

***National Type Evaluation Program  
Certificate of Conformance  
for Weighing and Measuring Devices***

**For:**

Automatic Bulk Weighing System Controller  
Digital Electronic  
Model: Compudraft CD-4000

**Submitted by:**

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**Standard Features and Options**

The model Compudraft CD-4000 consists of the following components: a controller interfaced to an approved indicating element, monitor, keyboard, printer and SmartTech opto box.

Bulk weighing modes of operation are auto and manual for receive, ship and transfer of products.  
Software version 1.01 or higher

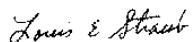
**Options:**

Remote video monitoring & keyboard control  
Stop/Start monitoring from a PLC  
Remote start/stop pendant switch  
Proportional (%) gate control for weigh hopper and garner gates

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: June 18, 2001



Louis E. Straub  
Chairman, NCWM, Inc.



G. Weston Diggs  
Chairman, National Type Evaluation Program Committee  
Issue date: June 23, 2001

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**CompuWeigh Corporation**  
**Automatic Bulkweighing System Controller**  
**Model: Compudraft CD-4000**

**Application:** For use as an automatic bulk weighing system controller, when connected to an appropriate and approved weighing element and indicator.

**Identification:** An identification tag is located on the front of the computer console. The CRT monitor displays the manufacture's name and model number on the top of the display screen. Software version information is available at power up. The indicating element interfaced to the system has its own identification tag.

**Sealing:** There are no adjustable metrological components in model Compudraft CD-4000, but there are settings which must be set up to match the weight input from the weighing and indicating elements. The indicating element interfaced to the system may be sealed as described in its own individual Certificate of Conformance.

**Operation:** Model Compudraft CD-4000 performs receive and ship operations in automatic and manual modes and provides accounting functions for each operation. A CRT monitor provides a secondary continuous weight display with additional fields for information such as truck or train I.D., customer and product names. The system is interfaced to a continuous feed printer to record all transactions and may also be interfaced to local/remote tape and ticket printers. All modes and mode updates are automatically identified and recorded. The following conditions generate error alarms, which are displayed on the CRT monitor and are printed on the audit printer.

Printer Error- loss of power, communication and out of paper

DWI Link- loss of communication with the digital weight indicator

Interlock Error - weigh hopper and upper garner gates open

Under Zero - weigh hopper below zero

Over capacity - weigh hopper filled over rated capacity

Weigh Hopper Full - weigh hopper filled to full sensor

Upper Garner alarm – upper garner filled to full sensor (alarm displayed on CRT monitor only)

**Test Mode:** Model Compudraft CD-4000 provides a test mode, which is only available from the idle mode and may be used to evaluate the weighing system. A build up test can be conducted by raising and lowering test weights. The weigh hopper can be filled and emptied by opening and closing the upper garner and weigh hopper gates. Weight values can be printed any time during a test. All printed and displayed weight values are identified as being in test mode. To perform an actual calibration of the hopper scale, the security seal on the associated weight indicator must be broken and the calibration procedure for that indicator must be followed. This device also offers the following option; "SmartScale" load cell diagnosis to help an operator diagnose problems with the system, this optional diagnosis functions was not evaluated. A remote Programmable Logic Controller (PLC) and a remote PC controller using either CompuWeigh GMS (CC # 97-021A1) or third party computer, can be used to process and update order information. These controllers do not control gates or the weighing operation, but may be used to start or stop an order.

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**Field Inspection Notes:** The parameters of this system's operation are selectable and certain required information may be changed or altered by an operator. Changes that do not comply with NIST Handbook 44 are not permitted and this Certificate of Conformance does not cover such devices using altered systems.

**Test Conditions:** Model Compudraft CD-4000 was first evaluated in the laboratory. The controller was interfaced to a Model UMC 600 indicating element (Certificate of Conformance Number 88-070), weight simulator, SmartTech opto box and printer. An alarm indicator board was used to demonstrate alarms and relay positions. The emphasis of the evaluation was on the operation and performance of the software and marking requirements of the CRT display and printed ledgers and receipts. Several simulated weighments were conducted. Areas evaluated include automatic and manual operations for receive and ship modes, test mode and power loss. Gate failures were simulated to determining their effect on the weighing operation. A field evaluation was conducted to review model Compudraft CD-4000's performance under actual field conditions as part of an automatic bulkweighing system. Several series of weighments in receive and ship modes were conducted and all alarm functions were evaluated.

The results of this evaluation and a review of technical information supplied by the manufacturer indicate the device conforms to the applicable requirements of NIST Handbook 44.

**Type Evaluation Criteria Used:** NIST Handbook 44, 2001 Edition

**Tested By:** Bill Fishman (NY)

**Information Reviewed By:** S. Patoray (NCWM)