



SciLog WeighStation™ Operations Manual



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PRECAUTIONS:



READ this manual **BEFORE** operating or servicing this equipment.

FOLLOW these instructions carefully. **SAVE** this manual for future reference.

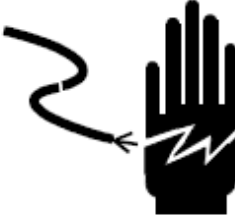

DO NOT allow untrained personnel to operate, clean, inspect, service or tamper with this equipment.

ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL SCILOG for parts, information and service.

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|  |  WARNING |
| | DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE. |

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|  |  CAUTION |
| | OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES. |

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|  |  WARNING |
| | ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM. |

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|  |  WARNING |
| | FOR CONTINUED PROTECTION AGAINST SHOCK HAZARD, CONNECT TO PROPERLY GROUNDED OUTLET ONLY. DO NOT REMOVE THE GROUND PRONG. |

PRÉCAUTIONS:


LISEZ ce manuel AVANT de faire fonctionner ou d'entretenir cet équipement. SUIVEZ attentivement ces instructions.

CONSERVEZ ce manuel pour future référence.

NE LAISSEZ PAS du personnel non qualifié utiliser, nettoyer, inspecter, entretenir, réparer ou manipuler cet équipement.

DÉBRANCHEZ TOUJOURS cet équipement de la source de courant avant de nettoyer ou d'exécuter l'entretien.

APPELEZ SCILOG pour pièces détachées, renseignements et entretien.

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|  |  ATTENTION |
| | DÉBRANCHEZ TOUT COURANT DE CETTE UNITÉ AVANT DE FAIRE L'INSTALLATION, D'EFFECTUER L'ENTRETIEN, LE NETTOYAGE OU AVANT DE RETIRER LE FUSIBLE. NE PAS OBSERVER CES PRÉCAUTIONS RISQUERAIT DE CAUSER DES BLESSURES CORPORELLES OU/ET D'ENDOMMAGER L'ÉQUIPEMENT. |

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|  |  PRUDENCE |
| | SOYEZ PRUDENT LORSQUE VOUS MANIPULEZ DES APPAREILS SENSIBLES À L'ÉLECTROSTATIQUE. |

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|  |  ATTENTION |
| | AUTORISEZ SEULEMENT LE PERSONNEL QUALIFIÉ À ENTREtenir CET ÉQUIPEMENT. SOYEZ PRUDENT LORSQUE DES VÉRIFICATIONS, TESTS ET AJUSTEMENTS DOIVENT ÊTRE EFFECTUÉS SOUS TENSION. NE PAS OBSERVER CES PRÉCAUTIONS RISQUERAIT DE CAUSER DES BLESSURES CORPORELLES. |

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|  |  ATTENTION |
| | POUR ASSURER UNE PROTECTION CONTINUE CONTRE UNE DÉCHARGE ÉLECTRIQUE, BRANCHEZ UNIQUEMENT SUR UNE PRISE CORRECTEMENT RELIÉE À LA TERRE. NE RETIREZ PAS LA FICHE DE TERRE. |

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Safety Information:



Be sure to read and observe the following requirements!

Before connecting the WeighStation™ to mains, make sure that the mains voltage corresponds to the voltage rating shown on the rear of the control console.

Opening the WeighStation™ electronics enclosure cover exposes live parts. Therefore, the cover must not be removed. If repair should be required, return the WeighStation™ electronic enclosure to the factory.

If opening of the WeighStation™ electronics enclosure is inevitable, the system must first be disconnected from all voltage sources.

Make sure that the mains plug has been pulled out.

Repair or adjustment of an opened WeighStation™ electronics enclosure under voltage must be carried out only by a skilled person who is aware of the hazard involved.

Whenever it is likely that the protection has been impaired, the WeighStation™ must be made inoperative and secured against any unintended operation. The protection is likely to be impaired if, for example:

- The WeighStation™ shows visible damage
- The WeighStation™ fails to perform as intended
- After prolonged storage above 70°C
- After severe transport stresses

Before re-commissioning the WeighStation™, a professional routine test according to the WeighStation™ IQ/OQ Protocols must be performed.

