



Operating Instructions thermolMAGER TIM NetPCQ Mini Industrial PC for TIM series

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1. Safety

System operation assumes knowledge of the operating instructions.

1.1 Symbols Used

The following symbols are used in these operating instructions:



1.2 Warnings



Connect the power supply and the display/output device according to the safety regulations for electrical equipment.

- > Risk of injury
- > Damage to or destruction of the PC

NOTICE

Avoid shocks and impacts to the PC.

> Damage to or destruction of the PC

The supply voltage must not exceed the specified limits.

> Damage to or destruction of the PC

Avoid static electricity and keep away from very strong EMF (electromagnetic fields) e.g. arc welders or induction heaters.

> Damage to or destruction of the PC

1.3 Notes on CE Marking

The following apply to the thermolMAGER NetPCQ:

- EU Directive 2014/30/EU
- EU Directive 2014/35/EU
- EU Directive 2011/65/EU, "RoHS" category 11

Products which carry the CE mark satisfy the requirements of the EU directives cited and the relevant applicable harmonized standards (EN). The measuring system is designed for use in industrial and laboratory applications.

The EU Declaration of Conformity is available to the responsible authorities according to EU Directive, article 10.

1.4 Intended Use

- The thermolMAGER NetPCQ is designed for use in industrial and laboratory applications and is a fanless, passively cooled, industrial PC.
- The system must only be operated within the limits specified in the technical data, see 2.
- The system must be used in such a way that no persons are endangered or machines and other material goods are damaged in the event of malfunction or total failure of the system.
- Take additional precautions for safety and damage prevention in case of safety-related applications.

1.5 Proper Environment

- Protection class: IP30
- Ambient temperature: 0 ... +50 °C (+32 ... +122 °F)
- Storage temperature: -20 ... +75 °C (-4 ... +167 °F)
- Humidity: 10 ... 95 %, non-condensing

2. Technical Data

2.1 Functional Principle

The thermoIMAGER TIM NetPCQ is a miniaturized industry PC which expands the TIM series to a standalone solution or which works as a USB to Ethernet converter. This mode enables larger possible distances between process (IR camera) and process control (PC).

The thermolMAGER NetPCQ includes a Windows 10 operating system that allows the user to install additional software. The housing of the thermolMAGER NetPC is made of anodized aluminum.

Model	NetPC
Storage temperature	-20 +75 °C (-4 +167 °F)
Ambient temperature	0 +50 °C (+32 +122 °F)
Relative humidity	10 95 %, non-condensing
Material (housing)	Anodized aluminum
Dimensions	117.5 mm x 165 mm x 64.5 mm (L x B x H)
Weight	1000 g
Vibration	IEC 68-2-6: 3 G, 11 - 200 Hz, any axis
Shock	IEC 68-2-27: 50 G, 11 ms, any axis
Operating system	Windows 10

2.2 General Specifications

2.3 Electrical Specifications

Model	NetPCQ
Power supply	12 24 VDC
Power consumption	10 W (+additional 2.5 W for IR camera)
Cooling	passive
Processor	Intel Atrom J1900 Quad Core CPU, 2 GHz
Hard disc	64 GB SSD
RAM	2 GB (DDR2, 533 MHz)
Ports	3 x USB 2.0
	1 x USB 3.0
	2 x RS232
	VGA
	Ethernet (Gigabit Ethernet)
Additional functions	Status LED

3. Delivery

3.1 Unpacking, Included in Delivery

- 1 TIM NetPCQ inclusive SSD (64 GB)
- 1 USB Recovery stick including operating manual
- Carefully remove the components of the measuring system from the packaging and ensure that the goods are forwarded in such a way that no damage can occur.
- Check the delivery for completeness and shipping damage immediately after unpacking.
- If there is damage or parts are missing, immediately contact the manufacturer or supplier.

3.2 Storage

- Storage temperature: -20 ... +75 °C (-4 ... +167 °F)
- Humidity: 10 ... 95 %, non-condensing

4. Mounting and Installation

The thermoIMAGER TIM NetPCQ can be mounted easily on a DIN rail (TS35) according EN50022 using the rail mount adapter on the backside of the box.



