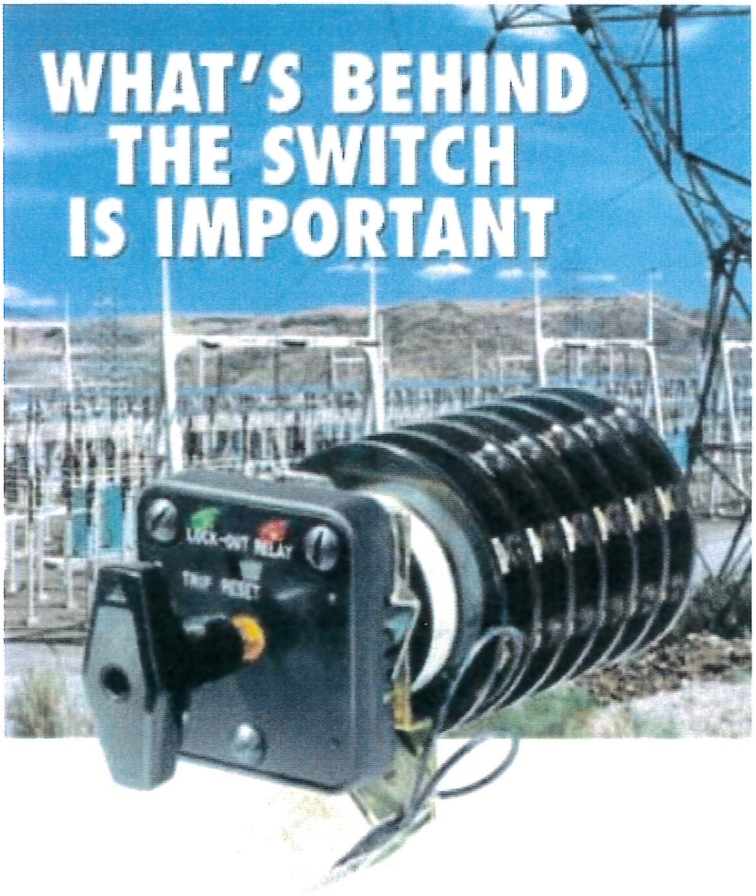
ELECTROSWITCH CORP



Superior Quality, rugged Reliability, innovative Solutions, and an unflagging commitment to Customer Service are at the core of our business philosophy.

QUALITY MANUAL

ISO 9001:2015

Revision 27

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Introduction

Starting with only six employees, Electroswitch was founded in 1946 in Weymouth, Massachusetts as a switch supplier to the military. Over the succeeding decades, the expertise acquired in designing and building rugged, high quality, mil-spec rotary switches was adapted to new product lines as the company expanded into the heavy duty Industrial and Electric Utility markets.

This Quality Manual describes the policies and procedures used by Electroswitch Corp to comply with the requirements of ISO 9001:2015.

Scope of Registration:

