



# Sealing Guide

Release R210

## PREFACE

#### General

A sealing facility of systems that is needed to ensure the accuracy of settings used for calculating volume/mass must not be allowed to be changed undetected. After verification by a legal metrology authority (e.g. NMi), the system settings of the CIU 888 can be locked and the system can be sealed by the authorized representative. By sealing the CIU 888, the LM authority states that the settings are conform the national/local certifications, and that the system is allowed to be used to support LM certified applications for custody transfer, accounting and duties.

#### Purpose of this manual

The purpose of this manual is to provide information about sealing the CIU 888.

#### Target audience of this manual

This manual is primarily intended for:

- Representatives of the LM authorities who are responsible for sealing the CIU 888
- LM accredited users who are responsible for sealing the CIU 888
- Service technicians who are responsible for commissioning and configuring the CIU 888, and who may need to break the seal of the CIU 888 in order to change the configuration settings
- Other users who may need to break the seal of the CIU 888 in order to change the configuration settings

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## TABLE OF CONTENTS

	Preface         i           General         i           Purpose of this manual         i           Target audience of this manual         i           Table of Contents         iii
CHAPTER 1	Sealing the CIU 888
1.1	Unlocking the configuration settings of the CIU 888
1.2	Verifying the LM relevant configurations settings of the CIU 8881-2
1.3	Sealing the Entis Pro system connected to the CIU 8881-5
1.4	Sealing the ENTIS system connected to the CIU 8881-5
1.5	Calibrating the entities of the tanks associated with the CIU 8881-6
1.5.1	Ambient temperature calibration through CIU 888 web interface1-6
1.6	Locking the LM relevant configuration settings of the CIU 888 1-7
1.7	Sealing the CIU 888
APPENDIX A	List of Abbreviations

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## CHAPTER 1 SEALING THE CIU 888

The procedure for sealing the CIU 888 consists of the following steps:

- 1. Unlocking the configuration settings of the CIU 888, see section 1.1
- 2. Verifying the LM relevant configurations settings of the CIU 888, see section 1.2
- 3. Sealing the Entis Pro system connected to the CIU 888, see section 1.3
- 4. Calibrating the entities of the tanks associated with the CIU 888, see section 1.5
- 5. Locking the LM relevant configuration settings of the CIU 888, see section 1.6
- 6. Sealing the CIU 888, see section 1.7

#### 1.1 Unlocking the configuration settings of the CIU 888

The first step in the procedure for sealing the CIU 888, is unlocking both the LM relevant and the non-LM relevant configuration settings of the CIU 888. The configuration settings of the CIU 888 can be unlocked using the W&M lock key switch and the Configuration lock key switch located at the front of the CIU 888 (see FIGURE 1-1).



#### FIGURE 1-1

CIU 888: W&M lock key switch (left) and Configuration lock key switch (right)

To unlock the configuration settings, insert the key in the key switch and turn it clockwise. The status of the W&M lock key switch and the



FIGURE 1-2

CIU 888 display: Configuration settings are unlocked

#### 1.2 Verifying the LM relevant configurations settings of the CIU 888

It is recommended to verify the LM relevant configuration settings of the CIU 888. The purpose of verification is to establish that all LM relevant configuration settings stated in the certificate issued by the legal metrology authority (e.g. NMi) have been configured correctly. The LM configuration settings can be verified using the CIU 888 Web interface.

Configuration lock key switch is displayed on the CIU 888 display (see

Perform the following steps to verify the W&M relevant configuration settings:

1. Connect a PC/laptop with a standard web browser, i.e. Internet Explorer 9 or 10, to the Service port of the CIU 888 using a Cat. 5 Ethernet cable (patch or crossover). The Service port is located at the front of the CIU 888 (see FIGURE 1-3).



FIGURE 1-3

CIU 888: Service port

2. Launch the web browser.

3. Enter the IP address of the CIU 888 in the address bar of the web browser. The IP address is **192.1681.1**. Next, press the **Enter** key. The *CIU 888 Login* window is displayed (see FIGURE 1-4).

	CIU 888	
	Log in to CIU 888 IP 192.168.1.1	
	Username	
	Password	
		LOG IN
FIGURE 1-4	CIU 888 Login window	

4. Enter the username and password to log in to the CIU 888. The username is **ciuadmin**. Next, click **LOG IN**.

After entering a valid username and password, the CIU 888 Web interface is displayed. The *Diagnostics* window is displayed by default (see FIGURE 1-5).