Fig. 1 Dimensional drawing thermoIMAGER TIM NetPCQ, dimensions in mm, not to scale

5. Control Elements and Connections



- 1 RS 232 Interface connections (two)
- 2 USB 2.0 connections (two)
- 3 DC power supply with power LED
- 4 VGA connection
- 5 1 x USB 3.0 and 1 x USB 2.0 connections
- 6 Ethernet connection

6. Operation

6.1 Operation Modes

The thermolMAGER NetPCQ can be used in three different operation modes:

1. Converter USB - Ethernet with direct connection to a PC (point-to-point connection)

2. Converter USB - Ethernet with connection of a PC via a network or via the internet

3. Stand-alone operation with an IR camera

For powering the thermoIMAGER NetPCQ you can use any suitable industrial power supply with a voltage output between 12 VDC and 24 VDC, see 2.3.

6.2 Remote Access to the thermolMAGER TIM NetPCQ

For settings on the thermolMAGER TIM NetPCQ you can connect a keyboard and a mouse to the available USB sockets as well as a monitor to the VGA socket, see 6.8.

Another very simple option is remote control software, for example Remote Desktop (RDP) from Windows or Ultra VNC with NetBox Utility, which is already included on the TIM Connect software CD provided with thermoIMAGER TIM.

After installation you can have access to the thermoIMAGER TIM NetPCQ either from a PC directly connected over an Ethernet cable or from a PC which is located anywhere and connected to the same network. Also remote connection via the internet is possible.

To install NetBox Utility on your PC, please start install.bat in the /NetBox Utility directory on the thermolMAGER TIM Connect USB flash drive.

In addition to the utility software, the UltraVNC viewer will also be installed.

This program is available Start/Programs/NetBox-UltraVNC.

Before starting the NetBox Utility on your PC, please follow the instructions for specifying a fixed IP address, see 6.6. Next, please start the NetBox Utility program:

Netbox Utility v2.1.9.	0				- 0	×
Detect Devices				Control		
Interface Ethernet Ethernet_USB3 LAN-Verbindung' 1 LAN-Verbindung' 2 WLAN	IP Address 10 1 25 174 192 168.0.1 169 254 172 211 169 254 82 157 10 1 25 153	$\begin{array}{l} \mbox{Address Range} \\ 10.125.1 → 10.125.254 \\ 102.168.0.1 → 102.168.0.254 \\ 102.268.0.1 → 102.168.0.254 \\ 102.254.172.1 → 109.254.172.254 \\ 109.254.02.1 + 109.254.02.254 \\ 10.125.1 → 10.125.254 \\ \end{array}$	Interface is available Interface is available Interface is available Interface is not available. Invalid Address Interface in not available. Invalid Address Interface is not available	Alternative IP Address from: to: Connect directly to: Filter by Network Nam Update	Range 192 168.0 1 192 168.0.254 9 netbox	
Results IP Address	Host name					
5	Scan	1 devices found		s	tart Viewer >>	

Fig. 2 View: Netbox Utility program start screen

- Select the desired network adapter.
- Remove the check mark from Filter by Network Name and click the Scan button.

The utility program now searches for NetPCQs that are in the network or are directly connected to your PC.

The devices found are shown in the Results window.

Mark the desired address in the Results window and click the Start Viewer > > button.



You should now see the thermolMAGER TIM NetPCQ screen.

Fig. 3 View: thermoIMAGER TIM NetPCQ start screen

6.3 Applications and Start Options

On the Desktop of the thermolMAGER TIM NetPCQ you will find the following short cuts:

- TIM Connect
- Netbox Control Center



Fig. 4 Netbox Control Center shortcut

The Netbox Control Center allows for easy configuration of the NetPCQ.

6.3.1 NetBox Control Center

6.3.1.1 Select Tab

The Select tab lets you select programs that start automatically after powering on the NetPCQ.

NetBox Control (Center v2.0.7.1	-		×
Select Log Tool				
Application O Default Path Manual Path	Custom Application Imager Net Server TIMConnect Custom Application		×	446
Arguments Autostart Man. Control	Start	90		

Fig. 5 Netbox Control Center - Select selection

Under Application, you can select TIM Connect, Imager Net Server or Custom Application.

Application	NetPC operating mode		
TIM Connect	Stand alone operation		
Imager Net Server	Converter operation USB-Ethernet		
Custom Application	Using the NetPCQ with another software		

The start options set in the Control Center are automatically saved on the NetPCQ and are also available after restarting.

Under Arguments, you can specify command line parameters (e.g., a special layout with which the TIM Connect Software starts automatically).