1. Main site: Design, manufacture, distribution and service of switches, relays and related products.

   180 King Ave
   Weymouth, MA 02188
   Phone: (781) 335-5200

2. Additional site: Manufacture of parts for switches, relays and related products.

   175R Union Street
   Rockland, MA 02370
   Phone: (781) 871-5541

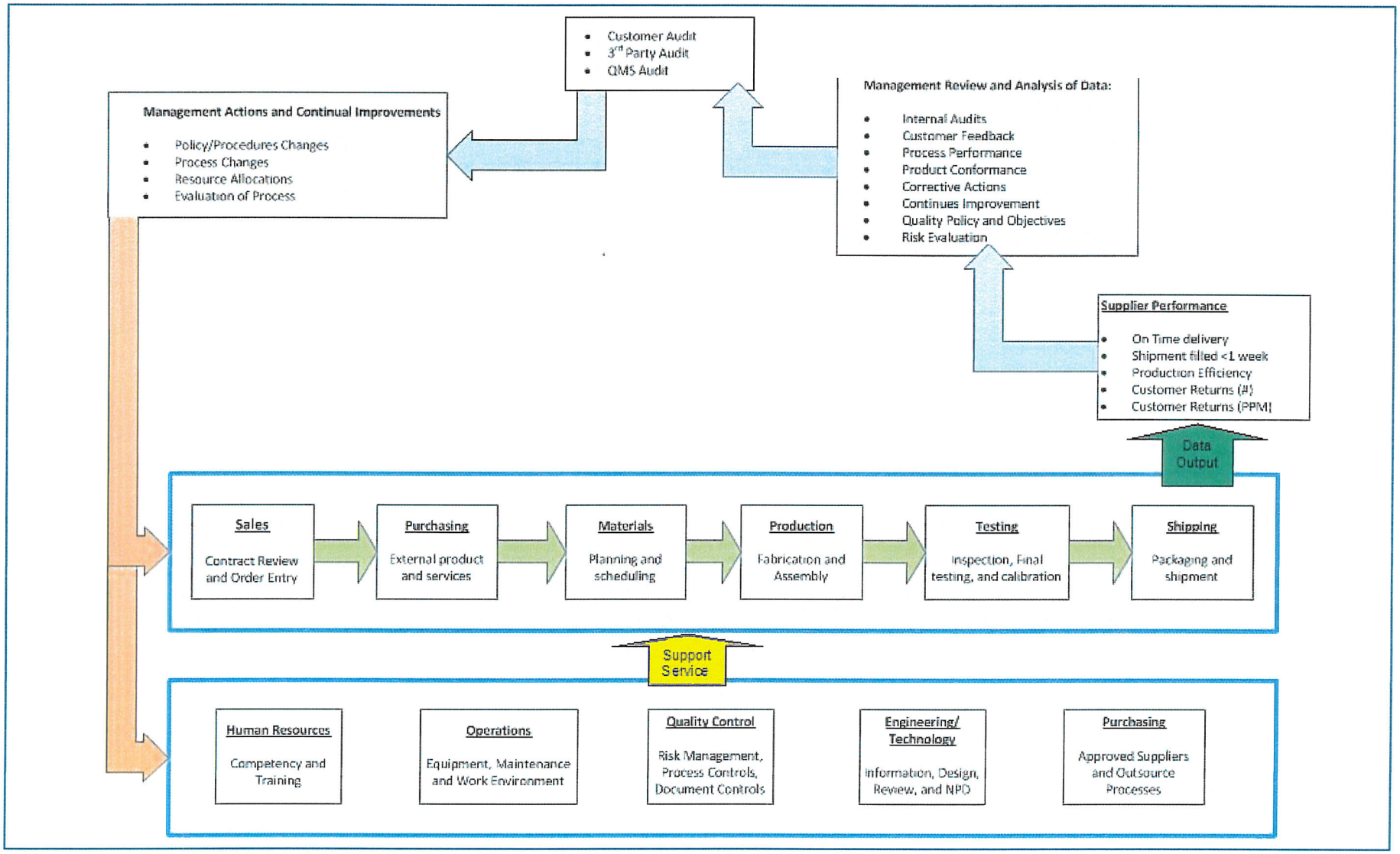
Quality Policy

At Electroswitch, we set the standard of excellence in our industry. We live quality and have a passion for meeting customer expectation through employee participation; innovation and continuous improvement by constantly reviewing our performance against established quality objectives during management reviews. With Electroswitch, there is *never a doubt*.

