

Instructions

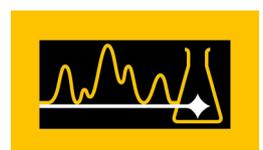
Polytec Spectrometer System

FAQ

Spectrometer: PAS-xxx0/-xxx1

Sensor Heads: PAS-H-B04

PSS-H-A03



Warranty and Service

The warranty for this instrument complies with the regulations in our general terms and conditions in their respective valid version.

The condition is that the instrument is used as intended and as described in these operating instructions.

The warranty does not apply to damage caused by incorrect usage, external mechanical influences, or by not keeping to the operating conditions. Do not tamper with the instrument or modify it without authorization as this will invalidate the warranty.

To return the instrument, always use the original packaging. Otherwise, we reserve the right to check the instrument for transport damage. Mark the package as fragile and sensitive to frost. Include an explanation of the reason for returning it as well as an exact description of the fault.

Trademarks

Brand or product names mentioned in this documentation could be trademarks or registered trademarks of their respective companies or organizations.

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1 Introduction

Approach The following describes simple tests that you can perform yourself in case of malfunctions. In the case of more serious problems with individual functions, contact our service personnel. The tests described here are not meant to lead you to carry out maintenance work yourself, but to provide our service personnel with information which is as accurate as possible.

Checking the instrument is limited to tasks that do not require opening the housings.

If the malfunctions cannot be eliminated by the measures described here or if malfunctions occur which are not mentioned here, contact our service department. Further procedure will be determined based on your fault description.

When returning the instrument for repair, use the original packaging and provide a detailed description of the malfunction as well as the completed RMA form (return note, refer to the end of this document).

2 Checklist for Troubleshooting

Serial number of spectrometer:

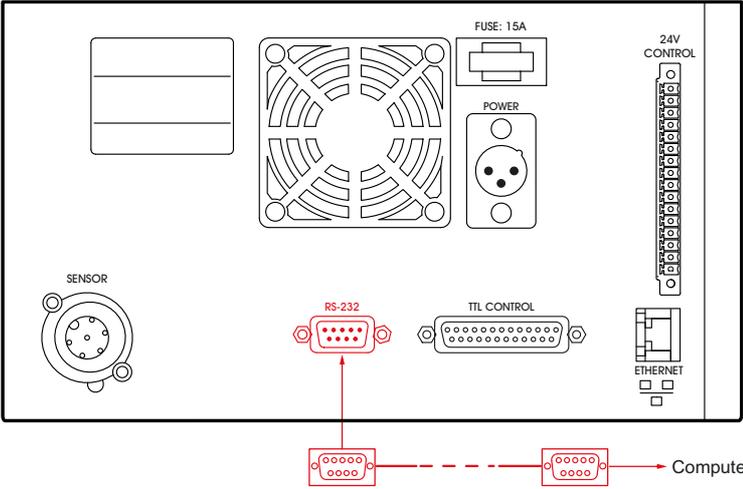
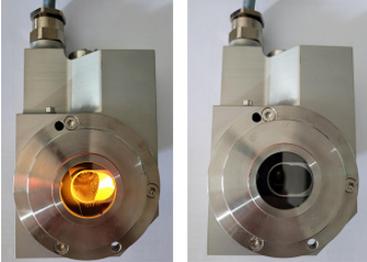
Serial number of sensor head:

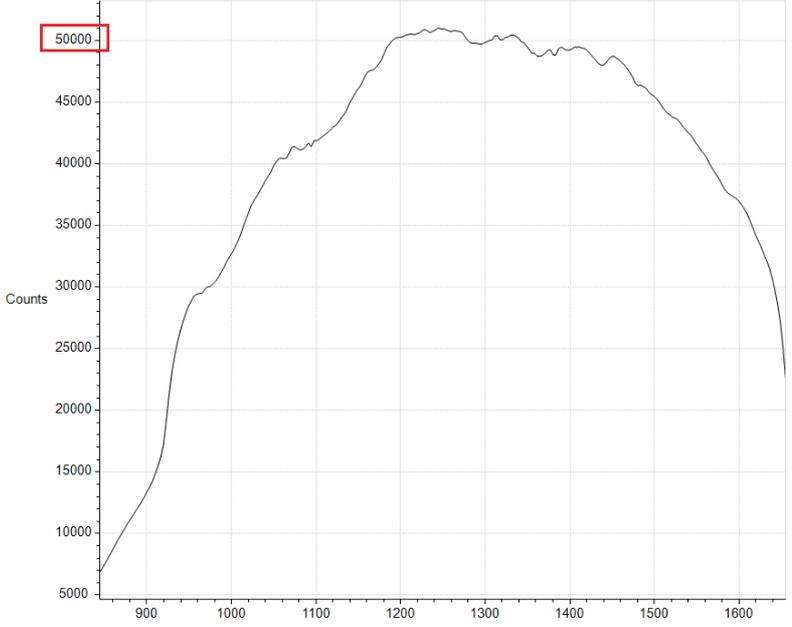
The serial number can be found at the top of the sensor head or on the back of the instrument (refer to the following figure) and on the inside cover of the manual.