Arguments	/Path="D:\Imager".	/Layout=NetBox
Autostart	\checkmark	
Man. Control	Start	Stop

Enable Autostart to have the selected application start automatically after the NetPCQ is started.

If for some reason the application no longer works properly (e.g., if the software has crashed), the Netbox Control Center automatically restarts it, if Autostart has been set (software watchdog).

6.3.1.2 Log Tool Tab

The ${\tt Log}$ ${\tt Tool}$ tab provides the following information:

Application	NetPC operating mode
Software Restarts	Number of software restarts performed
Reason for last hardware restart	Reason for the most recent restart of the NetPCQ
Software is not responding for	Timer, which starts when the software does not respond and triggers a restart of the selected application.
Actual runtime	Current runtime of the software
Previous runtime	Previous runtime of the software
Device Frequency	Camera image frequency
Process Frequency	Displayed image frequency
Net Transfer Frequency	Image frequency transferred via the network (for Imager Net Server)

oftware Restarts	0	
eason last hardware restart	Windows reboot	
ftware is not responding for	0 seconds	
ctual Runtime	0h 2m 4s 0h 0m 0s 31.6 Hz	
revious Runtime		
evice Frequency		
rocess Frequency	20.7 Hz	
et Transfer Frequency	12.8 Hz	

Fig. 6 Netbox Control Center - Log Tool selection

If an thermolMAGER TIM is connected to the thermolMAGER TIM NetPCQ, you should see two active applications: Log Tool and Imager Net Server, see Fig. 7, similarly Log Tool and TIM Connect, see Fig. 8.



Fig. 7 View NetPCQ - Log Tool and Imager Net Server



Fig. 8 View NetPCQ - Log Tool and TIM Connect

Imager	Imager Net Server, see Fig. 7						
Menu	File	Exit of the program					
	Devices	Shows the connected thermolMAGERS TIM	Imager Net Server				
	Flag	Manual operation of the camera flag					
USB vic	leo device	Serial number of the connected imager device	9				
T (C, F,	B)	Device temperatures (*C)	C: FPA-Chip				
			F: Flag temperature				
			B: Housing temperature				
PIFin (A, D)		Status of the PIF input	A: Analog IN (Al)				
			D: Digital IN (DI)				
HW Cnt	•	Hardware-Counter (frame counter)					
ADU (19	92, 144)	ADU value of the center TIMxel (e.g. 192, 144 at TIM4xx)					
Freq (D, P, N)		Frequency (Hz):	D: Device/ P: Processing/ N: Network				
Time		Time per single frame					
Queue		Number of frames in network queue					
FOV, TR		Field of view (horizontal) of the imager lens, temperature range					

6.3.1.3 Imager Net Server

Fig. 9 Information in the Imager Net Server - application window

6.4 File Transfer between thermolMAGER TIM NetPCQ and PC

- To exchange files between the thermoIMAGER TIM NetPCQ and a directly connected or in the network located PC please move the cursor to the title bar of the UltraVNC Viewer window and press the right mouse button.
- ▶ Start File Transfer.
- Alternatively you can also press the following button in the tool bar:



In the following explorer window, see Fig. 10, you see on the left side your local PC (LOCAL MACHINE) and on the right side the thermoIMAGER TIM NetPCQ (REMOTE MACHINE).

Now you can copy files between both computers via the network link by marking them and pressing Send or Receive.

File Transfer with < netbox-12120014 (192.168.49.169) - service mode > - UltraVNC						
[C:] - Local Disk	LOCAL MA	ACHINE 1		[D:]-Local Disk 🔹	REMOTE M	ACHINE 1
C:\Users\Torsten.Czech\Documen	ts\Imager Dat	a\		D:\		
Name	Size	Modified]	Name	Size	Modified
[] [Reord_2013-01-31_13-2 Reord_2013-01-31_13-2 Reord_2013-01-31_13-2 Reord_2013-01-31_13-2 Reord_2013-02-04_16-4 Reord_2013-02-04_16-4 Reord_2013-02-04_16-4 Reord_2013-02-04_16-4 Reord_2013-02-04_16-5 Reord_2013-02-04_16-5 Reord_2013-02-04_16-5	Folder 65.55 Kb 65,50 Kb 93,65 Kb 43,47 Kb 41,28 Kb 15,15 Mb 30,99 Kb 21,38 Mb 5,33 Mb 43,92 Mb	01/31/2013 13:23 01/31/2013 13:24 01/31/2013 13:24 02/04/2013 16:47 02/04/2013 16:47 02/04/2013 16:47 02/04/2013 16:47 02/04/2013 16:47 02/04/2013 16:50	Send >> << Receive <- Delete <- New Folder <- Rename Minimize	Imager] Moue] RECYCLER] System Volume Informat [Watchdog]	Folder Folder Folder Folder Folder	
> 12 File(s)/Folder(s)				> 5 File(s)/Folder(s)		
History > 03/01/13 13:52:3	5 - Connected	ł				-
Progress :						
Connected						