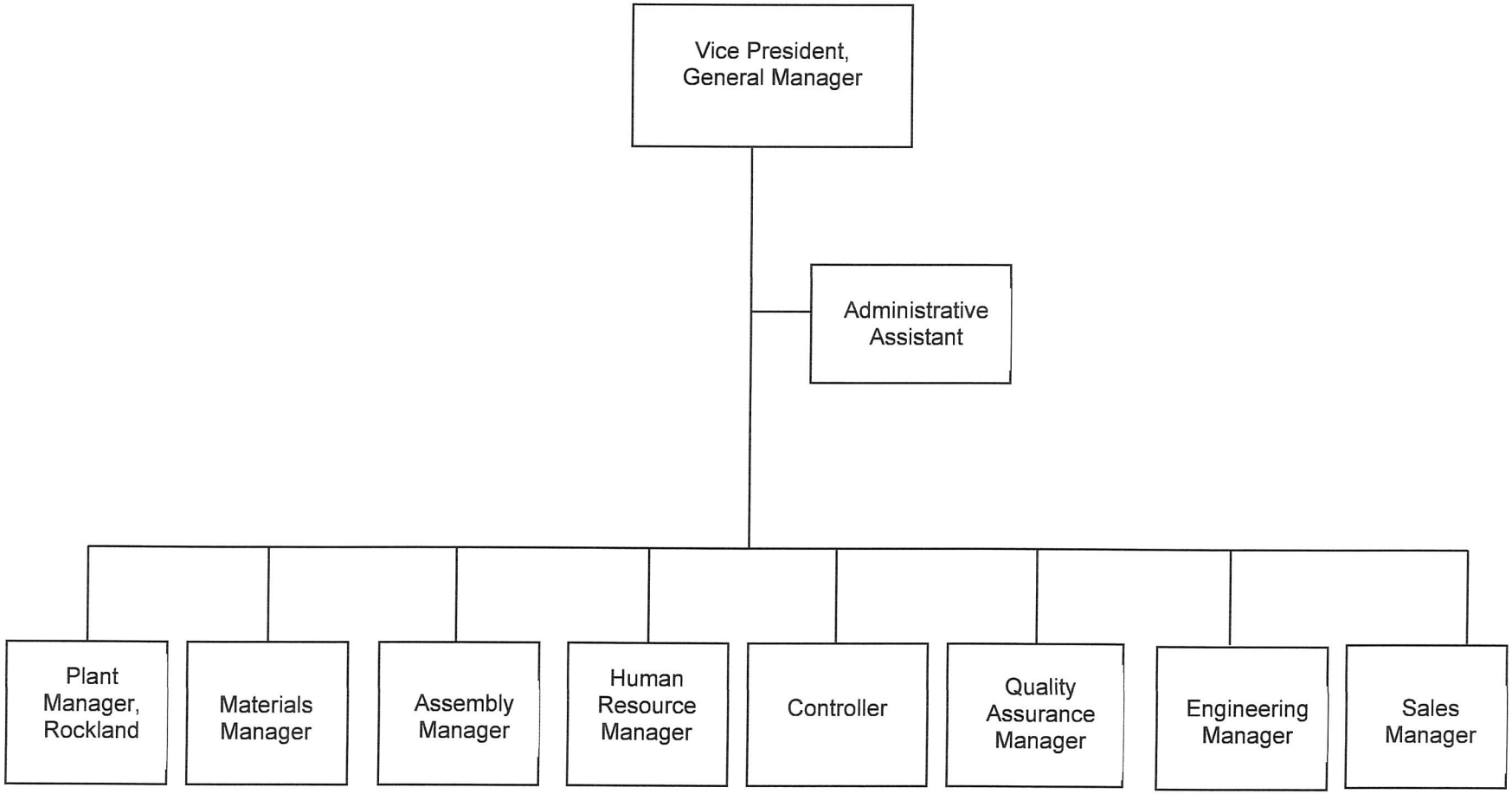
Quality Objectives

Our stated objectives are to be identified and measured as defined in the annual management review process. Each objective shall contain a target goal. Any objective that is not meeting the goal in any three consecutive month period shall have a corrective action plan, including actions to support achieving the goal.

Interaction of Processes Flowchart



Organizational Chart



Quality Records Matrix

	Record Name or Type	Responsibility	I. D.	Storage	Back Up	Retention Time	Disposal
1	Management Review Minutes	Quality Manager	Date	Electronic	Binder in Quality Manager Office	5 years	Archived
2	Contract or Order Review Records	Customer Service Rep	Customer PO and Customer order	Electronic in ERP system	On the Cloud	7 years	Archived
3	New Product Launch Checklist	Engineering Manager	Part Number	Binder in Engineering office	Electronic	Life of Product + 1 year	Archived
4	Employee Education, Training, Skills Records	Human Resource Manager	Employee name	File cabinet in HR Office	Electronic	Life of Employee + 3 year	Archived
5	Final Product Conformance Records	Quality Manager	Part Number	File Cabinet in Inspection	At Customer	10 years	Archived
6	Supplier and Subcontractor evaluation	Purchasing Manager	Supplier name	Electronic	On the Cloud	5 years	Archived
7	Product Traceability Records	Customer Service Rep	Customer Order Number / Job Order Number	Electronic in ERP system	File Cabinet/Server	7 years	Archived
8	Internal Audit Records	Quality Manager	Date	Electronic	Binder in Quality Office	3 years	Destroy
9	Calibration Records	Quality Manager	Tool ID number	Electronic	Supplier Database	Life of tool + 5 years	Archived
10	Control of Nonconforming Product Records	Quality Manager	Final Test Rejection Report, RMAs	Electronic	Binder in Quality Office	5 years	Archived
11	Corrective Action Records	Quality Manager	ICAR #, SCAR #, CAR #, Other	Electronic	Customer portal if required	5 years	Archived
12	Quality Inspection Record	Quality Manager	Inspection Report number or Part Number	File cabinet in Inspection Lab or Electronic	Electronic of MRR only	5 years	Archived

