FCC ID: 2ATAB-CHMPRX IC: 25121-CHMPRX









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11.02.2020 Rev 1 ED29622



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User and Maintenance Manual

# 1 ChemProX Interface Program

ChemProX Interface Program (XIP) is a web user interface that is used for monitoring, training, maintenance, software updates and laboratory tests due to its tools and detailed logs. The interface only shows the currently connected device and some of the content is password protected. XIP updates along with the software so its features may change between versions.



### Fig. 1-1 ChemProXIP user interface

Tab. 1-1 ChemProXIP feature tabs

ChemProXIP feature tabs				
Tab	Description			
Status	Detection and trend view information, device status and basic level calculation			
Logs	Event log and sensor data export options			
Settings	Settings and advanced settings of the detector			
Instructions	User manuals and measurement mode datasheets			
Update	Detector information, installation features and a link to update station			
Training	Training options and controls in addition to screencast of the detector interface			
Maintenance	Maintenance manuals, usage counters, faults and warnings			
Content	Default and user generated info menu content			
Monitoring	More detailed trend and measurement values			



### 1.1 <u>User Levels</u>

The basics of user levels:

- User level:
  - Basic operational features and information
  - Settings that affect the operation of lights, display and sound
- Advanced user level:
  - Update and training features
  - Settings that greatly affect the operation and user interface
- Master level:
  - Maintenance and laboratory features

Tab. 1-2 ChemProXIP features by user level

ChemProXIP features by user level							
Tab	User	Advanced	Master	Tab	User	Advanced	Master
Status	х	Х	Х	Training		Х	Х
Logs	Х	X*	Χ*	Maintenance			Х
Settings	Х	Х*	Χ*	Content			Х
Instructions	х	Х	Х	Monitoring			Х
Update		Х	Х				

\*) Available content depends on the user level

How to log in					
Description	Picture				
1. Press <i>Login</i> in the upper right corner	1 🔎 Login				
<ul> <li>2. Enter the password:</li> <li>User does not need to log in</li> <li>Advanced default password: 0000</li> <li>Master password can be provided upon request</li> </ul> Note! Advanced password is the same as the detector security PIN	2 P Login Login Cancel				

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### 1.2 The Basics of XIP Communication

The basics of XIP:

- Good with individual devices
- Monitoring, training, maintenance and software updates

The basics of LAN/WLAN:

- Detector(s) and the interface device are connected to the same network
  - Relays specific information between XIP and the detector(s):
    - Information on the statuses and locations of the detector(s)
    - Information and commands from XIP

Some basic ways to connect the interface device with the detector(s) via WLAN:

- 1. Interface device as an access point (mobile support station)
- 2. Detector as an access point



Fig. 1-2 Connecting the interface device with the detector

Some basic ways to connect the interface device with the internet for software updates:

- 3. Interface device is connected directly to the internet
- 4. Interface device is connected to the internet through a network



Fig. 1-3 Connecting the interface device with the internet



### 1.3 Features – User Level

### 1.3.1 Status

Tab. 1-3 Status features

Status features				
Overview				
ChemProX Status Logs Settings Instru CPX100000057 •	rctions			₽ Login
A	M	leasuring TIC Detection ~		
				Trend 47.37
В		$\frown$		2500
				3000
				1500
				1000
				500
10455	tm30s tm15s	lm0s 45s		Ea Co
Basic Level Hadio data	Battery Disabled Radio name	57%. #0057	GPS Version	Disabled 0.13.3
	. Environics	Copyright & 2019 Environics Oy, AB Rights Reserved.		

Feature	Description	
<b>A)</b> Device status and detection mode	Displays device status and the curr	rently active detection mode.
B) Trend	Horizontal axis:	Vertical axis:
	<ul><li>Time</li><li>Runs from right to left</li></ul>	<ul><li>Trend value</li><li>Runs from bottom to top</li></ul>
<b>C)</b> Measurement status	Information:	Command:
	<ul> <li>Radio data status</li> <li>Battery level</li> <li>Nickname</li> <li>GPS status</li> <li>Software version</li> </ul>	<ul> <li>Calculate basic level</li> </ul>