Fig. 10 File transfer view

6.5 Direct Ethernet Communication

- Please connect the thermolMAGER TIM with the supplied USB connection cable with the thermolMAG-ER TIM NetPCQ.
- Please connect your PC with an Ethernet cable with the thermolMAGER NetPCQ.
- Now connect the power supply cable to the thermolMAGER NetPCQ and to the mains supply.

The thermoIMAGER NetPCQ will start to boot the system and should be ready to use after 2 - 3 minutes.



Fig. 11 Ethernet direct connection (point-to-point connection)/ thermoIMAGER TIM NetPCQ powered via power supply

The used Ethernet cables should be at least category 5 cables (Cat-5 according ISO/IEC 11801).

6.6 Connection to the thermolMAGER TIM NetPC

The communication with the TIM NetPCQ is done via the TCP/ IP protocol (Transmission Control Protocol/ Internet Protocol). The TIM NetPCQ can get its IP address (Internet Protocol address) either from a DHCP server or it can work with a fixed IP address.

First switch on the thermoIMAGER NetPCQ, see 6.

On a direct connection to a PC both, the thermoIMAGER TIM NetPCQ as well as the PC must use a fixed IP address because no DHCP server is available here. The thermoIMAGER TIM NetPCQ is using in this case the IP address 192.168.0.100.

On your PC you have to do the following settings once (depending on the operating system the procedure can differ from the here shown – the following description refers to a Windows 10 system).

- ▶ 1. Go to System controls > Network > Internet and open Network and Sharing Center.
- 2. If you have an existing connection to a network (company network e.g.) you should see the following information:

View your basic network information and set up connections



Fig. 12 Network center

- ▶ If your PC is not connected to any network, please go to Change adapter settings after you opened the Network and Sharing Center. Now go to Local Area Connection and right mouse button: Properties, continue at item 4.
- 3. Go to Local Area Connection a status view according, see Fig. 13, will be shown. Then go to Properties.

Operation



Fig. 13 Local Area Connection Status

Fig. 14 Local Area Connection Properties

Fig. 15 Internet Protocol Version 4 (TCP/IPv4) Properties

- 4. In the Local Area Connection Properties window, see Fig. 14, mark Internet Protocol Version 4 (TCP/IPv4) and go again to Properties.
- 5. Please open now in Internet Protocol Version 4 (TCP/IPv4) Properties window, see Fig.
 15, the register Alternate Configuration and activate the checkbox User configured.
- 6. Now enter a user-defined IP address for your PC. Note that the network portion of the address must be identical to the network portion of the IP address of the thermoIMAGER TIM NetPCQ, that is, it must be 192.168.0. However, the IP address of the device portion must be different from the thermoIMAGER TIM NetPCQ address (IP address 192.168.0.100); for example, use IP address 192.168.0.1, see Fig. 16.

Operation

Internet Protocol Version 4 (TCP/IPv4) P	Properties 2 X
General Alternate Configuration	
If this computer is used on more than or settings below.	ne network, enter the alternate IP
Automatic private IP address	
User configured	
IP address:	192.168.0.1
Subnet mask:	255.255.255.0
Default gateway:	
Preferred DNS server:	· · ·
Alternate DNS server:	
Preferred WINS server:	· · ·
Alternate WINS server:	
Validate settings, if changed, upo	on exit
	OK Cancel

Fig. 16 Internet Protocol Version 4 (TCO/IPv4) - User configured IP address

After you have made these settings and connected your PC with the thermoIMAGER TIM NetPCQ using an Ethernet cable your PC will establish a point-to-point connection. This procedure can take several minutes.

In the Network and Sharing Center your network will now be shown up as a non-identified network.

