

QUALITY CLAUSES

Clause A - Quality System Requirements

All references to the term "Government" in any of the documents referenced below shall be replaced with the term "CW Controls Electronic Systems and/or the Government". All references to the term "Departmental Representative" shall be replaced by "CW Controls Electronic Systems Representative and/or Departmental Representative".

A1 The supplier shall operate and maintain an approved Quality System which is subject to approval by CW Controls Electronic Systems.

A2 The supplier shall operate and maintain an approved Quality System which meets the requirements of, MIL-Q-9858, or ISO 9001.

A3 The supplier shall operate and maintain an approved Quality System which meets the requirements of, MIL-I-45208, or ISO 9002.

Clause B - Quality Assurance Requirements

B1 CW Controls Electronic Systems, their Customer, and the Prime Contractor reserve the right to carry out Quality Assurance practices at source during performance of this order.

B6 CW Controls Electronic Systems reserves the right to carry out Source Inspection and/or Test at the supplier's facility prior to shipment. The supplier shall notify the CW Controls Electronic Systems Buyer of the date when the goods will be ready for Inspection/Test, giving at least five working days advance notice. If upon arriving at the supplier's facility on the given date the goods are not ready for Inspection/Test, the supplier shall be liable to cover any additional costs incurred by CW Controls Electronic Systems as a result of the supplier's non-readiness.

Clause C - Test and Inspection Requirements

C1 The supplier shall provide test and inspection data with each shipment which shall include:

- a) the Purchase Order number
- b) the part number and revision level
- c) traceability to specific items or lots
- d) approval by the supplier's authorized representative.

C2 The supplier shall provide with each shipment a statement attesting that the physical and chemical test reports on raw materials used are on file, either at the supplier's plant or at those of their suppliers, and that any processes used in the fabrication of CW Controls Electronic Systems parts satisfy the requirements of the applicable specifications (including, where applicable, certification of process personnel). Records must be available for examination by CW Controls Electronic Systems upon request.

C4 First Article Inspection shall be performed by CW Controls Electronic Systems at the supplier's plant before shipment. The supplier shall notify the CW Controls Electronic Systems Buyer of the date that the first article will be ready for inspection/test giving at least 5 working days advance notice. If, on arriving at the supplier's plant on the day given, goods are not ready for the inspection, the supplier shall be liable for any additional costs incurred by CW Controls Electronic Systems as a result of the supplier's non-readiness for the inspection/test to be performed.

C5 Shipments made against this Purchase Order must be accompanied by a Certificate of Conformance, attesting that all the applicable specifications, drawings, and Purchase Order requirements have been met. The supplier must maintain quality records applicable to the certificate for a period of not less than five years.

The C of C must contain the following as a minimum:

- a) The Purchase Order number
- b) Part number and revision level (rev level if item is revision controlled)
- c) Quantity shipped
- d) Approval by the supplier's authorized representative
- e) The manufacturers lot (batch or serial number) and the date of manufacturer (date code) for each unique item that the C of C pertains to. (Exemption to this requirement is acceptable for connectors)

C7 The supplier shall furnish a C of C stating that the product being supplied was developed with adequate controls and documentation in planning, design, coding, debugging, and functional testing. All such documentation shall be made available upon request. The C of C must be approved by the suppliers authorized representative and must accompany the shipment.

C9 Each part shall be identified with a unique serial number traceable to its production lot records.

C10 Each part shall be marked with a manufacturers date code traceable to its production lot record. If it is not practical to mark the part, the lowest order of packaging shall be marked with the date code. **(Exemption to this requirement is acceptable for connectors)**

C11 The supplier shall maintain records providing traceability to the batch or lot number, the date of manufacture and the name of the manufacturer of raw metal stock utilized in the production of the item delivered. These records must be available for examination by CW Controls Electronic Systems upon request.

C12 All removable chassis piece parts are to be identified with a serialized date code, marked adjacent to the part number.

Clause D - Change Control Requirements

D2 By acceptance of this order, the supplier agrees to inform CW Controls Inc. Electronic Systems immediately in writing, of any proposed changes which affect fit, form, function, reliability, weight, or any other specified requirement of the items on this Purchase Order. All such changes shall be submitted to CW Controls Electronic Systems on the supplier's normal change control format for approval prior to implementation. CW Controls Electronic Systems will reply in writing on the acceptability of the proposed changes.

D3 By acceptance of this order, the supplier certifies that no changes affecting fit, form, function, reliability, weight, or any other specified requirement of the items on this Purchase Order have been implemented since any prior deliveries of the items to CW Controls Electronic Systems. In the event of such changes, the supplier shall inform CW Controls Electronic Systems in writing of all changes prior to delivery of the product.

D5 Supplies which do not conform to all contractual requirements, and which cannot be re-processed to achieve full conformance, shall not be used on this order without prior written approval from CW Controls Electronic Systems Quality Assurance. The supplier shall submit to CW Controls Electronic Systems QA a detailed description of the non-conformance in the supplier's format, with a recommended solution for the disposition of the non-conformance, in advance of the shipment.