### 1.3.2 Logs

Tab. 1-4 Logs features

Logs fe	Logs features						
Overview							
Cher		Status Update	Logs Maintenance	Settings Instructions	Content Monitoring Trai	ning	P Logout
A	/01/2020 - 12:54	10/01/2020 S	earch Show latest		Export sensor data	Export events	Delete all data
B Warning	Time 12:52:53 21/6/2019 12:52:45 - 12:52:53	Location 61.6822 27.2551	Training ✓ Details No Measu	rement started			^
Info	12:52:45	<u>61.6822 27.2551</u>	No Initializ	zing			
Fault	12:51:58 - 12:52:45	<u>61.6822 27.2551</u>	No Low ai	r flow, Acknowledged at 12	2:52:18 21/6/2019		
Warning	12:51:58 — ?	<u>61.6822 27.2551</u>	No Overdu	ue maintenance			
Info	12:51:57	<u>61.6822 27.2551</u>	No Measu	rement mode set to CWA	Sensitive		
Info	12:51:13	<u>61.6822 27.2551</u>	No Power	up			
Info	16:12:41 20/6/2019	<u>61.6822 27.2551</u>	No Power	down	Consitivo		
	16:09:25	61.6822 27.2551	Yes Trainin	in mode exited	Sensitive		
Alarm	16:08:54 - 16:09:23	61.6822 27.2551	Yes Chokin	ig detected at level HIGH, I	Measurement mode: Training C	WA Sensitive, Not a	acknowledged
Info	16:07:51	<u>61.6822 27.2551</u>	Yes Measu	rement mode set to Trainii	ng CWA Sensitive		
Info	16:07:51	<u>61.6822 27.2551</u>	Yes Trainin	ig mode entered			
Info	16:07:48	<u>61.6822 27.2551</u>	No Measu	rement mode set to CWA S	Sensitive		
Feature	!	Descrip	otion				
<b>A</b> ) Data	options	Search	Soarch by tim	05020	08:34 12/11/2019	10:34 12/11/2019	Search
		•	Refresh to sho latest events	ow the 100	Show all		
		Export:	: Sensor data Events		Export sensor da	ta Expo	rt events
		<b>Note!</b> T restrict	The export resu red to search tir	lts can be nespan	All Selected	timespan	Cancel
		Delete	all data	٦			
		Only ava	ailable to advanc	ed and above	Delete all data		
<b>B</b> ) Log information		Event i	nformation:				
			Туре	I	nfo, warning, fault	or alarm	
		•	Time	٦	ime or time period	l	
		•	Location	(	GPS location if avai	lable	
			Training Details	٦ ١	raining mode statı Description	us during th	e event



and choose desired event types

### How to filter log

Description

#### Picture 1) Select time period and press search 34 12/11/2019 1 10:34 12/11/2019 Search 2) Press event column dropdown window 3) Press training column dropdown window Training 🗸 Details Type 🗸 Time 2 3 and choose desired training mode status ○ All events All events ○ No training events Only alarm events Only training events Only fault events Only warning events Yes Nerve detect 14:39:00 - 14 Alarm Yes Nerve detect

### 1.3.3 Settings

Tab. 1-5 Settings features

Settings features					
Overview					
ChemProx Status CPX10000057~	Update Logs Maintenance <u>Settin</u>	<u>gs</u> Instructions Content Monitoring	Training		₽ Logout
A	General settings Covert mode Volume Backlight Display timer	ON OFF V 3 V ON OFF	Advanced settings Language PIN code PIN code 2 (full access)	EN V Set Set Set	
C	Time and date Time 5 date Time zone Date format Time format	0FF ~ D 12:57:50 21/06/2019 Set +2h ~ DMY ~ 24 h ~ 24 h ~	JI settings Trend tab Group map tab Group list tab Basic level calculation Repair notices	ON OFF ON OFF ON OFF ON OFF	
E	Radio data Enabled Name Channel Key PIN	ON OFF #0057 Set 1 ~ Set Clear	Aap and location         Background map         OSM Mikkeli v2         Install       Choose file         Map Centering         Fixed location         Lat 6 Lon       61.6822	ON OFF Delete Upload Self ~ ON OFF 272551 Set	

Feature	Description	
<b>A)</b> General settings	<ul><li>Covert mode</li><li>Volume</li><li>Backlight</li><li>Screensaver</li></ul>	Toggles the covert mode on or off Adjusts the volume level Adjusts the backlight intensity Toggles the automatic screensaver on or off (30 second countdown)
	LED	Adjusts the status LED intensity
<b>B)</b> Advanced settings Advanced and master	<ul><li>Language</li><li>PIN code</li><li>PIN code 2 (full access)</li></ul>	Cycles through the availanve interface language options Allows a new security PIN to be set Allows a new master PIN to be set (only available to master)



### Logs features

Feature	Description	
<b>C</b> ) Time and date Advanced and master	<ul> <li>Time &amp; date</li> <li>Time zone</li> <li>Date format</li> <li>Time format</li> <li>GPS auto sync.</li> </ul>	Sets the time and date Sets the time zone (i.e. +3h) Sets the date format (i.e. YMD) Sets the time format (i.e. 24h) Toggles the GPS auto synchronization
<b>D)</b> UI Settings Advanced and master	<ul> <li>Trend tab</li> <li>Group map tab</li> <li>Group list tab</li> <li>Basic level calculation</li> <li>Repair notices</li> </ul>	Toggles detector trend view on or off Toggles group map view on or off Toggles group list view on or off Toggles the basic level calculation on or off Toggles the repair notices on or off
<b>E)</b> Radio data Advanced and master	<ul><li>Enabled</li><li>Name</li><li>Channel</li><li>Key PIN</li></ul>	Toggles the radio data on or off Changes the detector nickname Changes the radio data channel Changes the channel key PIN
<b>F)</b> Map and location Advanced and master	<ul> <li>Background map</li> <li>Install</li> <li>Map centering</li> <li>Fixed location</li> </ul>	Toggles the background map on or off Upload a new map to the detector Centers the map around i.e. self or group Fixes the detector location