Installation & Start-Up



Installation of the WeighStation™ must be carried out only by trained personnel in accordance with the relevant regulations and this operations manual.

Make sure that the technical specifications and input ratings of the WeighStation™ are observed. See “WeighStation™ Specifications”

The WeighStation™ must be connected to a properly grounded power supply receptacle.

The WeighStation™ location must not block access to the power disconnect point for the power supply.

The protection provided by this equipment may be impaired, if the WeighStation™ is used in a manner or for purposes not specified by the manufacturer, SciLog, Inc.



Start-up of the WeighStation™ must be carried out only by trained personnel in accordance with the relevant regulations and this operations manual.

Before first start-up, a parameter setting procedure and/or a parameter review must be performed by supervisory personnel.

Description of this Manual:

The following information is covered in this Manual:

- **Safety Requirements**
- **Product Specifications**
- **Hardware Description**



NOTE:

Note calls attention to important information. *Italics* are used to further emphasize certain information. Ignoring the given instructions may lead to malfunction or damage of the instrument or other equipment and to personal injury.

Introduction:

The WeighStation™ is a cost-effective platform for use in a wide variety of applications where live weighting of a bag of fluid is desirable. The WeighStation™ has the capabilities of allowing the owner to interface with any of SciLog's other systems, both Laboratory and Process platforms.

Please read the following instructions carefully!

Inspections: Refer to the separate unpacking document, and remove the WeighStation™ and accessories carefully from the shipping container. Check the contents against the purchase order to verify that all parts are included and undamaged.

Please do the inspection now, even if the WeighStation™ is not used immediately. Many carriers must receive damage claims within seven days of delivery. Please retain all packing material so unit may be shipped safely, if necessary.

SciLog Customer Service: If assistance is required, please contact us at:

SciLog Inc.
8845 S. Greenview Drive, Suite 4
Middleton, WI 53562
Phone: 800-955-1993 or 608-824-0500
Fax: 608-824-0509

SciLog Customer Service personnel will be able to serve you more efficiently if you have the following information:

- **Serial number and model name of the equipment.**
- Installation procedure being used.
- Concise list of symptoms.
- List of operating procedures and conditions in use when problem arose.

Standards:

The WeighStation™ conforms to the following standards:



EN 61326-1:2006, Class B
EN 6100-3-2:2006
EN 6100-3-3:1995 +A1:2001 +A2:2006
EN 61010-1 Issued: 2001/03/01
UL 61010-1 Issued: 2004/07/12 Ed.2
And is certified to: CAN/CSA-C22.2 No 61010-1 Ed.2



Warranty Information:

SciLog LIMITED WARRANTY, LIMITATION OF LIABILITY & ACCEPTABLE USE AGREEMENT

This Agreement is hereby entered into between You, the Buyer, and SciLog, Inc.

If you do not Agree to these terms, return the item to SciLog

1. LIMITED WARRANTY: SCIOLOG, INC. EXPRESSLY WARRANTS THE EQUIPMENT MANUFACTURED BY IT ONLY AS SET FORTH HEREIN. SCIOLOG, INC. MAKES NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED (INCLUDING WITHOUT LIMITATION WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). IN ADDITION, THE FOLLOWING SHALL CONSTITUTE THE SOLE AND EXCLUSIVE REMEDIES OF BUYER FOR ANY BREACH BY SCIOLOG, INC. OF ITS WARRANTY HEREUNDER.
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 - c. WARRANTY LIMITATIONS -These warranties are subject to the following conditions:
 - i. Product warranty shall only apply to the item *as shipped* by SciLog. Any modifications to hardware, software, fluid line changes or any other customer alteration which may affect the functionality of the product shall *not* be covered by warranty.
 - ii. Upon discovery of product non-conformity, SciLog, Inc. will be given prompt written notice with a detailed explanation of the alleged deficiencies.
 - iii. The product or part must be properly installed, operated and maintained in accordance with SciLog, Inc. specifications.
 - iv. The product or part must not be operated above rated load capacity or subject to accident, alteration, misuse, or abuse.
 - v. The product must not have been repaired or serviced by anyone other than SciLog, Inc. or one of its authorized dealers.
 - vi. SciLog, Inc. shall have a reasonable time to repair or replace the defective product or part.
 - vii. The buyer is responsible for shipping the product or part to SciLog, Inc. SciLog, Inc. is responsible for shipping the product back to the buyer.