Clause E – Workmanship

E1 Acceptance criteria shall be per CW Controls Electronic Systems Workmanship Standards Manual (document #800221) of the issue in effect at the time of procurement.

E4 Solderability shall be in accordance with ANSI/J-STD-002.

Clause F - Calibration

F1 Inspection, measuring, and test equipment shall be controlled, calibrated, and maintained in accordance with, MIL-STD-45662A, or ISO 10012-1. Calibration shall be traceable to National or International Standards.

F2 The supplier shall provide a Certificate of Calibration for equipment purchased or rented on this Purchase Order.

The certificate shall include:

- a) the description and unique identification of the equipment
 - b) the date of calibration
 - c) the results obtained
 - d) the recommended calibration interval
 - e) the designated limits of permissible error
 - f) the source used to obtain traceability
 - g) relevant environmental conditions
 - h) a statement of uncertainties and their cumulative effect
 - i) details of maintenance or servicing performed
 - j) limitations of use
 - k) identification of person who performed the calibration
 - l) identification of related calibration certificates or other relevant documents
- Calibration shall be traceable to National or International Standards.

F3 Inspection, measuring, and test equipment shall be controlled, calibrated, and maintained in accordance with standards subject to approval by CW Controls Electronic Systems. Calibration shall be traceable to National or International Standards.

Clause G - Material Handling/Packaging

G1 All material shall be protected against corrosion, contamination, deterioration, or other spoilage during transit. All material shall be packed with suitable protection so as to prevent damage through handling in transit, during storage, and prior to use. Packaging will be in accordance with "best commercial practice" unless otherwise stated.

G2 The supplier shall have a MIL-STD-1686 compliant Electro-Static Discharge control program in effect.

G3 In addition to all other required identification, the supplier shall mark each container of every shipment made against this purchase order with:

- a) the manufacturing day, month, and year
- b) the shelf life expiry month and year

Material which has exceeded 20% of its useful shelf life will be subject to rejection.

G4 The supplier shall have an Electro-Static Discharge control program in effect to protect electronic devices and assemblies during manufacture, test, inspection, packaging, transportation, shipping, rework, repair, and failure analysis. This program is subject to approval by CW Controls Electronic Systems.

G5 The lowest order of packaging shall be marked with the manufacturing lot (or batch #) and the date of manufacture (date code). Different lot codes or date codes are not to be intermixed within the lowest level of packaging.
(Exemption to this requirement is acceptable for connectors)

G6 The supplier shall operate and maintain a Moisture Management Control Program for handling, packing and shipping of nonhermetic SMD packages. The program shall meet the requirements of standard IPC/JEDEC J-STD-033, the latest revision in effect

Clause H – Miscellaneous

Customer Furnished Material / Equipment

H1 The supplier is required to maintain a system for positive identification, segregation, and control of Customer Furnished Material. This system shall provide for the notification of CW Controls Electronic Systems of any deficiency or failure noted upon receipt.

Supplier Procurement

H3 The supplier shall maintain a system to assure their supplies and services conform to drawing and specification requirements. Applicable Quality requirements shall be conveyed to all subcontractors. The implementation of such controls shall be subject to CW Controls Electronic Systems surveillance.

Assistance to the Supplier

H5 In the event that the requirements are not completely clear, or where special assistance is needed, CW Controls Electronic Systems will provide qualified personnel for consultation. Requests for this assistance shall be made via CW Controls Electronic Systems Purchasing department.

QC1 – A3,B1,C1,C2,C5,C10,D5,F1,G1,G5,H5

QC2 – A3,B1,B6,C5,C11,C12,D5,F1,G1,H5

QC3 – A3,B1,C5,C11,D5,F1,G1,H5

QC4 – A3,B1,D5,E1,G1,H5

QC5 – A3,B1,B6,C1,C5,C9,D2,D5

QC6 – A1,B1,C5,C10,E4,F3,G1,G4,G5,G6

QC7 – A1,B1,C5,C10,E4,F1,G1,G2,G5

QC8 – A1,B1,F2,G1

(CALIBRATION)

QC10 – A3,B1,B6,C5,C9,C10,D2,D5,G1,H5

(SOURCE INSPECTION/TRACEABILITY)

QC11 – A1,B1,C10,D3

QC12 – A1,B1,C5,C10,G1,G3,G5

QC13 – A3,B1,C10,D5,E4,F1,G1,G2,G6

QC14 – A2,B1,C1,C4,C10,D1,D5,F1,G1,G2,G6,H5

(FIRST ARTICLES)

QC15 – A3,B1,C5

QC16 – A3,B1,C5,C9,D2,D5,F1,G1,G2

QC17 – A1,B1,C1,C9,C10,D2,F3,G1,G4,G5

QC18 – A1,B1,C7,G1

QC19 – A3,B1,C1,C5,C9,D2,D5,F1,G1,G2

QC20 – A3,B1,C5

QC21 – A1,B1,C5,C10,E4,G1,G5

QC22 – A1,B1,C1,C5,D4,E4,F3,G1,G4,G5,G6,H1

QC23 – A1,B1,B6,C5,E4,G1,G4,G6

QC24 – A1,B1,C5,D1,E4,G1,G4,G5,H3

(CM'S)