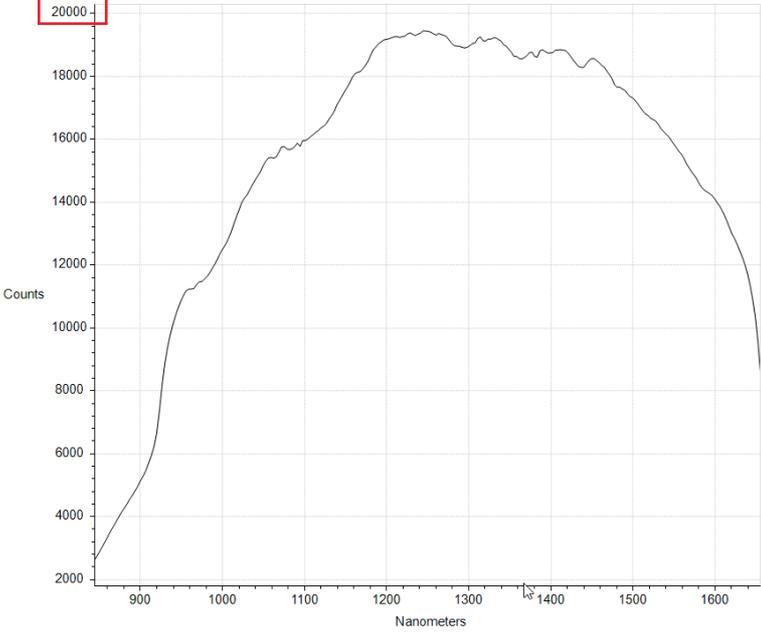
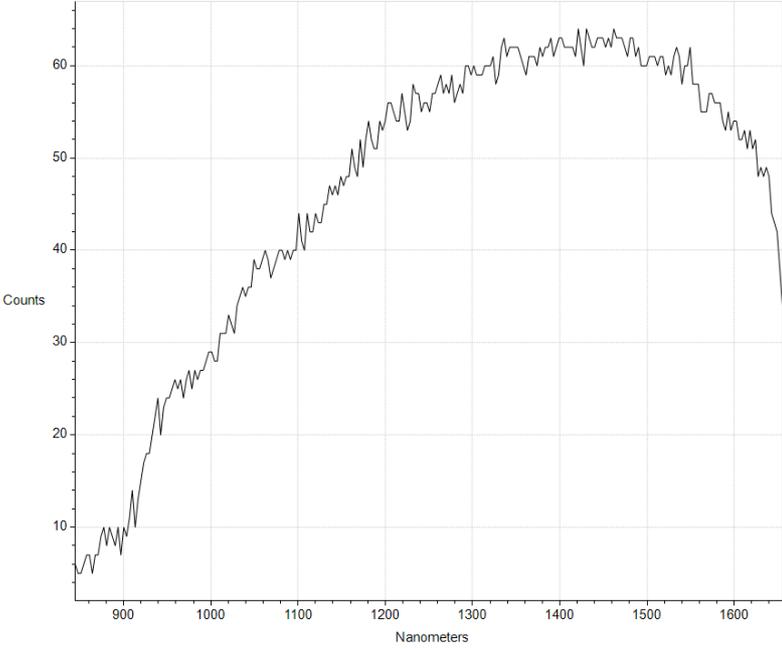