2. **INTELLECTUAL PROPERTY:** The sale and delivery of the SciLog, Inc.'s equipment and/or software to Buyer shall in no way transfer to Buyer any right of ownership in any patents, copyrights, trademarks, technologies, designs, specifications, drawings, or other intellectual property incorporated into the equipment and/or software.
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7. **REVISIONS TO THIS POLICY:** From time to time SciLog, Inc. may revise the terms of this Agreement. SciLog, Inc. will make its best efforts to inform customers of these revisions. The most current revision of these terms may be accessed over the internet by accessing the webpage located at: <http://www.scilog.com/warranty>

WeighStation™ Specifications:

General Specifications:

Dimension: Overall Length = 29 in. (74 cm); Overall Width = 29 in. (74 cm); Overall Height = 66 in. (175 cm). Platform Height = 7 in. (18 cm) including 3.5" OD locking casters.

Max Interior Width: = 25 in. (63 cm);
Bag Holder Height from Base = 45 in. (114 cm)

Shipping Weight: 250 Lb. (114 Kg)

Power: 110/120 VAC or 208/240 VAC, 50-60 Hz, as wired.

Operating Range: 4 to 40° C, 100% Humidity

System Component Specifications:

Terminal: Mettler Toledo IND331 Harsh Terminal with LED display, IP66.

Load Cells: MTB Series 100 Kg load cells, IP68

Capacity / Resolution: 50 Kg x 0.010 Kg

Typical Max Media Bag Size: 35 Kg

Communication: A) Analog 4-20 mA with discrete Tare via momentary contact closure. The cable has 4 conductors; Black and Red are used for the 4-20 mA output, and the Green and White for the discrete Tare via momentary contact closure.

B) RS-232 with DB9 connector SICS Level 0 command set. This is configured and ready use with all SciLog Laboratory Systems: LabTec, ChemTec, PureTec, FilterTec, etc.

Generally, one method or the other is used, rarely both.

Application Overview:

The WeighStation™ is used most often for Tangential Flow Filtration applications but can be used with any SciLog system for Dispensing, Metering, or Filtration, both TFF and NFF. Simply hang the Media Bag or Retentate Bag from the scale, connect the communication cable and the plumbing, and its ready to go!





Terminal Setup:

When purchased, the terminal will be fully configured, calibrated and tested by SciLog. The calibration, as will all scales after they have been shipped will need to be updated by the customers Metrology Department or other certified scale service firm.

The following is provided to return the system to SciLog configuration should the settings change due to Preventative Maintenance, repair or other cause.

Settings:

Procedure:

1. Power up the terminal.
2. Make only the changes listed. Leave all other values at their defaults.
3. After the self-test is complete, press and hold the Print key  for 3 seconds to access the Configuration Menu.
4. Navigate to the Setup  Menu using the Tare and Clear keys as up and down, the Zero key as “move left” or “return” and the Print key as enter.
5. Press Print.
6. Starting with **SCALE**:
 - a. Under Type
 - i. Set Approval to None
 - b. Under Capacity and Increment:
 - i. Set Units to KG or G depending upon use.
 - ii. Set Capacity to 50 Kg or 50,000 grams.
 - iii. Set Increment to 0.010 Kg or 10 grams.
 - iv. Set X10 Always to Disabled.
 - c. Return to Calibration later.
 - d. Under Zero:
 - i. Set Auto Zero to Disabled
 - ii. Set Under Zero Blank to Disabled
 - iii. Set Push Button Zero to +/- 20%
 - e. Under Tare:
 - i. Set Push Button Tare to Enabled
 - ii. Set Net Sign Correction to Disabled.
 - f. Under Rate:
 - i. Set Weight Units to None
 - ii. Make no additional changes.

