Quality Management System

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1. SUMMARY

Advance Electronics operates a quality management system that has been implemented into the organisation to ensure that the needs of our stakeholders are consistently met.

The quality management system is certified by NQA to meet the requirements specified in the international standard for quality management systems ISO 9001:2000. There are no exclusions from the quality obligations stated in this standard.

The scope of the quality management system is:

The design, manufacture and repair of power stabilisation transformers, AC uninterruptible power supplies, line conditioners, voltage stabilisers, filters, filter plugs and associated equipment, including battery chargers for DC power systems – up to an output rating of 25kVA and a voltage of 250V.

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Quality Policy

qm01: 05/11/03

Strategic Intent

Advance Electronics will continue to provide solutions in power protection that exceed customer expectations.

Quality Policy

To realise our strategic intent we will consistently:

- Advance the knowledge and skills of our workforce.
- Develop innovative solutions to specific power problems.
- Verify that proposed designs will meet customer requirements.
- Achieve best practice in quality, environmental and safety matters.
- Notify our customers of any relevant developments.
- Comply with the appropriate technical and engineering standards.
- Enhance our reputation within the power conditioning market.

The Director has committed the business to this policy, and is supported in its organisation-wide adoption by the management team.

Management Systems

Our Quality Management System (accredited to BS EN ISO 9001:2000) has been successfully integrated at all levels throughout the business.

Quality Objectives

Specific objectives relating to this Policy for completion by December 2004 include:

- The involvement of all staff in the development of continual improvement schemes.
- The development and implementation of working practices for all aspects of the business.
- The implementation of processes to identify and report on the costs of quality.

Nathan Briggs
Managing Director

4. QUALITY MANAGEMENT SYSTEM

4.1 General

The processes needed for the quality management system have been identified (appendix 1), and the interactions between these processes have been determined. The processes are outlined below, together with a reference to the relative section of the ISO 9001:2000 standard. Resources necessary to monitor and analyse these processes have been made available to effect continual improvement of the quality system, and ensure continued compliance with all relevant national and international requirements.

Process 1: Management, resources and administration

Documentation (4.2)
Management commitment (5.1)
Quality policy (5.3)
Planning (5.4)
Responsibilities, authority and communication (5.5)
Management review (5.6)
Resource management (6)

Process 2: Sales generation

Customer focus (5.2)
Customer-related processes (7.2)

Process 3: Product/Service realisation and provision

Planning of product realisation (7.1)
Design and development (7.3)
Purchasing (7.4)
Product and service provision (7.5)

Process 4: Measurement and improvement

Control of monitoring and measuring devices (7.6)
Monitoring and measurement (8.2)
Control of nonconforming product (8.3)
Analysis of data (8.4)
Improvement (8.5)

Processes 1 and 4 cover all aspects of our business activities, ensuring that all tasks are planned, monitored, documented, and completed by suitably competent persons. Interactions occur between processes 2 and 3 with regard to specific customer requirements.

The effectiveness of the quality system is regularly assessed to identify areas that have a potential for improvement.

4.2 Documentation Requirements

4.2.1 General

To ensure the identification and control of all quality documents and records, Advance Electronics operates a quality management system with four levels of documentation control.

Level 1 - Quality Policy & Manual

The quality policy (section 3), outlines the intentions of the organisation with regard to quality matters, and includes the immediate quality objectives as defined by the managing director. The quality manual gives an overview of the organisational structure, and the processes and systems currently employed by the organisation with respect to the management and control of quality.

Level 2 - Quality procedures

Quality procedures have been written and implemented to define the planning, controls and responsibilities for the processes described in section 4.1. These procedures include the control of quality documentation (qp01), control of nonconforming material/product (qp12), internal auditing (qp02) and preventive/corrective actions necessary to ensure conformity with the quality manual (qp02).

Level 3 - Additional documentation required by the quality management system

Working practices are prepared as necessary for the purpose of describing how specific functions are performed. Additional documentation is generated to plan quality improvement activities within the organisation, and to report on the measured effectiveness of the quality management system.

Level 4 - Quality records, standards and specifications

All documentation and records required by the quality management system have been identified and are controlled and stored as shown in the quality records index (qf04). Records providing information regarding the quality of our product/service package are analysed to monitor the continued improvement and effectiveness of the quality management system and associated procedures.

4.2.2 Quality manual

The quality manual is structured to allow cross-referencing with (BS EN) ISO 9001:2000, and describes how the quality management system operated by Advance Electronics satisfies these requirements.

The quality manual includes the scope of the quality management system (section 1), a description of identified processes (appendix 1) and references to established procedures.

4.2.3 Control of documents

All quality documents are legible, available as necessary and reviewed/communicated as described in the document control procedure (qp01). This procedure specifies the appropriate level of document control, identifies responsibilities for the review and approval/re-approval of quality documents, and describes how obsolete, external and updated documents are controlled.