Interested Parties List

Interested Party	Internal / External	Reason For Interest	Requirements	Relevant to QMS	Risk / Opportunity	Risk Level	Specific Risk / Opportunity
Shareholders / Owners	Internal	Return on Investment	Achieve business goals	Yes	Risk	High	QMS must be cost effective and efficient
Customers	External	On Time Delivery	Products delivered when promised	Yes	Risk	High	Potential loss of business
Customers	External	Product Quality	Supplied parts meet specification	Yes	Risk	High	Potential loss of business
Employees	Internal	Job security / quality of life	Continued employment / professional growth	Yes	Risk	Low	High employee turnover
Employees	Internal	Roles & Responsibilities	Need to understand specific job duties and required documentation for assigned work	Yes	Risk	Medium	Poor quality due to lack of tools and training necessary to complete their work
Suppliers	External	Their business continuity	Need specifications and purchasing information	Yes	Risk	High	Longer lead times or quality issues that impact on time delivery
Community	External	Provide employment opportunities	None	No	Opportunity	Low	High local unemployment rate
Community	External	Provide economic / humanitarian benefits	Philanthropic only	No	Opportunity	Low	Reduced humanitarian contributions
Competitors	External	Their need to challenge for market share	Their internal business plan	No	Risk	Medium	Potential loss of business / inability to grow market share
End Users	External	Product quality – fit and function	Product works and is reliable for intended use	Yes	Risk	Medium	Cost of customer returns, repair, and replacement
Governmental / Regulatory Bodies	External	All appropriate local, state, and federal agencies/QPL	Per agency regulations	Yes	Risk	Medium	Potential liability and / or loss of business
Certification Bodies	External	Conformity & effectiveness of QMS	Per specific standard	Yes	Risk	Medium	Non-conformance of management system / potential loss of business

1.0 Risk: ISO 9001:2015 Clause 6.1

1.1. Risks, both desirable and undesirable, are addressed using risk based thinking. Negative risk is typically addressed based on the potential impact of the risk. High level risks are mitigated, and minor risks are often accepted by the management team member assigned to address the risk.

1.2. The Interested Parties List, Management Reviews, and its output action list can be utilized as a general guideline to identify and address known risks.

1.3. The effectiveness of risk methodologies is evaluated and improved, as part of the management review process.

2.0 Resources: ISO 9001:2015 Clause 7.1

2.1. Electroswitch Corp determines and provides the resources necessary to implement and maintain the quality management system and to continually improve its effectiveness.
Necessary resources also are provided to enhance customer satisfaction by meeting customer requirements.

2.2. Personnel performing work affecting product quality are competent on the basis of appropriate education, training, skills and experience.

2.3. The production supervisor determines the necessary competence for personnel performing work affecting product quality.

2.4. The production supervisor is responsible for ensuring personnel are properly trained to perform the assigned job.

2.5. Organizational knowledge such as cross training, further education, seminars, etc. are documented in personnel training records. The Human Resources Manager maintains all training records.

2.6. It is the responsibility of the production supervisor to ensure that the personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives and quality management system.

2.7. Employees are evaluated for their performance on a continuing basis to ensure they are performing satisfactorily.

2.8. All resources, people, equipment, maintenance, and those needed for continual improvement that are relevant to the quality management system will be discussed as appropriate within management review meetings.

2.9. **Associated Materials**

Quality Record Matrix
Training Records/Forms
Management Review meetings/minutes
New Employee Orientation form (HR1)
Job Descriptions

3.0 Control of Monitoring and Measuring Devices: ISO 9001: 2015 Clause 7.1.5

3.1. Quality Manager or designee is responsible for ensuring that measuring and monitoring devices are used in a manner that ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

3.2. A list of all measuring and monitoring equipment is maintained and can be provided to the concerned personnel as needed with relevant information.

3.3. As applicable, inspection, measuring and test equipment are calibrated with NIST Traceability.

3.4. All inspection, measuring and test equipment have unique ID and is labeled with calibration details or can be referenced back to the master list.

3.5. Externally calibrated devices/equipment will be accompanied by a certificate of calibration form the service provider.

