



Guarantor for safe thermal processes

Smart measuring systems for process recording,
-analysis and optimization

Professional Temperature Profiling & Monitoring

globalPoint



globalPoint added value

- 25 years of know-how in thermal processes
- Expert knowledge from a single source
- High-quality measuring electronics
- 100 % reproducible measurement
- Unique intelligent software
- Only one measurement to the target!
- Physically correct profile prediction

Smart measuring systems for process recording, -analysis and optimization



GlobalPoint is a Kurtz Ersa subsidiary and develops measuring systems for process recording, analysis and optimization as well as online monitoring in real time. With its precise, innovative measuring electronics and matching measuring boards, including intelligent, user-friendly software, globalPoint has been setting standards for all soldering processes worldwide for more than 25 years.

The new **horus® Professional Temperature Profiling** System is suitable for machines by all manufacturers and features state-of-the-art technology that opens its own hotspot via WIFI. Profiling is carried out quickly using real-time data. In all Ersa reflow ovens **horus® Professional Temperature Monitoring** will provide perfect data transparency in the near future.

- > **Reflow Soldering**
- > **Vacuum Soldering**
- > **Vapour Phase Soldering**
- > **Wave Soldering**
- > **Selective Soldering**



Professional Temperature Profiling

For machines
from different
manufacturers

Highlights horus® measuring electronics

- › Integrated simulation before and optimization suggestions after the temperature measurement quickly lead to the correct temperature profile
- › Database with soldering profiles of already successfully soldered assemblies supports the simulation/profile search
- › Libraries for solder pastes and components support the simulation – for example to comply with the limit values
- › Independent WIFI access point (also usable without installation/admin rights) ensures stability and real-time data transmission
- › Interface to the soldering system: Simulated profiles can be transferred to the soldering system and vice versa
- › Suitable for reflow, wave, selective, vacuum and vapor phase soldering
- › Responsive Design
- › WINDOWS™11 ready

Fastest soldering profile creation!

Really smart!

- The new horus® measuring electronics takes professional solder profile creation to the next level and ensures maximum efficiency in your electronics production. The time-consuming heating up and cooling down of a reflow oven during profiling, which can take up to several hours, is a thing of the past thanks to horus®. With the new state-of-the-art globalPoint measuring electronics, it is possible with the first profile simulation to create a ready-to-use soldering profile. If this does not yet fit perfectly, horus® will immediately deliver an optimization suggestion.

How can this succeed?


- The integrated autoprofiler can draw on a whole range of helpful information for its profile simulation. For example, soldering profiles from already successfully soldered assemblies can be loaded from a database. Integrated libraries for solder paste and component specifications can be used for support, for example to comply with their limit values. And measurement data can be retrieved from the reflow oven and simulated soldering profiles can be transferred to the soldering system and vice versa. What is encouraging is that no specialized knowledge is necessary and even untrained employees are guided with support through the simulation.

Access point access – state of the art!

- The electronic measuring system opens a WIFI hotspot to which the user can then connect. This is particularly helpful if the machine computer with the installed software is not accessible, or administrator rights are required to carry out installations. The data can then be easily accessed via a browser. Thanks to the responsive design also perfectly with mobile devices.

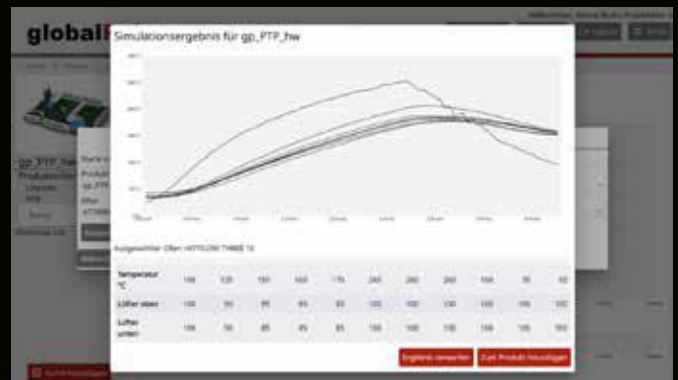
Network access:

- horus® can transmit the measurement data to a central location in the network. This means that all computers in the network can access it. Of course, only if this is intended. Otherwise, this function can be deactivated. The measuring electronics can be switched on directly on the device. This means that no measurements are forgotten, as the operator does not have to start the software on the computer or press a start button on the device.