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oneywell CIU 888	CIU888			<sup>©</sup> 23.03 <sup>₩™</sup> ๗ <sup>° 35</sup> ๗° ♦↔
	ONITOR 📋 LOGS			ciuadmin 👤 •
DATA	Field card type health (Option Slot 3)	Configuration Mismatch	•	
1	Field card type health (Option Slot 5)	Configuration Mismatch		
	⊞ Field port communication (Option Slot 1)	Not Configured	•	
CIU	Field port communication (Option Slot 2)	Not Configured	•	
	E Field port communication (Option Slot 3)	Not Configured	•	
	Field port communication (Option Slot 4)	Not Configured	•	
		Not Configured	•	
	Field port communication (Option Slot 6)	Not Configured	•	
	Sync link connection status	Connected	•	
	Service link connection status	Connected	•	
	E FTEA Port connection status	Disconnected		
	Active Modbus clients count	0		
	Modbus Tx packet count	0	•	
	Modbus Rx packet count	0		
	Modbus Error packet count	0		
	FTEB Port connection status	Disconnected		
	Active Modbus clients count	0		
	Modbus Tx packet count	0	•	
	Modbus Rx packet count	0		
	Modbus Error packet count	0		
	LAN connection status	Disconnected		
	Active Modbus clients count	0		
	Modbus Tx packet count	0	•	

FIGURE 1-5

CIU 888 Web interface: Diagnostics window

		The Configure wind	low is displayed (see FIGURE	E 1-6).
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S CIU 888 S diag	g 🔇 CIU 888 sec 🔇 CIU 88	8 sec diag		
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2 Service port 777 E A park 777 E A park 778 Park 778 Park 779 779 779 779 779 779 770 770	CU 88 Nume Loarse state Updat Loarse Modous TL Certificate Generale CSR OPC UA CA Signed Certificate Download Sarvar Certificate Download Sarvar Certificate Download Sarvar Certificate	Vilie View License Download Certificate Upload Certificate	NLR? End Commissioning Generale CSR Manage Centificate	
Ŭ		1. CONFIGURE option	<ol> <li>Configuration settings</li> </ol>	
		1. CONFIGURE option 2. Site tree	3. Configuration settings	

#### 5. Click **CONFIGURE** in the section menu bar. The *Configure* window is displayed (see FIGURE 1-

FIGURE 1-6

CIU 888 Web interface: Configuration window

The *Configuration* windows displays the global settings and internal SI units that have been configured for the CIU 888, and indicates for each global setting whether it is LM relevant or not. Furthermore, the *Configuration* window provides for each site element (tank, port, gauge) in the site tree an overview of the configuration settings. For each configuration setting the configured value is displayed, and whether the configuration setting is LM relevant or not.

- 6. Verify if all W&M relevant configuration settings have been configured correctly. Configuration settings that have not been configured correctly need to be re-configured.
- NOTE: Refer to the Configuration Manual CIU 888 (Part No. 4417593) for more information about changing the configuration settings of the CIU 888.

### 1.3 Sealing the Entis Pro system connected to the CIU 888

Once the LM relevant configuration settings have been verified, the next step is to seal the Entis Pro system connected to the CIU 888. Sealing the Entis Pro system is required in order to proof that the software has not been changed.

Perform the following steps to seal the Entis Pro system:

- 1. Launch Entis Pro.
- 2. Log in using the W&M accredited for verification user account.
- 3. Set the following Entis Pro tasks to W&M approved:
  - Task Name
  - AboutTasks.exe
  - AboutTasks\_ENU.dll
  - CiuPlusLinks.exe
  - CiuPlusLinks\_ENU.dll
  - CrystalReports
  - DataModel\_ENU.dll
  - Kernel
  - LabelControl
  - ObjectiveGrid
  - ProEssentials
  - ReportPrinting.exe
  - ReportPrinting ENU.dll
  - TankDetail.exe
  - TankDetail\_ENU.dll
  - TankDetail -P.rpt for English language (This template must be imported first via About Tasks - Reports... - Import)
  - TankDetails NL -P.rpt for **Dutch language** (This template must be imported first via *About Tasks* - *Reports...* - *Import*)
- 4. Seal the Entis Pro system.