3.6. The Quality Manager or designee maintains calibration records for measuring and monitoring equipment.

3.7. Any equipment found to be out-of-calibration is re-called, re-calibrated, if possible, or is removed from service. Equipment awaiting repair/re-calibration is physically segregated until it is re-calibrated. For any out-of-calibration equipment, every effort is made to locate and re-verify measurements made with said equipment.

3.8. All personnel are responsible for ensuring that the environmental conditions are suitable for the calibrations, inspections, measurements, and tests being carried out.

3.9. It is responsibility of the Quality Manager to ensure that handling, preservation, and storage of inspection, measuring and test equipment's accuracy and fitness for use are maintained. All employees must take care to handle inspection, measuring and test equipment carefully and make sure that it is used only for the intended purposes.

4.0 Control Of Documented Information: ISO 9001:2015 Clause 7.5

4.1. Process for governing document control is in place and ensures control of the documents required by Electroswitch quality management system.

4.2. The Quality Manger ensures that the Quality Manual is maintained, controlled, understood, and distributed as necessary.

4.3. The Quality Manager is responsible for ensuring that the latest revisions are available at point of use, and that all obsolete materials are removed.

4.4. Each department manager ensures that the related documents are maintained, controlled, approved, and available when needed.

4.5. Controlled documents are identified by the document number, revision, and if required, effective date.

4.6. When creating a new document or revising the existing one, the document is reviewed and approved by the appropriate parties.

4.7. Documented information to be retained as defined on page 6 – Quality Record Matrix.

5.0 Design and Development: ISO 9001:2015 Clause 8.3

5.1. Current Product estimates and orders.

5.1.1. Engineering will receive either a customer purchase order from the Sales Department via the SyteLine "Customer Order Lines Form" or an Estimate Request via the SyteLine "Estimate Lines Form". The form will contain:

- customer information
- date
- estimate or customer order number
- action requested

5.1.2. Sales will attach any additional customer supplied drawings, specifications or pertinent information to the Estimate or Customer order form when applicable. This information will be in the Object Notes or Doc Trak Attachments

5.1.3. Engineering will review the requirements and all the attached information in detail to determine if there is any existing product that meets the stated requirements and that all the supporting documentation is correct.

5.1.3.1. If it is determined that no existing product meets the requirements, Engineering will suggest or propose a product and provide the necessary information to verify that the product meets the requirements.

5.1.3.2. The Engineer will interact with sales and with the customer when necessary to gather any additional product information when needed to further evaluate the application requirements. The Engineer will then determine what product or modifications are necessary to meet the customer requirements.

5.1.3.3. The Engineer will create all needed documentation to process the order or inquiry, which may include, assembly drawings, product structures, routings, special component drawings as required or other specifications, etc.

5.1.3.4. When requested, the Engineer will also provide sales with pricing or costing information to assist sales for quoting purposes or for pricing customer orders. The pricing information may include similar products for cost comparison or the identification of additional features, material or labor costs, tooling costs and design costs when applicable.

5.1.3.5. Customer purchase orders sent to Engineering through The SyteLine System via the Estimate Form or Customer Order Form will be reviewed for technical requirements.

5.1.4. If the Current products Engineer determines the requirements cannot be met with existing product configurations or families it will be recommended that New Product Development be involved.

5.2. New Product Development

5.2.1. Engineering Project Request (EPR)

5.2.1.1. An Engineering Project Request Form (EPR) (Sales Form #44) summarizing the key information at project initiation will be initiated by sales.

5.2.1.2. The Engineering Manager or designated Engineer is responsible for the development of new products from initial concepts and product

specifications, through design, analysis, development, testing, and transition to production. At the beginning of every project the Engineering Manager or designated Engineer will review with the General Manager the scope of the project, the members of the development team, and inputs to the project, product requirements, estimated project costs and the estimated plan for the completion of the project. Any additional inputs that are necessary for assessment of the project will be secured for project approval and added to the EPR for final review by upper management. The EPR will be updated with any major changes in the project schedule, project team, or project structure.

5.2.2. Inputs:

The inputs to the project are the information that sets the project scope. This information may include functional and performance requirements, regulatory and statutory requirements (if applicable), any inputs from previous similar projects, financial information as required, and any other information that is a major factor in the product requirements.

5.2.3. Outputs:

The output of the project is the development of a program to meet the requirements specified on the Engineering project request and from gathered inputs. This development may include conceptual modeling, schematics, software, visual images, drawings, parts list/Bill of materials, process routings, Engineering Standards, Tooling, associated cost, and defining acceptance criteria for verification and validation evaluations, operational manuals, and potential advertising sales documentation. Outputs are typically reviewed at each planned milestone of the project.