#### 1.3.4 Instructions

Tab. 1-6 Instructions features

Instructions features	
Overview	
ChemProx Status Update Logs Maintenance Settings Instructions Content Monitoring Training PLogou	t
A Manuals User manual	
Measurement mode datasheets	
CWA Datasheet TIC Datasheet	

scription	
er manuals: ChemProX ChemProXIP Mobile C&C and Training UI	Measurement mode datasheets: <ul> <li>CWA</li> <li>TIC</li> <li>Other installed modes</li> </ul>
5 e	r manuals: ChemProX ChemProXIP Mobile C&C and Training UI



### 1.4 Features – Advanced User

### 1.4.1 Update

Tab. 1-7 Update features

Update featur	res	
Overview		
	Status <u>Update</u> Logs Maintenance Settings Instructions Content Monitoring Training	🔎 Logout
A	Contrast region:       0.13.3         Serial number:       CPX10000057         Security code:       CPX10000077         Conserie:       CPX10000077         Choose file       CPX10000077         Caustion!       Coose file         Coose file       <	

Feature	Description	
<b>A)</b> Update options Advanced and master	<ul><li>Web link</li><li>File update field</li><li>Detector information</li></ul>	Link to web update station Choose a local file Software version, serial number and security code
<b>B)</b> Update station Advanced and Master	<ul> <li>Detector identification</li> <li>Add another device</li> <li>Instructions</li> <li>Support</li> </ul>	Serial number and security key Add another device to the list Instructions on how to install CPX software Support information



#### How to download software updates

#### Description



- **1.** Open the update station by either:
  - Following the link in XIP update tab OR
  - Opening the update station address in a browser: <u>https://update.environics.fi/cpx/</u>
- 2. Fill in the serial number and the security key of the detector that can be read from:
  - a) XIP update tab
  - **b**) The detector's info menu

Note! XIP may not work correctly with older browser versions, Internet Explorer in particular

**Note!** If you are updating multiple devices, enter their serial numbers and security codes by adding more devices to the list

Note! Instructions opens this document and Need support opens email to technical.support@environics.fi

- 3. Press Check for available updates
- 4. Press Download to download the file on your interface device

Note! Internet connection is required for downloading new software



### How to install software updates with XIP

#### Description



1. Connect the mains power adapter and charge the battery level to 25% or higher

**Note!** Installation can take up to 15 minutes and consequences of interrupting it can lead to a need for factory maintenance

- 2. Add the downloaded update file by either:
  - Browsing the file OR
  - Dropping the file in the field
- **3.** Upload the file on the detector
- 4. Wait for the installation procedures to finish
  - The detector will restart a few times during the installation
- **5.** Repeat actions 1... 4 for the other detectors if applicable

#### How to install software updates with USB

#### Description



Prepare the detector and connect the USB data storage device that has the downloaded update file:

- 1. Connect the mains power adapter and charge the battery level to 25% or higher
- 2. Attach the USB data adapter cable to the detector
- 3. Attach the USB data storage device to the USB data adapter cable

Note! The detector and the USB storage device must be attached in the correct order



Install the new software update:

- 4. Select USB data in the main menu, press Install update and wait for eligible files to be scanned for
- 5. Choose the correct file from the available options and wait for the installation to finish
  - The detector will restart a few times during the installation
  - Do NOT remove the USB data storage device while the update is in process!

Note! USB data menu becomes visible in the main menu when the USB data storage device is connected

**Note!** The installation can take up to 15 minutes and consequences of interrupting it can lead to a need for factory maintenance



Remove the USB data storage device:

- 6. Select USB data in the main menu and press Remove device to disconnect the USB data storage device
- 7. Remove the USB data storage device from the USB data adapter cable
- **8.** Remove the USB data adapter cable from the detector

Note! The USB data storage device and the detector must be removed in the correct order



### 1.4.2 Training

Tab. 1-8 Training features



Feature	Description	
<b>A</b> ) Training options Advanced and master	<ul> <li>Training mode</li> <li>Compound</li> <li>Trend</li> <li>Fault</li> <li>BLE sources</li> </ul>	Sends an invite to enter the training mode to the detector Set the detected compound Control the trend Set a fault Toggle Bluetooth sources on or off
<b>B</b> ) Device interface Advanced and Master	<ul><li>Detector display</li><li>Detector buttons</li><li>Fullscreen</li><li>Detach</li></ul>	Shows the detector display in real-time Function identically to detector buttons Enlarges the detector display to fullscreen Detaches the display to a separate window