Refer to the chapter 'About Tasks' in the *Configuration manual Entis Pro version 2.70x for Windows 7* (Part No. 4416381) for detailed information about sealing the Entis Pro system.

## 1.4 Sealing the ENTIS system connected to the CIU 888

Seal ENTIS system based on the procedure documented on "Apply / Verify Seal Application" ENTIS document (Part No. BA081-1976000).

#### 1.5 Calibrating the entities of the tanks associated with the CIU 888

Once the Entis Pro / ENTIS system connected to the CIU 888 has been sealed, the next step is to calibrate the entities of the tanks associated with the CIU 888. If a tank is calibrated, it means that the tank has been accepted by the LM authorities for transfer.

Perform the following steps to calibrate the entities of the tanks associated with the CIU 888:

- 1. Launch Entis Pro.
- 2. Log in using the W&M accredited for verification user account.
- 3. Calibrate the required entities of each tank associated with the CIU 888.

Refer to the section 'How to calibrate' in the *Users guide Entis Pro version 2.70x for Windows 7* (Part No. 4416380) for detailed information about calibrating tank entities.

#### 1.5.1 Ambient temperature calibration through CIU 888 web interface

CIU 888 web interface provides option to calibrate/uncalibrate ambient temperature. If ambient temperature needs to be calibrated then use this option.

- 1. Login into CIU 888 web page using "ciuadmin" user account.
- 2. Select CONFIGURE tab.
- 3. On siteelement tree, select the gauge that is associated with the ambient temperature scan.
- NOTE: Ambient temperature scan is associated with the gauge associated to the first tank created in the configuration tool (CIU Service tool/Ensite Pro).

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DIAGNOSTICS	MONITOR 📋 LOGS			cluadmin 💄
CIU	G331			
Host port 1	Gauge			
Service port	Name	Value	IsLM?	
FTE A port	Gauge Type	854 🗸	Yes	
- 10 T10	Allowed gauge commands	1023	No	
G331	Element type	MRT	Yes	
- 3 111	Lowest element position	0 m	No	
- 🖓 T12	Product level address	31	Yes	
- 🕄 T13	Product level TOI	B	Yes	
FTE B port	Product level TOR	8	Yes	
J LAN port	Product level dimension	m	Yes	
VPN port	Product level resolution	-4	No	
- 5 FP1	Product level fore/background scan	1	No	
5 FP2	Product temperature address	31	Yes	
- T 193	Product temperature TOI	B	Yes	
FP5	Product temperature TOR	c	Yes	
Host Port 3	Product temperature dimension	°C	Yes	
Products	Product temperature resolution	-2	No	
CIU	Product temperature fore/background scan	0	No	
	Vapour pressure address	31	Yes	
	Vapour pressure TOI	8	Yes	
	Vapour pressure TOR	ZP3	Yes	
	Vapour pressure dimension	кРа	Yes	

4. For ambient temperature calibration, select "Trigger calibration command" for "Calibrate Ambient Temperature" and click **Update**.

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AGNOSTICS	NITOR 📋 LOGS			ciluadmin
	Floating roof level TOI 2	в	No	
	Floating roof level TOR 2	ZHO	No	
CIU	Floating roof level TOI 3	В	No	
Host port 1	Floating roof level TOR 3	ZHP	No	
Host port 2	FR Level fore/background	0	No	
Service port	Temperature Profile	Enabled	No	
FTE A port	Temperature Profile Scan Period	60 mins	No	
- T10	Primary gauge	1	No	
6331	Product Pressure enabled	1	No	
- 12 11	Product Pressure Type	0	No	
- F T12	Product pressure address	31	No	
- 121 113	Product pressure TOI	В	No	
TETE B mort	Product pressure TOR	ZP1	No	
T IAN part	Product pressure dimension	32	No	
VPN port	Product pressure in fore/background scan	0	No	
- F01	Tank pressure orientation	Absolute pressure	Yes	
592	No alarms when gauge in test	1	Yes	
	Gauge detail	2	No	
1 ma	Floating Root Enabled	0	No	
Host Port 3	Calibrate Ambient Temperature	Trigger calibration commar~	Yes	
roducts	Uncalibrate Ambient Temperature	No Command 🗸 🗸	No	
elu	Auto	95	Yes	
	Density Profile Data Invalidate Timeout	0 mins	No	

5. For ambient temperature uncalibration, select "Trigger uncalibration command" for "Uncalibrate Ambient Temperature" and click **Update**.