5.2.4. Controls Reviews, Contracts, and Engineering Change Notifications (ECNs)

5.2.4.1. At predetermined points in the project schedule there will be a systematic review of the development. At each review the project development will be assessed. Any problems identified during the review will be documented, along with plans for addressing them.

5.2.4.2. Reviews will include the participation of the project team, and representatives of other functions affected by the project, which may include Sales, Manufacturing and/or Finance.

5.2.4.3. A final project review will take place after product verification and validation. See Approval, Production Release.

5.2.4.4. A record of any applicable contracts or agreements with external development entities shall be captured (for Example, Non-Disclosure Agreements, Purchasing/financial Agreements, External Standards and Domestic/Foreign Patents)

5.2.5. Verification:

The purpose of verification is to ensure that the outputs of the project meet the Engineering Project Request requirements. This will be done in the qualification test process. As discussed under reviews, the results of verification will be part of the final project review. Verifications can also be performed in the field of operation by either field personnel or by the initial customers listed on the Engineering Project Request form.

5.2.6. Validation

The purpose of validation is to ensure the usability of the product in the intended application. Because the products vary considerably, the appropriate means for validation vary from product to product. This validation may include, in-coming and or in-process inspections of all components and assemblies. Final inspection of final product. Validation may also require customer beta testing. Internal validation if required must be initiated for the program before product shipment or implementation. External validation would require samples be evaluated by either field personnel or beta evaluations by the initial customers listed on the Engineering Project Request form.

5.2.7. Design Changes

When design change is requested, engineering will perform a risk evaluation to determine the severity of the impact to the product conformity. The design change process steps will be defined based on the engineering evaluation. Refer to ESP004- Product Control and Review

5.2.7.1. Any changes required in product specifications will be communicated to the relevant functions (for example, Sales, Manufacturing, Quality, Finance and if applicable the General Manager).

6.0 Purchasing -Control of externally provided products and services: ISO 9001: 2015 Clause 8.4

6.1. Electroswitch will determine the products, processes, and services based on availability and ability or other important criteria when considering, evaluating and selecting external provider (vendors).

6.2. All vendors that have proven their dedication to these quality objectives through past performance or history with Electroswitch will maintain the status as approved vendor. Their performance will be evaluated based on product, process, and/or service being provided. The Purchasing Manager or designee actively maintains vendors approved status and approved suppliers are identified on this list.

6.3. The Purchasing Manager or designee, to determine qualification for being put on the list, assesses new vendor/subcontractors Electroswitch Corp is considering. Once the vendor/subcontractor has been evaluated, and found to meet the requirements, they will be placed on the Approved Vendor List. Refer to Supplier Approval Form- PUR6

6.4. All properties, specification, and/or inspection requirements of the processes, products, and services are defined and communicated to the vendor.

6.5. Electroswitch Corp controls the quality of outsourced processes through Supplier evaluations, Vendor List, where applicable receiving inspections.

6.6. Performance of the vendors/subcontractors is evaluated based on quality of the product provided and on time delivery.

- Incoming inspections and floor nonconforming records will be used for vendors/subcontractors evaluation. Refer to the ERP MRR Form.

7.0 Production and Service Provision: ISO 9001: 2015 Clause 8.5

7.1. Scheduling

7.1.1. Final product scheduling is done based on the customer orders and priorities as defined by Electroswitch.

7.2. Receiving

7.2.1. All incoming materials are received per the purchase order. Product is verified for any damage or discrepancy prior receiving.

7.3. Incoming Inspection

7.3.1. Unless otherwise specified in ERP system, all items that are critical to product quality will go through receiving inspection process.

7.3.2. Authorized inspector ensures that received product meets engineering specified requirements prior to release it to proper stock location.

7.3.3. Questionable items will be documented in the appropriate inspection report form and will be presented to MRB (Material review board) meeting. MRB

team will review the details provided and determine the appropriate disposition of the item.

7.4. Material control and inventory

7.4.1. As the job order released, material control will provide the items required to the appropriate assembly location.

7.4.1.1. It is the responsibility of the material control to generate job orders for Items that are manufactured at EMC.

7.4.2. Material control will ensure that the inventory is accurate per ERP system by performing timely cycle counts and make adjustments as needed.

7.5. Production assembly

7.5.1. The authorized production personnel will schedule the daily work based on the production load and priorities. The job will be assigned to the qualified operator.