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### 1.5 Features – Master

#### 1.5.1 Maintenance

Tab. 1-9 Maintenance features

ruiou.	
ChemProx Status Update Logs <u>Mainte</u> CPX10000057~	nance Settings Instructions Content Monitoring Training
laintenance manuals	B Usage counters
Maintenance manual	Total 14 h
	Pump 10004/10000 h Reset
	Confidence check <u>14/10000</u> h
	Multisensor 1144/10000 h
	EC 0/10000 h
ault code	D Hardware status flags
[none]	MEASURING
Fault flags	FLOW SENSOR OFFSET CAL DISABLED
[none]	ECSENSOR NOT INSTALLED
	GPS DISABLED
	YAMATAKE FLOW STD
Warnings	
Overdue maintenance	

Feature	Description		
<b>A)</b> Instructions Master	<ul> <li>ChemProX Level 2 Mair</li> <li>ChemProX Level 3 Mair</li> </ul>	ChemProX Level 2 Maintenance Manual ChemProX Level 3 Maintenance Manual	
<b>B)</b> Usage counters Master	<ul><li>Total</li><li>Pump</li><li>Confidence check</li></ul>	Total usage hours Usage hours of the pump (must be reseted <b>only</b> upon pump replacement) Hours since the last confidence check	
	<ul><li>Multisensor</li><li>EC</li></ul>	Usage hours of the multisensor board Usage hours of the EC sensor	



Maintenance features			
Feature	Description		
<b>C)</b> Faults and warnings Master	<ul><li>Fault code</li><li>Fault flags</li><li>Warnings</li></ul>	Identification code and message of the currently most significant fatal fault List of all active fatal faults List of all non-fatal faults i.e. A Overdue maintenance	
<b>D)</b> Hardware status flags Master	<ul> <li>Lists statuses of the</li> </ul>	Lists statuses of the internal components and processes of the detector	



### 1.5.2 Content

Contains all information menu content and allows the master level user to download and edit it.

Tab. 1-10 Content features

Content features		
Overview		
ChemProx CPX10000057	Status Update Logs Maintenance Settings Instructions <u>Content</u> Monitoring Training	🔎 Logout
A efault content	B User content	^
ERR_air_intake.cpi	L ● [No content]	
B ERR_detection_mode.cpi	i 🛓 🕘 Choose file Browse Upload	
ERR_flow.cpi	<b>₹</b> ●	
ERR_gas_detection.cpi	¥ 0	
ERR_hw.cpi	¥ @	
ERR_multisensor.cpi	¥ @	
ERR_sensor.cpi	¥ @	
ERR_sensor_or_ims.cpi	<b>₹</b> 0	
SOP_blister_high.cpi	¥ 0	
SOP_blister_low.cpi	<b>₹</b> @	
SOP_blister_med.cpi	<b>₹</b> @	
SOP_blood_high.cpi	<b>₹</b> 0	
SOP_blood_low.cpi	<b>₹</b> 0	
SOP_blood_med.cpi		
SOP_chem_detected_all.	cpi 🛓 🕘	
SOP_nerve_high.cpi		~

Feature	Description
<b>A)</b> Default content Master	<ul> <li>Categories:         <ul> <li>Instruction (.cpi)</li> <li>Guide (.cpg)</li> <li>Agent (.cpa)</li> </ul> <ul> <li>Agent (.cpa)</li> <li>Agent database article</li> </ul> </li> <li>File name</li> <li>Download button</li> <li>View button</li> <li>View the content on the detector display or the training tab screencast</li> </ul>
<b>B)</b> User content Master	<ul> <li>User content List of uploaded files</li> <li>Upload field for files Browse and upload files</li> <li>Note! User content overrides the default content with the same name. The default file is stricken through to indicate the override</li> </ul>



#### 1.5.3 Monitoring

Tab. 1-11 Monitoring features



Feature	Description	
<b>A)</b> Sensor data logging Master	<ul> <li>Marker text</li> </ul>	Adds a marker to the sensor data log that can be seen and exported from the logs (i.e. Start of exposure)
<b>B)</b> GasLibBundle Master	<ul><li>Upload field for files</li><li>Restart to apply</li></ul>	Browse and upload files Restarts the detector to apply changes
<b>C</b> ) Sensor data Master	<ul><li>Value type</li><li>IMS channel values</li></ul>	Choose either absolute or relative value Channels 4 7 and 12 15
<b>D</b> ) Plotting controls Master	<ul><li>Plotting options</li><li>Plotting view</li></ul>	The available plots can be toggled here The chosen plots can be viewed here

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