- Please start now the thermolMAGER TIM Connect on your PC and open the menu item Tools/ Extended/ Remote devices....
- ▶ In the window which is appearing, see Fig. 17, you should set a hook on Enable and enter the IP address of thermolMAGER TIM NetPCQ (192.168.0.100) at IP address of current remote device.
- Press OK.

The software will establish a connection to the remote device thermolMAGER NetPCQ automatically.



Dev	ices	Tools Help					
	Refr	esh flag	F5		2118 1110		
Sub	Ima	ge subtraction	Alt+S		60	70	· \$0 ·
	Ima	ge subtraction from file	Ctrl+Alt+S				
	Rem	ote device: 192.168.0.100					
	Rem	ote device: 192.168.49.180	#11110018	•		Conn	ect
		CONSTRUCTION OF				Resta	rt
						Reboo	ot
						Remo	ve

Fig. 17 Search for network devices in TIM Connect

Fig. 18 Device selection in TIM Connect

Under Remote framerate, see Fig. 17, you can enter the desired frame rate which should be transmitted via the network.

Under the menu item Devices, see Fig. 18, the thermoIMAGER TIM which is connected to the thermoIMAG-ER NetPCQ shows up now. The following functions can be selected here:

- Connect Manual connection with the remote device
- Restart Restart of the Imager Net Server application on the thermolMAGER TIM NetPCQ
- Reboot Reboot of the thermolMAGER TIM NetPCQ
- Remove **Remove of the device entry in this menu**

If the used thermolMAGER TIM is connected for the first time to the thermolMAGER TIM NetPCQ the following message appears:



Restarting device	
Total:	100
Status: Kennlinie-12080008-30-0-250 pm: OK	
Kennlinie-12080008-30-150-900.pm: OK Kennlinie-12080008-30-M20-100.pm: OK Kennlinie-12080008-62-0-250.pm: OK	
Kennlinie-12080008-62-150-900.pm: OK Kennlinie-12080008-62-M20-100.pm: OK Restarting device	
Auto close when finished	Close

Fig. 19 Warning view

Fig. 20 Sending calibration data files

Please confirm with Yes.

The calibration files will be transferred automatically from your PC to the thermoIMAGER TIM NetPCQ and stored there. Now you should see the live TIM picture from the thermoIMAGER TIM on your PC.

Alternatively you can copy the calibration data also manually via an USB stick into the thermoIMAGER TIM NetPCQ folder D:\Imager\Cali.

Operation

6.7 Ethernet Network Communication

- Please connect your thermolMAGER TIM with the supplied USB connection cable with the thermolMAGER TIM NetPCQ.
- Please connect the Ethernet connection of the thermolMAGER TIM NetPCQ with a network or internet (via a router e.g.).
- Now connect the power supply to the thermolMAGER TIM NetPCQ and to the mains. The thermolMAGER TIM NetPCQ will start to boot the system and should be ready to use after 2 3 minutes.



Fig. 21 Ethernet network connection / TIM NetPCQ powered via power supply

If the TIM NetPCQ is used in a network it gets its IP address from a DHCP server. In order to find the thermolMAGER TIM NetPCQ in the thermolMAGER TIM Connect of your local PC the address range of the local network must be known.

Thereto please open the Network and Sharing Center on your local PC, go to Local Area connection, see Fig. 22 and open Details, see Fig. 23.

The Window Network Connection Details, see Fig. 24, shows now your own IPv4 address.

Please start now the thermolMAGER TIMConnect on your local PC and open the menu Tools > Extended > Remote devices

In the window which opens, see Fig. 25, set a hook on Enable and enter the address range of your local network under Detect devices.

The fourth block should have the range 0 to 255.

If you now press Ping, see Fig. 25, all computers inside the selected address range will be shown.



Local Area Connection Status × General Connection IPv4 Connectivity: Internet IPv6 Connectivity: No network access Media State: Enabled Duration: 13:19:38 Speed: 100.0 Mbps Details... Activity Received 436,226,697 Bytes: 32,445,279 Properties Bisable Diagnose Close

Fig. 22 Network center view: Local Area Connection

roperty	Value
Connection-specific DN	
Description	Intel(R) 82579LM Gigabit Network
Physical Address	
DHCP Enabled	Yes
Pv4 Address	192.168.49.158
Pv4 Subnet Mask	255.255.255.0
Lease Obtained	
ease Expires	
Pv4 Default Gateway	192.168.49.254
Pv4 DHCP Server	192.168.49.31
Pv4 DNS Servers	192.168.49.31
	192.168.47.31
Pv4 WINS Server	
NetBIOS over Topip En	Yes
Link-local IPv6 Address	
Pv6 Default Gateway	
Pv6 DNS Server	

Fig. 24 Network Connection Details view

Fig. 23 Local Area Connection Status view



Fig. 25 Remote device view

Under Remote framerate, see Fig. 25, you can enter the desired frame rate which should be transmitted via the network.