- Real time data transfer via WIFI 
- Accesspoint – No installation or admin rights required



In order to achieve the best simulation result, ovens and their properties are stored in the oven editor



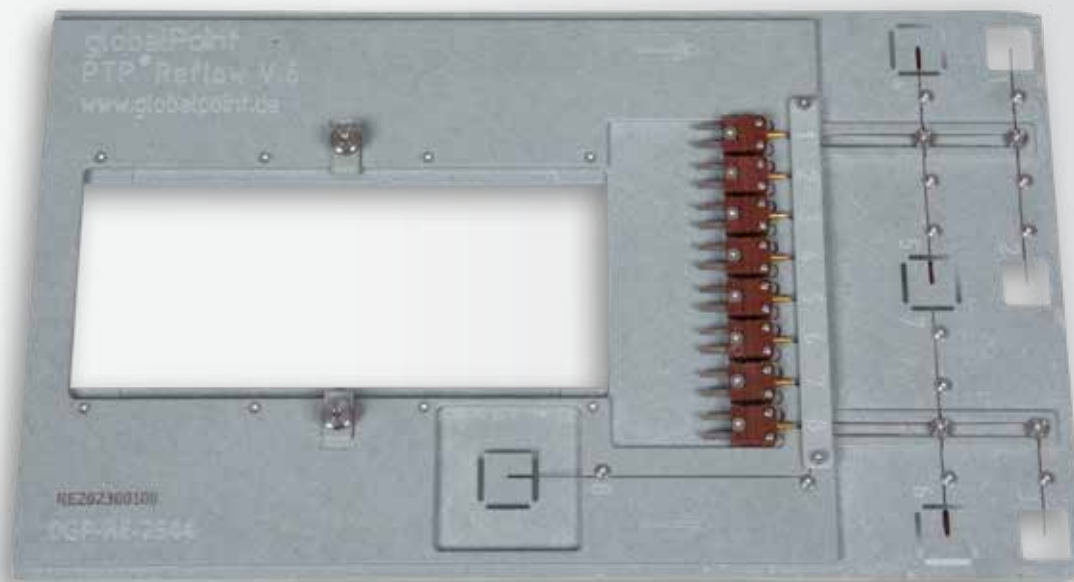
The autoprofiler returns a calculated temperature profile, as well as optimized oven settings for the selected oven

Name	Menge	Werte	Werte
Code: 9833-PTP-001	1000	1000	1000
Code: 9833-PTP-002	1000	1000	1000
Code: 9833-PTP-003	1000	1000	1000

Components, pastes and PCB substrates are also stored with their properties

➤ Reflow-Convection

horus® measuring system for process recording, -analysis and optimization



Measuring board REFLOW V6 (0GP-RE-2544)

➤ Measuring board REFLOW V6

- Recording of the cross profiles and gradients over the entire transport length and width
- Measuring of thermal zone separation as well as atmospheric temperature
- Recording of the complete energy input of the system as a basis for evaluating the process capability of a PCB and comparison of the different soldering systems

The **measuring board REFLOW V6** and **measuring electronics horus®** make an ideal and versatile instrument for process recording, analysis and optimisation available. The **measuring board REFLOW V6** has eight thermocouples of the highest accuracy class. These are placed permanently stable on specially designed measuring fields. The **measuring board REFLOW V6** is used to check the system parameters as well as their optimisation in the soldering system.

The **horus® Shuttle** has been designed for the **measuring board REFLOW V6** and provides thermal protection for the **horus® electronics**. The extenders included allow the transport widths to be adapted accordingly. **horus®** transmits the measured temperature values in real time using the WIFI transmission

standard. No internet connection is required. **horus®** is optimally designed for the soft soldering process of reflow convection soldering. The exclusive use of standard interfaces enables maximum flexibility. A built-in NiMH rechargeable battery ensures at least two hours of continuous operation and requires an average time of 45 minutes to recharge. The integrated battery charge status display and monitoring of the internal electronics temperature ensure maximum safety and uninterrupted operation.

The **horus® software** provides outstanding solutions for parameter calculation, process evaluation, profile comparison and documentation. It also guarantees physically correct profile optimization after just one measurement.

➤ Reflow-Convection

Technical data & order information

TECHNICAL HIGHLIGHTS

- Intelligent WIFI connection enables data transmission and display in real time
- 8 measuring channels with 24 bit resolution
- Measuring interval from 100 ms; measuring time up to 200 min
- Internal temperature monitoring and integrated triple thermal protection
- Electronics: RoHS-compliant with standard USB-C interface and miniature thermal connector
- Freely editable protocols with profile, gradient and module diagrams
- Automatic profile evaluation
- Precise profile prediction after only one measurement!
- Free software updates
- High-precision interpolating 7-point calibration
- Modern power management with NiMH rechargeable battery and charge state display in real time via radio signal as well as internal temperature display

TEMPERATURE MEASUREMENT

Measuring range	-150 bis 1,350 °C
Measuring accuracy	±0,5 °C
Resolution	0.1 °C
Measuring interval	0.1 s bis 2 s
Measuring channels	8 channels for Ni/CrN

DIMENSIONS HORUS® ELECTRONIC TRANSMITTER

Length	86 mm
Width	86 mm
Height	23 mm

DIMENSIONS MEASURING BOARD

OGP-RE-2544	Length	434 mm
	Width	250 mm
	Height	14 mm
OGP-RE-5044	Length	434 mm
	Width	500 mm
	Height	14 mm

SHUTTLE FOR THERMAL PROTECTION BOX

Length	224 mm
Width	101 mm
Width adjustable up to	310 mm
Height above pin chain	25 mm