Figure 1: Name plate with serial number on the back of the spectrometer

Error/problem	Remedy
<p>1. Spectrometer does not start (POWER status display on the spectrometer/status display on the power supply does not light up)</p>	<p>Check the following:</p> <ul style="list-style-type: none"> - Have you correctly connected the power supply to the spectrometer? - Have you installed the sensor cable between spectrometer or power supply and sensor head correctly? - Have you secured (screwed) the plug-in connections where possible? - Does the status display on the power supply light up? <div data-bbox="679 539 1126 909" data-label="Image"> </div> <p>Figure 2: Intact power supply (status display lights up)</p> <div data-bbox="679 1010 1374 1429" data-label="Image"> </div> <p>Figure 3: Connections for a 12 V distance sensor head (SENSOR 1) or 24 V contact sensor head (SENSOR 2) and the mains supply (POWER) on the spectrometer</p> <p>If the status displays still do not light up, a defect in the power supply can be assumed. Replace it by an equivalent power supply.</p>

Error/problem	Remedy
<p>2. No data acquisition/no communication with the software</p>	<p>Is a network error/IP address conflict displayed?</p> <ul style="list-style-type: none"> - Set up the IP address as described in SECTION 3. - Set up the Ethernet connection as described in SECTION 4. <p>Does the communication with the PAS Software work?</p> <ul style="list-style-type: none"> - Is the data transmission active? - Have you connected the network cable between spectrometer and computer correctly?  <p>Figure 4: Network connection ETHERNET on the spectrometer</p>  <p>Figure 5: Connecting the spectrometer to the computer</p>
<p>3. Halogen lamp is not lit up</p> 	<p>If the halogen lamp goes out during operation, let the sensor head cool down for at least one hour. Replace the halogen lamp as described in the Operating Instructions of the sensor head.</p> <ul style="list-style-type: none"> - Check the mains supply of the sensor head. You need an additional voltmeter. Check the supply voltage at CON4 between Pin 4 (+24V) and Pin 5 (GND_+24V). - Check the supply voltage on the spectrometer system or on the power supply unit. - Check that the fiber-optic cable between the spectrometer system and the sensor head is installed correctly.

Error/problem	Remedy
<p>4. Bad spectrum/deviating measurement value</p>	<p>Does the spectrum have poor quality or does the generated measurement value not match previous measurements?</p> <ul style="list-style-type: none"> - Perform a reference measurement against the integrated reference. <p>If the generated spectrum corresponds to FIGURE 6, the measurement unit or the spectrometer is not damaged.</p>  <p>Figure 6: Good reference spectrum</p> <ul style="list-style-type: none"> - Check the sample preparation (distance to the sample) as well as the software settings for measurement time and data analysis.

Error/problem	Remedy
	<p data-bbox="592 277 1380 369">- If the generated spectrum corresponds to FIGURE 7 or FIGURE 8, an optical element of the spectrometer is damaged or the software settings are not correct.</p>  <p data-bbox="639 1048 1380 1104">Figure 7: Bad reference spectrum (low intensity with only 20000 counts)</p>  <p data-bbox="639 1848 1117 1881">Figure 8: Bad reference spectrum (noise)</p> <ul data-bbox="592 1921 1220 2016" style="list-style-type: none"> - Check the software settings. - Check the halogen lamp (refer to page 4, step 3). - Check the light conductor (refer to page 7, step 5).

Error/problem	Remedy
<p>5. No spectrum or noisy spectrum</p>	<p>Switch off the sensor head and let it cool down for at least one hour before touching it.</p> <p>Inspect the sight glass window of the light source aperture.</p> <ul style="list-style-type: none"> - Is the sight glass window clean and free of fingerprints? Clean the sight glass window using mild detergents or disinfectant solutions. - Is the sight glass window damaged? Contact the Polytec service department. <p>Check whether the fiber-optic cable and/or sensor cable is damaged.</p> <ul style="list-style-type: none"> - Remove the fiber-optic cable from the sensor head and the spectrometer. - Use a suitable light source, such as the flashlight of your mobile phone. Hold one end of the fiber-optic cable over the light source. <div data-bbox="679 770 1321 1207" data-label="Image"> <p>A close-up photograph showing a person's hand holding a silver, braided fiber-optic cable. The cable is plugged into a small, cylindrical sensor head. The sensor head is resting on a dark surface, and a mobile phone is visible in the background, likely used as a light source for the test.</p> </div> <p>Figure 9: Checking the fiber-optic cable</p> <p>If you can only see a faint light at the other end of the cable, the fiber-optic cable is dirty.</p> <div data-bbox="679 1368 1270 1807" data-label="Image"> <p>Two side-by-side photographs of a fiber-optic cable's output end. The left image shows a bright, clear red light being emitted from the circular lens of the cable. The right image shows a much fainter, dimmer red light being emitted from the same cable, illustrating the difference between a clean and a dirty or impaired cable.</p> </div> <p>Figure 10: Light emission from an unimpaired fiber-optic cable</p>