Now only computers with NetPCQ in their name will be shown.

Under Hosts, see Fig. 25, you should see now your thermolMAGER NetPCQ.

Please mark this and press OK.



Fig. 26 Device selection in TIM Connect

Under the menu item Devices, see Fig. 26, the thermoIMAGER TIM which is connected to the thermoIMAG-ER NetPCQ shows up now.

The following functions can be selected here:

- Connect Manual connection with the remote device
- Restart Restart of the Imager Net Server application on the thermolMAGER TIM NetPCQ
- Reboot Reboot of the thermolMAGER TIM NetPCQ
- Remove Remove of the device entry in this menu

If the used thermolMAGER TIM is connected for the first time to the thermolMAGER NetPCQ the following message appears:



Restarting device	
Total:	100
Status: Kennlinie-12080008-30-0-250 nm: OK	
Kennlinie-12080008-30-150-900 pm: OK Kennlinie-12080008-30-150-900 pm: OK Kennlinie-12080008-62-0-250 pm: OK Kennlinie-12080008-62-0-250 pm: OK	-
Kennlinie-12080008-62-100-500 pm: OK Restarting device	
☑ Auto close when finished	Close



Fig. 28 Sending calibration data files

Please confirm with Yes.

The calibration files will be transferred automatically from your PC to the thermolMAGER TIM NetPCQ and stored there. Now you should see the live TIM picture from the thermolMAGER TIM on your PC.

Alternatively you can copy the calibration data also manually via an USB stick into the thermoIMAGER TIM NetPCQ folder D:\Imager\Cali.

6.8 Stand-alone Operation

As a stand-alone PC the thermolMAGER NetPCQ can expand a IR camera to a separate system. For this operation mode you should connect a VGA display and a USB keyboard to the thermolMAGER NetPCQ. In addition the system can also be controlled via a remote access over an Ethernet connection, see 6.2.



Fig. 29 Stand-Alone operation/ thermolMAGER TIM NetPCQ powered via power supply

After booting the thermolMAGER NetPCQ the first time you will see the Imager Net Server application.

Please close the monitor program and change it to thermolMAGER TIM Connect in the configuration dialog (Netbox Control Center), see 6.3.

6.9 Write Protection Filter

In Windows 10, you can assign a write protection filter to individual drives.

The operating system and TIM Connect software are saved on drive C. Below are steps you can perform to assign a write protection filter to that drive.

By default, the Unified Write Filter (UWF) is disabled. To enable UWF in Windows 10, proceed as follows:

Deen System control > Programs and Features > Turn Windows-Features on or off.

- To do so, you need administrator rights.
- Enable Unified Write Filter under Device Lockdown, see Fig. 30.

urn Win	dows features on or off			0
o turn a fea heck box. A	ture on, select its check box. To t filled box means that only part of	turn a feature	off, clear	its on.
	ontainer Image Manager ontainers ata Center Bridging evice Lockdown Custom Logon Keyboard Filter Shell Launcher Unbranded Boot Unified Write Filter			^
⊟ Gi ⊕ □ Hj ⊠ In	aarded Host /per-V ternet Explorer 11	ОК	Can	cel

Fig. 30 View: System control - Windows Features - Device Lockdown

Der UWF filter is operated using command lines.

Note the following steps:

Step 1:

Den the Command Prompt using the CMD command and run it as an administrator.



Fig. 31 View: Command Prompt - Run as administrator

Step 2: All commands for the UWF filter start with uwfmgr.

Using the uwfmgr ? command, you can display all available commands for the filter.