Quality documents are identified and recorded on the quality documents register (qf03).

4.2.4 Control of records

Quality records are legible and retrievable. Records are stored, retained and disposed of as described in the document control procedure (qp01), and quality records index (qf04).

The quality manager maintains a record of documentation approvals and re-approvals for the quality manual and all associated policies and procedures.

5. MANAGEMENT RESPONSIBILITY

5.1 Commitment

The managing director has provided the resources necessary for the development, implementation and management of the quality management system.

An approved quality policy identifying the immediate quality objectives of the organisation has been established and successfully communicated throughout the organisation.

5.2 Customer focus

A customer care policy (qm02) and procedure (qp11) has been reviewed and implemented to ensure that customer requirements are determined and met at all levels within the organisation.

5.3 Quality policy

The managing director together with the management team has considered, defined and communicated Advance Electronics' policy with regard to quality. The quality policy and objectives are reviewed, and updated/re-approved as necessary for continued suitability/improvement.

5.4 Planning

5.4.1 Quality objectives

The managing director together with the management team has considered, defined and communicated quality objectives for specific processes within the organisation. These objectives are consistent with the quality objectives stated in the quality manual.

5.4.2 Quality management system planning

Quality planning activities are carried out at all levels within the organisation. These activities are conducted to ensure that the requirements of the quality policy and objectives are being met by each function within the organisation. Planning activities include management reviews, internal audit reviews, quality focus groups and review/analysis of quality observation reports and customer care surveys.

5.5 Responsibility, authority and communication

A management representative for quality (quality manager) has been appointed to ensure that management reviews are conducted, and processes/systems are implemented throughout the organisation to identify, communicate and satisfy all customer, statutory and regulatory requirements.

The quality manager is responsible for ensuring that organisational and departmental authorities (qd01 & qd02) and all quality related responsibilities (qd03) are clearly defined, approved and communicated throughout the organisation.

The quality manager is also responsible for promoting customer requirement awareness, and ensuring that the progress and effectiveness of the quality management system is appropriately communicated to personnel at all levels throughout the organisation. This is achieved through the use of notice boards, the internal website, email and management review.

5.6 Management review

To ensure the continued improvement and effectiveness of the quality system, the managing director and the management team conduct a review of the quality management system every twelve months. Management reviews are conducted to assess the performance of the processes defined within this manual with regard to the objectives stated in the quality policy. The quality policy and objectives are also reviewed for their continued suitability. All reviews of the quality management system are planned, scheduled and recorded.

The agenda for each review includes immediate quality issues, a follow up summary from previous reviews, corrective/preventive actions, internal audit reports, and feedback from the organisations' continual improvement programs.

6. RESOURCE MANAGEMENT

6.1 Provision of resources

The managing director has identified the resources necessary for the effective maintenance and continued improvement of the quality management system. These resources have been assessed and provided to ensure that the requirements of all our stakeholders are identified and met.

6.2 Human Resources

All members of staff are provided with an overview of the quality system and its implications, together with a description of our health and safety, and environmental policies (see qp09). Additional human resource requirements are identified by individual department managers and approved by the managing director.

Staff competencies are regularly assessed and any additional training requirements are provided as necessary. Documented evidence of staff competency is provided (where appropriate), and training records are maintained.

6.3 Infrastructure

All infrastructure requirements regarding the workspace, equipment and services necessary for the achievement of product conformity have been identified, provided and are maintained by the organisation.

6.4 Work environment

The resources necessary to provide a safe and healthy working environment have been identified and are provided by the organisation. The work environment (temperature, humidity, noise etc) is maintained to ensure the product/service package continues to meet requirements.

7. PRODUCT REALISATION

7.1 Planning of product resources

The quality objectives and requirements for all Advance Electronics supplied products and services have been established by the managing director and are defined in the quality policy. The product realisation process for each product is planned and controlled as specified in the product design and development procedure (qp06). Records of evidence demonstrating product conformity to input requirements, are retained by the engineering department.

7.2 Customer-Related Processes

Advance Electronics has generated and implemented documented procedures to ensure that each customer's implied and stated requirements are understood and satisfied (qp05). Customer requirements and/or amendments are reviewed by the organisation prior to order acceptance to ensure that all aspects of the enquiry with regard to product specification, price, delivery etc are achievable.

Customer feedback including complaints are dealt with according to the customer care procedure (qp11).

Unless otherwise appropriate, customer communication is conducted through the assigned sales engineer (FSE), or a member of the sales support team.

7.3 Design and Development

The inputs to the design and development process including all functional, performance, and legislative requirements are identified and recorded prior to completion of the design proposal.

Product design and development is planned and controlled through the use of the design proposal sheet (qf019). Correct completion of qf019 ensures that the design inputs are reviewed, and the design proposal is approved prior to commencement of design work.