Error/problem	Remedy
	<ul style="list-style-type: none"> - Clean the fiber-optic cable using a suitable cleaning device. - Clean the fiber connection on the spectrometer using a suitable cleaning device. - If you do not see any light at the other end of the cable, the fiber-optic cable may be broken. Contact your local Polytec representative and ask for a replacement.
	<p>If the fiber-optic cable is intact, check the following:</p> <ul style="list-style-type: none"> - Is the sensor cable damaged? Contact your local Polytec representative and ask for a replacement. - Did you keep the specified measurement distance? - Have you configured the settings for the sensor head correctly in the software? - Is the required supply voltage for the reference standard available at the sensor cable between pin 3 and pin 4? - Is the required supply voltage for the reference control signal for LOW level available at the sensor cable between pin 6 and pin 4? - Is the required supply voltage for the reference control signal for HIGH level available at the sensor cable between pin 6 and pin 4?
<p>Further observations:</p>	

3 Identifying the Spectrometer in the Network and Assigning IP Address

Before you can operate the spectrometer via an Ethernet network, you have to connect up the spectrometer and assign an IP address that is valid for your network. It depends on the setup of your Ethernet network which IP addresses are valid. Identifying the spectrometer and assigning a fixed IP address is done using the `PAS-NetworkSetting.exe` program. You will find the program on the provided USB stick from Polytec.

To identify one or more spectrometers in the network or to assign an IP address, proceed as follows:

Prepare

1. Cable the spectrometer as described in the operating instructions.
2. Switch on your computer.
3. Press the I/O mains switch on the spectrometer to position I.
4. Start the `PAS-NetworkSetting.exe` program.

The PAS Network Setting dialog appears.

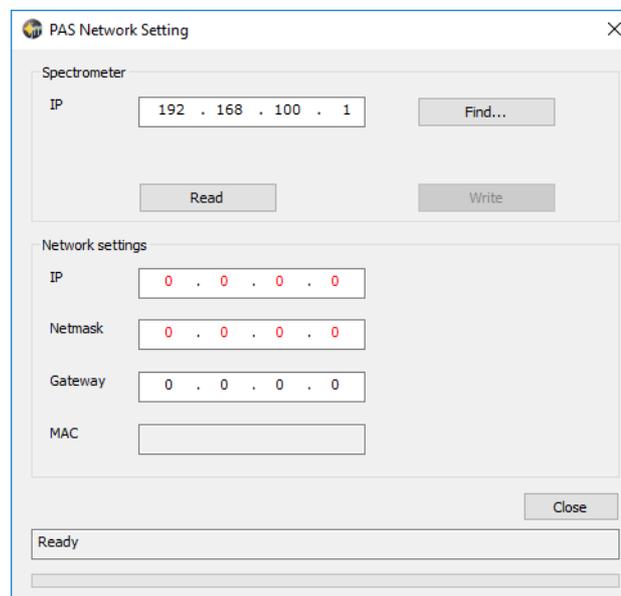


Figure 11: PAS Network Setting dialog

Assign or change IP address

5. If you know the IP address of the connected spectrometer, enter it in the Spectrometer field and proceed with step 9.
6. If you do not know the IP address, click Find.

The Search Aspen Devices dialog appears. The software searches for devices at the interfaces and establishes a connection to the spectrometer.