7.5.2. All jobs packets determine operations to be performed and the materials needed to complete the job. Operators at each location will collect the required materials and complete the operation as required. Operator will update the ERP system after each operation is complete and will provide the completed material to next operation.

7.6. In process and final inspection

7.6.1. As determine in the job packets, material will go through the inspection process and inspected as required. Assigned inspector ensures that the product meets the engineering drawing requirements.

7.6.2. Upon completion of the inspection the product will be forwarded to the next operation on the job packet.

7.7. Shipping

7.7.1. Shipping associate reviews the job packet and ensures that all items and documentation required on customer purchase order are present prior to packaging the product for shipping.

7.8. Post-delivery servicing

7.8.1. When customer has an issue with the product received, customer will contact the appropriate sales/customer service representative (CSR) for further guidance.

7.8.2. If the determination is to return the product for review/repair CSR will issue a return authorization number for the product to be returned.

7.9. Customer Property

7.9.1. Properties provided by customer for incorporation into the product, are identified, and protected to prevent loss or errors.

8.0 Nonconforming Outputs: ISO 9001: 2015 Clause 8.7

8.1. Nonconforming materials/products may be segregated, as appropriate.

8.2. Any nonconforming product, shall be evaluated by Quality and Engineering to determine disposition of the material.

8.3. If the nonconforming product is a customer returned item, a Return Authorization process is initiated.

8.4. Nonconforming product found at Final Test/Inspection, a Final Inspection and Test Rejection Report will be attached to the product and sent to the repair department. Upon completion of the repair, the product will be re-inspected and noted on the form.

8.5. If an item at receiving or in manufacturing is found to be nonconforming, then the product will be isolated and the Non-Conformance Report with product information will be placed with product for identification. Also, the QC personnel will be informed for further action.

9.0 Customer Satisfaction: ISO 9001:2015 Clause 9.1.2

9.1. The customer satisfaction is tracked by the RMA process for all the major customers.

10.0 Internal Audit: ISO 9001:2015 Clause 9.2.2

10.1. Internal audits maybe performed by internal personnel or by an external service provider.

10.2. Auditors are selected by The Quality Assurance Manager or designee, through the assessment of their qualifications. The categories for selection are as follows:

10.2.1. Must be a certified ISO 9001:2015 auditor.

10.2.2. Experience in auditing principles or practices. The auditor must, at a minimum observe a full audit with an approved auditor.

10.2.3. Knowledge of the facility processes.

10.2.4. Ability to ensure objectivity and the impartiality of the audit process.

10.3. Each functional area is audited yearly, at a minimum against all applicable clauses of the ISO 9001:2015 standard.

10.4. Audit frequencies may be increased based on previous audit findings, product or process nonconformance, or increases in customer complaints. Functional areas to be audited are recorded on the Internal Audit Schedule.

10.5. The audit plan and schedule have at a minimum:

10.5.1. Criteria and Scope of activities of the audit

10.5.2. Processes and clauses to be audited

10.5.3. Functional areas to be audited

10.5.4. Audit team taking part in the audit

10.5.5. Proposed time line of the audit

10.6. The results of the audit are recorded on an Audit Report/Summary. All nonconformities and observations are recorded on the Action Report.

10.7. At the conclusion of the audit, a closing meeting is held with the auditee's management to review the assessment. Any nonconformities are assigned as appropriate to take corrective action to eliminate the nonconformity.

10.8. The Quality Manager or designee, is responsible for the verification by means of evidence to determine the effectiveness of the corrective action taken.

10.9. The results of internal audits are compiled by the Quality Manager or his designee and reviewed during the Management Review Meeting.

11.0 **Management Review:** ISO 9001:2015 Clause 9.3

11.1. Management review meetings are conducted on an annual basis at minimum. Records of the management review meeting minutes are maintained.

11.2. Management review uses a multidisciplinary approach and includes all members of the Management Team and any other associates as deemed to have input to topics of discussion.

11.3. Inputs for the meeting include

11.3.1. Status of actions from previous management reviews.

11.3.2. Changes in external and internal issues relevant to quality management system.

11.3.3. Trends and any information on the performance and effectiveness of the quality management system as:

- Customer satisfaction and feedback
- Quality policy and objectives
- Process performance and product conformity
- Status of corrective and preventive actions
- Monitoring and measurement results
- Results of audits
- Performance of external providers

11.3.4. Adequacy of resources

11.3.5. Effectiveness of actions to address risks and opportunities

11.3.6. Recommendations for improvement

11.4. Identified actions from the meeting outputs are assigned to designated individuals.

11.4.1. Opportunities for improvement

11.4.2. Any changes to the quality management system

11.4.3. Resource needs

11.4.4. Identified actions listed with designated employee, due date, and the status.

11.5. The Management review meeting minute will also include any action that need to be undertaken as the result of the meeting outputs.