- g. Under Filter:
 - i. Set Low Pass Filter to Medium
 - ii. Set Stability Filter to Disabled.
- h. Under Stability:
 - i. Set Motion Range to Disabled.
 - ii. Exit to Setup Menu.
- 7. With **APPLICATION**:
 - a. Scroll down to Discrete I/O
 - i. Set Input 1 Polarity to “+True”
 - ii. Set Input 1 Assignment to Tare
 - iii. Set Input 2 Assignment to None
 - b. Exit to Setup Menu.
- 8. With **TERMINAL**:
 - a. Scroll to Screen Saver
 - i. Set to Disabled.
 - ii. No other changes to make in Terminal, exit to Setup Menu.
- 9. With **COMMUNICATION**:
 - a. Under Output Template
 - i. Set Format to “Displayed Weight”
 - b. Under Connections:
 - i. Set Com 1 to SICS.
 - ii. Set Com 2 to NONE.
 - c. Under Serial and Com 1:
 - i. Set Baud Rate to 9600
 - ii. Set Data Bits to 8
 - iii. Set Parity to NONE
 - d. Under PLC and Analog Output:
 - i. Set Source to Displayed Weight.
 - ii. Set Zero Value to 0.00
 - iii. Set Full Scale Value to 50.00 (must match Capacity Value)

Calibration of Analog Output (4-20 mA):

The best time to calibrate the 4-20 mA output if that cable is being used is immediately following the previous procedure.

Procedure:


While still in Communication – PLC – Analog Output, proceed to “Calibrate Output” and connect a 4-20 mA calibration meter to read the values.

Pressing the PRINT key at the Calibrate Output menu initiates a calibration routine that allows correlation of the zero and full scale analog output points of the terminal to what the connected device is expecting. The procedure follows these steps:

1. First, a message is shown; **“WARNING! Analog Output will change”** indicating that the analog output will be controlled by the terminal for calibration purposes and will not represent the weight as normal.
2. After accepting this message by pressing PRINT, a second message appears – **“Signal now 4mA. Adjust then ENTER”**.
3. Use the TARE key to increase the analog signal or the CLEAR key to decrease the analog output signal to fine tune the output for the 4mA (zero) reference. Press ENTER when done.
4. The message **“WARNING! Analog Output will change”** is shown again indicating the analog output will change and is not related to the source value. Press PRINT to accept the message.
5. The next message is **“Signal now 20mA. Adjust then ENTER”**. Press the PRINT key to continue.
6. Use the TARE key to increase the analog signal or the CLEAR key to decrease the analog output signal to fine tune the output for the 20mA (full scale) reference. Press PRINT when done.
7. Press the Zero key several times to exit to normal operations.

Calibration of the scale:

When ready to calibrate the scale:

1. Press Print for three seconds to enter the configuration menu.
2. Scroll to Calibrate  and press Print.
 - a. At Set Zero, press Print
 - i. Confirm that the scale is empty and press Print.
 - ii. Zero Capture is performed by the system.
 - iii. At “Zero Capture OK”, press Print.
 - b. Scroll down to Set Span and press Print.
 - i. Use the up/down/move left keys to input the load value. (This does not have to be the max value, but must be a minimum of 1000 divisions.)
 - ii. For the WeighStation™, use 20.0 Kg or 20,000 gm.
 - iii. Hang the load, get it stable, and press Print. (At this time the 20 kg load is a 5 gal container of water with a loop for hanging attached. Check its weight on a master calibrated scale and adjust to as close to 20,000 gm as possible.)
 - iv. Capture span calibration is performed by the system.
 - v. At “Capture Span OK” press Print.
 - vi. Press the Zero key twice to return to normal operations.
 - c. The calibration can now be checked using standard masses, and repeated if necessary.

FAQ:

Q: What is “Error 11”, and how do I clear it?

A: Error 11 indicates that the requested command has failed. To clear the error, press the Print button. This occurs when TARE is attempted with a gross negative value, or when ZERO is attempted outside the configured range.