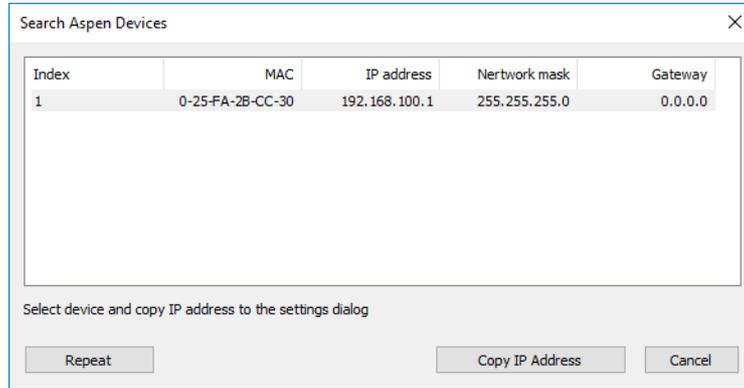


Figure 12: Search Aspen Devices dialog

7. Mark the respective table row.
8. Click Copy IP Address.

The IP address will be display in the Spectrometer field of the PAS Network Settings dialog.

9. Click Read.

In the Network settings field, the connection data of the spectrometer will be displayed.

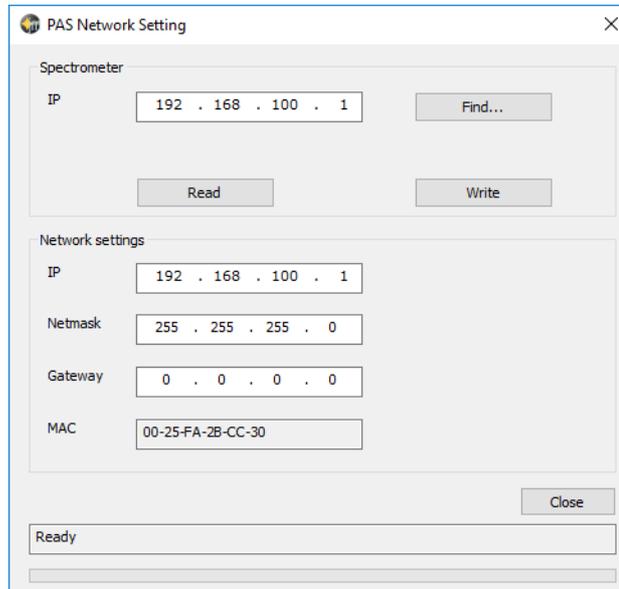


Figure 13: PAS Network Setting dialog with display of the connection data

10. If required, change the entries for IP, Netmask and Gateway.

11. Click Write.

The dialog shows the modified entries.

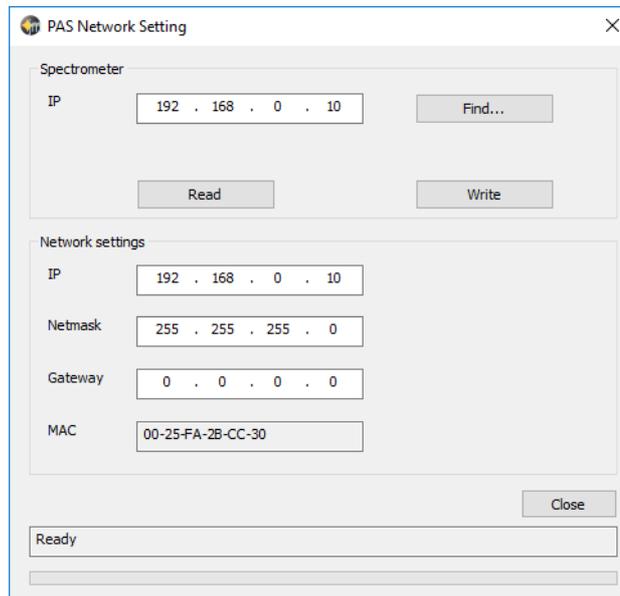


Figure 14: PAS Network Setting dialog with modified IP address

12. Click Close.

4 Setting up the Ethernet Connection



INFORMATION

After switching on, the spectrometer requires about 15 seconds to establish the Ethernet connection.

If you want to connect the spectrometer directly to the computer, you have to change the IP address of the computer. To do so, proceed as follows:

1. Plug the supplied network cable (Ethernet, cross-wired) into the Ethernet network connection and into the network connection on the back of the computer.
2. Select Start > Control Panel.
The Control Panel/All Control Panel Items dialog appears.
3. Click Network and Sharing Center.
4. Click Change Adapter Settings.
The dialog for setting up the network appears.
5. Double-click the required network connection.
The [Name of network connection] Status dialog appears.