Design and development progress is continually reviewed to ensure that the output of the process will meet the specified input requirements. Completed designs are verified against the approved design proposal to ensure that all input requirements have been satisfied. Design validation is achieved by product testing to predetermined test criteria.

Design and development changes are controlled through the use of the engineering change request form (qf016). This ensures that the impact of all changes is reviewed and approved by an engineer prior to implementation.

7.4 Purchasing

Advance Electronics has implemented controls to ensure that purchased products conform to the specified purchase requirements (qp03). Suppliers are evaluated, selected and continually assessed based on their ability to meet the requirements of the organisation.

Purchased goods that affect final product quality are inspected in accordance with the materials procedure (qp03), and validated against the specified requirements before acceptance into the organisation.

7.5 Production and service provision

The production process is planned and controlled as specified in the operations procedure (qp04). This ensures the availability of information, work instructions and equipment necessary for the supply, monitoring and validation of products and services.

All products and constituent parts are handled, packaged and stored so as to preserve the conformity of the product during internal processing and delivery.

All products are suitably identified throughout the production process. This identification includes the status of the product with regard to test and measurement requirements. Following the production process, finished products are identified with a unique serial number as necessary.

Customer property is identified, protected and handled as described in the materials procedure (qp03).

7.6 Control of monitoring and measuring devices

The required monitoring and measurement processes have been identified by the organisation, and the calibrated equipment necessary to complete these processes has been made available. Monitoring and measurement equipment is controlled and identified with a serial number, calibration certificate reference, and re-calibration due date. Non-calibrated equipment is marked accordingly and may be used for indication purposes only.

8. MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1 General

The organisation has planned and implemented monitoring and improvement processes to ensure continued conformity and improvement of the quality management system. These processes include the monitoring and analysis of customer feedback regarding the organisation's ability to satisfy customer requirements.

Performance indicators (section 8.2.3) are analysed, and statistics are generated as necessary to monitor the effectiveness of these processes to consistently ensure product conformity.

8.2.1 Customer satisfaction

Customer feedback is generated through the use of the customer care survey as described in the customer care procedure (qp11). Any customer complaint is addressed and recorded by the organisation, and a complaint feedback form is forwarded to the customer following rectification of the problem. All feedback forms/surveys are analysed to ensure compliance with Advance Electronics customer care policy, and to identify potential areas of improvement.

8.2.2 Internal audits

Regular internal audits are planned, scheduled and communicated as described in the quality assurance procedure (qp02). All audits are conducted by trained members of staff, and are intended to monitor the effectiveness and continued compliance of the quality management system and associated procedures.

8.2.3 Monitoring and measurement of processes

Key performance indicators are used to monitor and measure the effectiveness of each internal process/procedure. These indicators are reported during quality management reviews, and corrective/preventive actions are raised as necessary to ensure conformity of the product.

8.2.4 Monitoring and measurement of product

Products and services supplied by the organisation are monitored and measured at pre-defined stages to ensure conformity with the acceptance criteria. Records confirming that the product/service has satisfied the acceptance criteria are generated and maintained by the organisation.

8.3 Control of non-conforming product

Controls have been implemented to prevent any product or service that has not been appropriately inspected, or has not satisfied the acceptance criteria, from being supplied to the customer (qp12).

Non-conforming product may be accepted for use under concession if authorised by the managing director, and where appropriate the customer. Corrected non-conforming product is re-verified against the acceptance criteria before release for use. A record of all non-conformities and associated concessions is retained by the organisation for continual improvement purposes.

8.4 Analysis of data

Data that is relative to the continual improvement of the organisation is identified and analysed by the quality manager. This data may include reports on customer feedback, non-conformities, vendor performance and internal process performance indicators. The purpose of this analysis is to determine the effectiveness of the quality management system through the identification of product/process performance trends. Analysis reports are presented at the annual quality management review.

8.5.1 Continual improvement

The aim of the organisation is to continually improve the effectiveness of the quality management system. This is achieved through quality focus groups, corrective/preventive actions, product/process monitoring and measurement, data analysis and management review.

8.5.2 Corrective action

All non-conformities are reviewed and recorded as described in the quality assurance procedure (qp02). Appropriate corrective actions are implemented to ensure the non-conformity is eliminated and reoccurrence is prevented. Corrective actions are recorded and reviewed for their continued effectiveness.

8.5.3 Preventive action

Potential non-conformities are identified and recorded as described in the quality assurance procedure (qp02). Appropriate preventive actions are implemented to ensure the potential non-conformity is avoided. Preventive actions are recorded and reviewed for their continued effectiveness.

Appendix 1.

System Processes (qd09)

Appendix 2.

Responsibilities and Authorities (qd01)

Appendix 3.

Quality related responsibilities (qd03)

Appendix 4.

QA system conformance checklist (qd14)