	Command Prom	pt	-	
C U C	:\Users\Admin> nified Write F opyright (C) M	uwfmgr ? ilter Configuration Utility version 10.0.17763 icrosoft Corporation. All rights reserved.		
u	wfmgr[.exe] pa	rameter [commands] [arguments]		
D	escription: Configures	Unified Write Filter (UWF) lockdown options.		
P	arameter List:			
	filter	Configures and displays UWF settings such as filtering state.		
	overiay	Configures and displays overlay settings.		
	file	Configures and displays volume filtering sectings.		
	registry	Configures and displays registry key exclusion settings, commit registry changes.		
	servicing	Configure and displays servicing mode settings.		
	get-config	Displays all configuration information for both the current and next sessions.		
	help or ?	Displays help for basic parameters.		
E	xamples: uwfmgr.exe uwfmgr.exe uwfmgr.exe	get-config filter enable volume protect c:		

Fig. 32 Command overview uwfmgr

The uwfmgr get-confi command lets you retrieve the current status of the filter.

Command Prompt REGISTRY EXCLUSIONS Not available Next Session Settings FILTER SETTINGS OFF Filter state: Pending commit: N/A SERVICING SETTINGS Servicing State: OFF OVERLAY SETTINGS RAM Type: Maximum size: 1024 MB Warning Threshold: Not available Critical Threshold: Not available Freespace Passthrough: Not available Persistent: (null) Reset Mode: N/A VOLUME SETTINGS Volume fe9b6803-0000-0000-0000-702200000000 [C:] Volume state: Protected Volume ID: fe9b6803-0000-0000-0000-702200000000

If the UWFM filter is turned off, the following view is displayed:

Fig. 33 UWFM filter turned off

To enable the filter, enter the uwfmgr filter enable **command**.

Administrator: Command Prompt



Fig. 34 Command uwfmgr filter enable

To enable the write filter, you must restart the system!

To disable the filter again, use the uwfmgr filter disable command.

To now assign the write protection filter to hard drive C, use the uwfmgr volume protect c command.



To disable the protection of hard drive C again, enter the uwfmgr volume unprotect c: command.

6.10 System Recovery

If a recovery of the Windows operating system of the thermoIMAGER TIM NetPCQ is required, please use the included USB flash drive.

- Follow the steps below and do not disconnect the power supply to the thermolMAGER TIM NetPCQ
- during the recovery under any circumstances.

After recovery, the thermoIMAGER TIM NetPCQ is in default mode; that is, any data saved to the SSD are lost.

Step 1:

- Connect a VGA monitor and USB keyboard to the thermolMAGER NetPCQ.
- Connect the USB recovery flash drive to a USB port and turn on the thermolMAGER NetPCQ.
- Conce you see the start screen below, see Fig. 35, press the DEL key.

American Megatrends	
Version 2.16.1242. Copyright (C) 2013 American Megatrends, ***** MIO–2263 BIOS V1.10 (09/23/2014) **** EVALUATION COPY. Press or <esc> to enter setup.</esc>	Inc.
BIOS Date: 09/15/2014 17:58:23 Ver: 5.0.0.9 CPU: Intel(R) Celeron(R) CPU J1900 @ 1.99GHz Speed: 2001MHz Total Memory: 2048MB (DDR3 1333)	
USB Devices total: 1 KBDs, 1 MICE, 0 MASS, 1 HUBs	
Detected ATA/ATAPI Devices	
	Suggested Horikor Resolution 1920-000



Step 2:

The following view is now displayed:



thermolMAGER NetPCQ

The warning below, asking whether you really want to recover the system, is displayed:

E-Mail Brennen • Öffnen • Machine: To be filled by O.E.M. sda (64.0GB_SQF-SHMM2-64G-S9_SQF-SHMM2-64G-S9C_FF360755160801882262) sda1 (550M_ntfs_System_Reser(In_SQF-SHMM2-64G-S9)_SQF-SHMM2-64G-S9C_FF360755160 01882262) sda2 (20G_ntfs(In_SQF-SHMM2-64G-S9)_SQF-SHMM2-64G-S9C_FF360755160801882262) sda3 (39.1G_ntfs_User_Data(In_SQF-SHMM2-64G-S9)_SQF-SHMM2-64G-S9C_FF36075516080 882262) **** Wollen Sie wirklich weitermachen? (y/n) y OK, dann machen wir's!! This program is not started by clonezilla server. ****** Ich frage nochmal zur Sicherheit. Im nächsten Schritt wird ein Image auf die Festplatte oder die Partitionen auf iesem System wiederhergestellt: "/home/partimag/2020-01-09-13-img" -> "sda sda1 sda2 sda3" Das Image wurde erzeugt am: 2020–0204–1802 WARNUNG!!! WARNUNG!!! WARNUNG!!! WARNUNG. ALLE DATEN AUF DIESER FESTPLATTE/DIESEN PARTITION(EN) WERDEN ÜBERSCHRI BEN! ALLE VORHANDENEN DATEN GEHEN VERLOREN !: *** Machine: To be filled by O.E.M. sda (64.0GB_SQF-SHMM2-64G-S9_SQF-SHMM2-64G-S9C_FF360755160801882262) sda1 (550M_ntfs_System_Reser(In_SQF-SHMM2-64G-S9)_SQF-SHMM2-64G-S9C_FF360755160 01882262) sda2 (20G_ntfs(In_SQF-SHMM2-64G-S9)_SQF-SHMM2-64G-S9C_FF360755160801882262) sda3 (39.1G_ntfs_User_Data(In_SQF-SHMM2-64G-S9)_SQF-SHMM2-64G-S9C_FF36075516080 882262) Wollen Sie wirklich weitermachen? (y/n) _