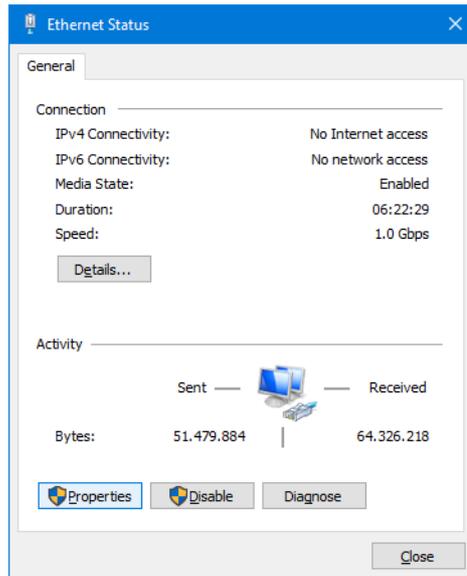


Figure 15: [Name of the network connection] Status dialog

6. Click Properties.

The [Name of the network connection] Properties dialog appears.

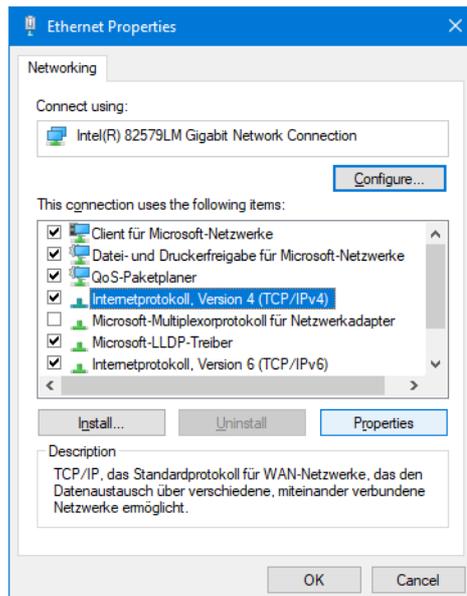


Figure 16: [Name of the network connection] Properties dialog

7. Select Internet Protocol Version 4 (TCP/IPv4) and click Properties.

The Internet Protocol Version 4 (TCP/IPv4) Properties dialog appears.

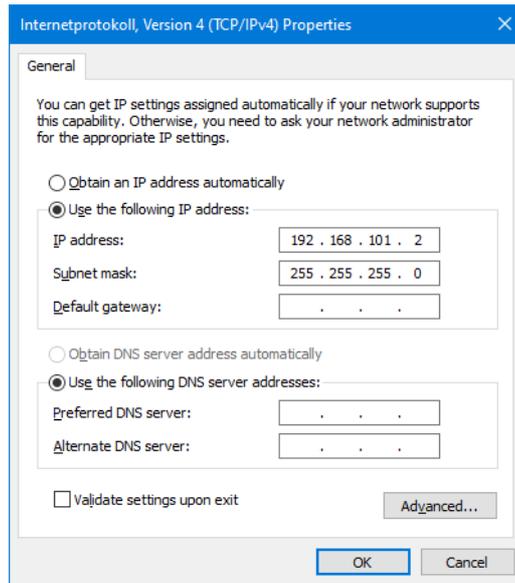


Figure 17: Dialog Internet Protocol (TCP/IP) Properties

8. Select Use the following IP address.
9. In the IP address field, enter the new IP address. Only the last digit of the IP address of the computer should differ from the IP address of the spectrometer (e.g. 192.168.101.2).
10. In the Subnet mask field, enter the subnet mask if it does not automatically appear when clicking the field.
11. Click OK in all dialogs.

After restarting the computer, all changes will be effective.



INFORMATION

To operate the spectrometer via your company network, contact your system administrator for corresponding IP addresses and network cables.

5 RMA Form (Return Note)

RMA-Sheet

Please return to:

Case ID	Customer Ref	Support Key	Case Manager Email	Case Manager Phone
C123456 (filled by Polytec)	Short reference		m.preller@polytec.de	+49 7243 604-1600

Polytec GmbH • Polytec-Platz 1-7 • 76337 Waldbronn • Germany

POLYTEC GMBH

Polytec-Platz 1-7

76337 Waldbronn

	Return to (bill to)	Owner/end-customer
Company		
Street		
Zip / City		
Country		

Defect Defect on delivery in warranty of ____ Year maintenance

Parts:	
SerialNo	Serial Object
12345-1234567	PSS-xxxx spectrometer sys.