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DIAGNOSTICS	ITOR 📋 LOGS			cluadmin
	Floating roof level TOI 2	в	No	
	Floating roof level TOR 2	ZHO	No	
ciu	Floating roof level TOI 3	8	No	
Host port 1	Floating roof level TOR 3	ZHP	No	
Host port 2	FR Level fore/background	0	No	
Service port	Temperature Profile	Enabled	No	
FTE A port	Temperature Profile Scan Period	60 mins	No	
- EN T10	Primary gauge	1	No	
6331	Product Pressure enabled	1	No	
- Di m	Product Pressure Type	0	NO	
- 12 112	Product pressure address	31	No	
- (3) T13	Product pressure TOI	в	No	
TTE B mort	Product pressure TOR	ZP1	No	
and the second	Product pressure dimension	32	No	
and part	Product pressure in fore/background scan	0	No	
VPN port	Tank pressure orientation	Absolute pressure	Yes	
	No alarms when gauge in test	1	Yes	
	Gauge detail		No	
113	Floating Roof Enabled	0	NO	
Host Port 3	Calibrate Ambient Temperature	No Command 🗸 🤟	Yes	
Products	Uncalibrate Ambient Temperature	Trigger uncalibration comn	No	
	Auto	95	Yes	
	Density Profile Data Invalidate Timeout	0 mins	No	

#### 1.6 Locking the LM relevant configuration settings of the CIU 888

Once the required entities of all tanks associated with the CIU 888 have been calibrated, the next step is locking the LM relevant configuration settings of the CIU 888:

Perform the following steps to lock the LM relevant configuration settings of the CIU 888:

1. Open the cover of the W&M lock key switch. The W&M lock key switch is located at the front of the CIU 888 (see FIGURE 1-7).



FIGURE 1-7 CIU 888: W&M lock key switch

2. Insert the key into the W&M lock key switch and turn it counterclockwise.

On the CIU 888 display, the status of the W&M lock key switch changes from ("Unlocked") to ("Locked") (see FIGURE 1-8).



FIGURE 1-8

NOTE: The Configuration lock key switch can either be closed or left open.

3. Remove the key from the W&M lock key switch and store it.

#### 1.7 Sealing the CIU 888

Once the LM relevant configuration settings of the CIU 888 have been locked, the CIU 888 can be sealed:

Perform the following steps to seal the CIU 888:



1. Close the cover of the W&M lock key switch and seal the cover using a sealing wire (see FIGURE 1-9).

FIGURE 1-9

CIU 888: Cover of W&M lock key switch

- 2. Seal the cover of the CIU 888 in one of the following ways:
  - Attach a permanent self-adhesive seal/sticker to the cover of the CIU 888 as shown in FIGURE 1-10. The seal/sticker should be



attached to both the cover and the housing of the CIU 888. A seal/ sticker will be provided when ordering the W&M certified option.

FIGURE 1-10

CIU 888: Example of location for seal/sticker

 Use a sealing wire to attach the cover of the CIU 888 to the fixing point at the back of the CIU 888 (see FIGURE 1-11).



FIGURE 1-11

CIU 888: Fixing point for sealing cover of CIU 888

The CIU 888 is now sealed and the W&M relevant configuration settings of the CIU 888 and of the calibrated tanks associated with the CIU 888 can no longer be changed without breaking the seal.

## APPENDIX A LIST OF ABBREVIATIONS

Abbreviation	Description
CIU	Communication Interface Unit
IP	Internet Protocol
NMI	Netherlands Measurement Institute (Nederlands Meetinstituut)
PC	Personal Computer
SI Units	International System of Units (from French: Système International d'Unités)
W&M	Weights and Measures
LM	Legal Metrology

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For service-related questions, contact: **Technical Assistance Centre** Phone: +1 800 423 9883 or +1 215 641 3610 E-mail: HFS-TAC-SUPPORT@honeywell.com

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4417595\_Rev13 December 2022 © 2022 Honeywell.

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