Fig. 36 Query recovery

Confirm with y.

The system recovery now starts and the screen below is displayed:



After the restore process has been completed, select Ausschalten in the next window and confirm with OK.



Step 3:

After shutting down, briefly disconnect the power supply.

Now reconnect the power supply and restart the computer.

You will see the following screen:



\rightarrow	Select your	region and	confirm	with yes.	
---------------	-------------	------------	---------	-----------	--



Now select your keyboard layout and confirm with yes.

Is this the right keyboard la	wout?
IS LITIS LITE TIGHT REYDUCIU TO If you also use another keyboard layout, you can add that next	tyOut: ±
15	
Canadian Multilingual Standard	
English (India)	
lrish	김 영화 가슴 것을
Scottish Gaelic	
United Kingdom	
United States-Dvorak	
United States-Dvorak for left hand	
United States-Dvorak for right hand	

Please note that the region and keyboard layout selections cannot be changed later.

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Next, the Windows 10 licensing terms are displayed.

Please confirm these with Accept.



Step 4:

After the final restart, you now see the Windows desktop.



7. Instructions for Operation

7.1 Cleaning

The housing of the thermoIMAGER NetPCQ can be cleaned with a soft, humid tissue moistened with water or a water based cleaner.

NOTICE

Never use cleaning compounds which contain solvents. Take care that no moisture infiltrates into the housing.

> Destruction of the Mini-PC

8. Liability for Material Defects

All components of the device have been checked and tested for functionality at the factory. However, if defects occur despite our careful quality control, MICRO-EPSILON or your dealer must be notified immediately.

The liability for material defects is 12 months from delivery. Within this period, defective parts, except for wearing parts, will be repaired or replaced free of charge, if the device is returned to MICRO-EPSILON with shipping costs prepaid. Any damage that is caused by improper handling, the use of force or by repairs or modifications by third parties is not covered by the liability for material defects. Repairs are carried out exclusively by MICRO-EPSILON.

Further claims can not be made. Claims arising from the purchase contract remain unaffected. In particular,

MICRO-EPSILON shall not be liable for any consequential, special, indirect or incidental damage. In the interest of further development, MICRO-EPSILON reserves the right to make design changes without notification.

For translations into other languages, the German version shall prevail.

9. Service, Repair

In the event of a defect on the Mini-PC or the USB stick (USB recovery stick) please send us the affected parts for repair or exchange.

In the case of faults the cause of which is not clearly identified, please send the entire measuring system to:

For customers in USA apply:

Send the affected parts or the entire measuring system back to:

MICRO-EPSILON MESSTECHNIK GmbH & Co. KG Koenigbacher Str. 15 94496 Ortenburg / Germany Tel. +49 (0) 8542/ 168-0 Fax +49 (0) 8542 / 168-90 info@micro-epsilon.com www.micro-epsilon.com

MICRO-EPSILON USA 8120 Brownleigh Dr. Raleigh, NC 27617 /USA Tel. +1 919 / 787-9707 Fax +1 919 / 787-9706 me-usa@micro-epsilon.com www.micro-epsilon.com

For customers in Canada or South America applies: Please contact your local distributor.

10. Decommissioning, Disposal

Remove the cables from the Mini-PC.

Incorrect disposal may cause harm to the environment.

Dispose of the device, its components and accessories, as well as the packaging materials in compliance with the applicable country-specific waste treatment and disposal regulations of the region of use.



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X9751343-B012070HDR

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