Detailed description of problem, if necessary add sheets

Comments:

Repairs below an amount of _____ (currency) should be repaired without call-back. If 0 is stated or estimated repair exceeds this value, Polytec will ask for further proceeding.

General Note:

If returned items do not show an identifiable or reproducible failure an inspection fee of 500 € may be charged even within the warranty period (+VAT, shipping+handling).

Repair attempts by non-qualified personal, removed serial numbers or inappropriate operation and handling may void warranty. If no defect can be detected by thorough inspection a fee proportional to effort may nonetheless be charged.

Sender hereby declares:

The product is sufficiently clean and does not contain any harmful or potentially dangerous substances and is packed safely.

Sender accepts that Polytec, while assuring maximum caution in handling, will accept no liability in case of damages nor any liability for shipping damages.

Signature

signee

1 (2)

Polytec GmbH

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Bankverbindungen

Sparkasse Karlsruhe (EUR)
HSBC Trinkaus & Burkhardt AG (EUR)
HSBC Trinkaus & Burkhardt AG (USD)
Deutsche Bank Karlsruhe AG (EUR, USD)

IBAN / SWIFT-BIC

DE26 6605 0101 0001 0577 77 / KARSDE66XXX
DE91 3003 0880 0500 2880 19 / TUBDDEDDXXX
DE68 3003 0880 4500 2880 06 / TUBDDEDDXXX
DE35 6607 0004 0082 0431 00 / DEUTDESM660

Geschäftsführer

Dr. Dietmar Gnaß, Dipl.-Wirt. Ing. (FH) Alfred Link
Handelsregister Mannheim: HRB 360938
VAT-Nr.: DE811165398
WEEE-Reg.-Nr.: DE 35692877

Figure 18: Return note (page 1)

RMA-Sheet

Case ID	Customer Ref	Support Key	Case Manager Email	Case Manager Phone
C123456 (filled by Polytec)	Short reference		m.preller@polytec.de	+49 7243 604-1600

Return Merchandise Authorization RMA

An RMA (return merchandise authorization) is a numbered authorization provided to permit the return of a product. The RMA process is important to both participants.

In the future NO returns will be accepted without RMA process number

This also applies for products sent for regular maintenance according to maintenance contracts or requested maintenance.

WHY?

- Last opportunity to possibly solve the problem without costly and time-consuming return process (try remote support first)
- Ensure a smooth and well documented process
- Link a problem clearly to an affected hardware (by serial numbers ...)
- Keep track of an RMA process (e.g. for status requests and for reports)
- Make sure that the hardware is returned in an acceptable way, which includes being "clean" (and not in any way potentially harmful to the employees) and safely packed
- Enable service to plan activities and to gain insight into potentially necessary improvements of hardware.

HOW?

If any hardware needs to be returned to the Polytec office, please first make sure to communicate the problem to try solving the issue without return. (+49 7243-604-1600 st@polytec.de)

If a return is necessary, ask for a RMA form (m.preller@polytec.de / s.fischer@polytec.de)

You will receive a RMA form that you need to fill out (completely), print, sign and attach to the returned hardware, please also send the form back via email.

Please specify as detailed as possible what the issue is, "defect" is not sufficient. If needed, attach any further documentation and/or send spectra via email with RMA number as subject.

Make sure that the product is sufficiently clean and does not contain any harmful or potentially dangerous substances.

Pack the product safely and return it to the issuing office. Delivery must be sent at sender's expense, "freight collect" or "freight forward" will not be accepted (CIP/DDP)

2 (2)

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 HSBC Trinkaus & Burkhardt AG (USD)
 Deutsche Bank Karlsruhe AG (EUR, USD)

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DE26 6605 0101 0001 0577 77 / KARSDE66XXX
 DE91 3003 0880 0500 2880 19 / TUBDDEDDXXX
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 DE35 6607 0004 0082 0431 00 / DEUTDESM660

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Figure 19: Return note (page 2)

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