12.0 Corrective Action: ISO9001:2015 Clause 10.2

12.1. Corrective action may be initiated because of product nonconformance, customer complaint, supplier nonconformance, internal/external audits.

12.2. Initiation of an investigation is recorded on the SyteLine QC TRR Form.

12.3. The results of the investigation and actions taken to prevent recurrence are recorded on the SyteLine QC TRR Form. Determination of actions may be reviewed with the appropriate team members.

12.4. After the corrective action has been implemented, The Quality Manager or designee, will verify the effectiveness of the actions taken.

12.5. If the actions taken are deemed to be ineffective, a new Non-conformance Report Form will be generated, and steps of this procedure are to be repeated.

13.0 Revision History

Rev #	Issue Date	DCN #	Written by	Reason for update
11	10/16/1998	N/A		First Issue
12	11/16/1998	N/A		4.5 Change title, 4.14 eliminate cause of non-conformities. Page 18 change document control to document and date control. Update index 4.5
13	12/23/1998	N/A		Add in Design input review 4.4, add processes – qualified personnel 4.9, add doc ref. 4.20, add stats to SOP
14	09/21/2001	N/A		Added Engineering to 4.4. Changed Imbault to Lloyd
15	04/19/2003	N/A		Revised to meet ISO 9000:2000 standard
16	09/17/2003	N/A		Revised section 4.1 to reference 10CFR21 and 10CFR50, Appendix B
17	01/06/2004	N/A		4.2.2 Deleted 'reclosers' : 8.2.1.8.2.3,8.4,8.5.1: Added word 'Business'
18		N/A		Added QOP numbers as cross-reference to level II' s
19	9/19/2005	N/A		QOP020 Deleted transcription error & 1E dedication statement.
20	10/18/2006	N/A		Delete QA Mgr. Name, Section 3.0, Change QOP 020 to QOP 015, section 8.5.3
21	10/01/2008	N/A		Add 'Scope' to 4.0 and number text-boxes on flow chart in section 9
22	03/22/2010	N/A		Add 2 paragraphs to section 7.6
23	04/11/2011	N/A		Update ISO 9001:2000 to ISO 9001:2008 & correct miscellaneous punctuation
24	01/13/2017	N/A	Larry Friedman	Remove NQA-1 reference. Changed Vice President/General Manager name on Quality Policy page 5
25	01/17/2018	18-006	Andy Thomes	Updated Electroswitch Corp Quality Policy and Procedures Manual Level I and Level II documents into one Level I document.
26	2/1/2019	N/A	Eleni Rrapushi	Revised the Quality Manual to reflect the current practice. Updated Interaction of processes flowchart (Page 4), Production and Service Provision (Section

				7.0), and some minor updates to reflect the current practice.
27	12/20/2023	N/A	Dan Cordeiro	Page 3: Revised Quality Objectives section Page 6: Revised records storage requirements Page 9: Sect 3.1 added "or designee" Page 16: Sect 8.5 added "at receiving or"; from "QC Form (104R)" to "Non-Conformance Report" Page 16: Added new Sect 10.1; all other Sect 10 reformatted.

14.0 Approval Parties

(Sign and date to approve and release the document)

Dan Cordeiro *Quality Manager*	*Signature*	12-20-2023 *Date*
Bryan Gregory *VP and General Manager*	*Signature*	12-21-23 *Date*
Rob Engelhardt *Engineering Manager*	*Signature*	12-26-23 *Date*
Shari Goscinak *HR Manager*	*Signature*	12/21/2023 *Date*
Lisa Myhre *Assy Manager*	*Signature*	12/20/2023 *Date*
Scott Murphy *Plant Manager*	*Signature*	12-21-23 *Date*
Wayne Guyther *Controller*	*Signature*	12/20/23 *Date*
Bill Hagar *Purchasing/Shipping and Maintenance Manager*	Bill Hagar *Signature*	12/20/23 *Date*
Bob Sicuranza *Sales Manager*	*Signature*	12/20/2023 *Date*