DIMENSIONS THERMAL PROTECTION BOX

Length	211 mm
Width	101 mm
Height	30-33 mm

FURTHER SERVICES

Customer-specific measuring boards

Customer-specific software features

ORDER DATA

➤ OGP-RE-2544 or
OGP-RE-5044



1x measuring board REFLOW V6 with 8 thermocouples Ni/CrNi

➤ OGP-ME-V2



1x horus® electronics + software
1x calibration horus® electronics (incl. certificate with DKD reference)
1x aluminium case with insert for electronics and Shuttle

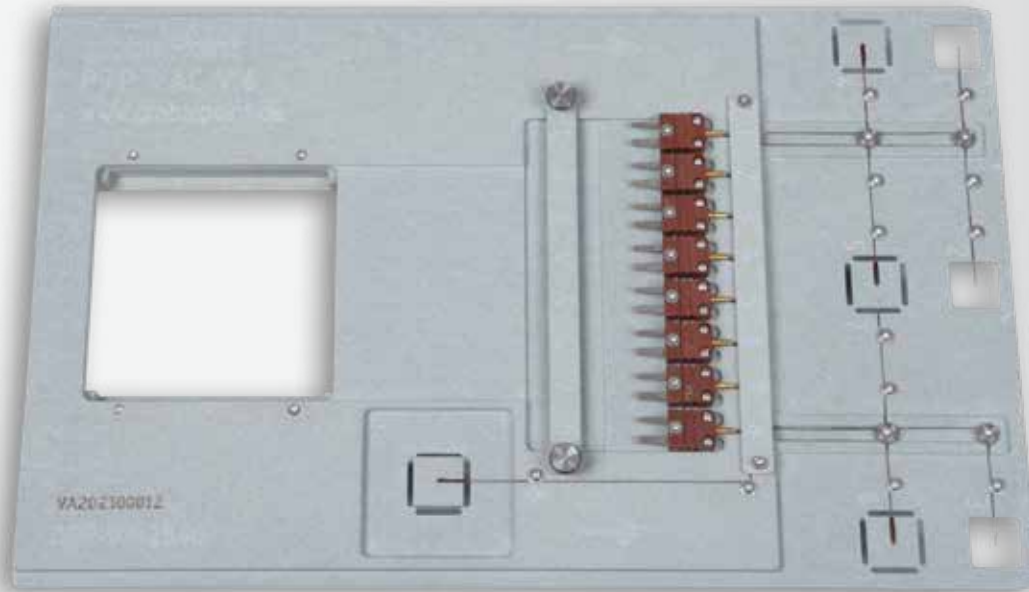
➤ OGP-SH002



1x horus® shuttle, E-carrier and thermal protection

➤ Reflow Vapour Phase/Vacuum

**horus® measuring system for process recording,
-analysis and optimization**



Measuring board Vacuum V6 (0GP-VA-2540)

➤ Measuring board VACUUM V6

- Recording of the cross profile and gradients over the entire transport length and width
- Measurement of the thermal zone separation and the atmospheric temperature
- Recording of the total energy input of the system as a basis for the evaluation of the process capability of a printed circuit board and comparison of the different soldering systems

The **measuring board VACUUM V6** and the **measuring electronics horus®** make an ideal and versatile instrument for process recording, analysis and optimisation available.

The **measuring board VACUUM V6** is equipped with 8 thermocouples of the highest accuracy class. These are placed permanently stable on specially designed measuring fields. The measuring board is used to check the system parameters and their optimisation in the soldering system.

horus® VAC transmits the measured temperature values in real time using the WIFI transmission standard. No internet connection is required.

horus® VAC is optimally designed for the soft soldering processes of vacuum and vaporphase soldering.

The exclusive use of standard interfaces enables maximum flexibility. A built-in NiMH rechargeable battery ensures at least two hours of continuous operation and requires an average time of 45 minutes to recharge. The integrated battery charge status display and monitoring of the internal electronics temperature ensure maximum safety and uninterrupted operation.

The **horus®** software provides outstanding solutions for parameter calculation, process evaluation, profile comparison and documentation. It also guarantees physically correct profile optimization after just one measurement.

➤ Reflow Vapour Phase/Vacuum

Technical data & order information

TECHNICAL HIGHLIGHTS

- Intelligent WIFI connection enables data transmission and display in real time
- 8 measuring channels 0.1 °C resolution (24 bit ADC) and 0.5 °C accuracy
- Measuring interval from 100 ms; measuring time up to 200 min
- Continuous control and display of internal temperature
- Electronics: RoHS-compliant with standard USB-C interface and miniature thermal connector
- Freely editable protocols with profile, gradient and module diagrams
- Automatic profile evaluation
- Suitable for use in vacuum and vaporphase processes
- Display of continuous gradient curve
- Free software updates via the website
- High-precision interpolating 7-point calibration
- Modern power management with NiMH rechargeable battery and charge state display via radio signal

TEMPERATURE MEASUREMENT

Measuring range	-150 bis 1,350 °C
Measuring accuracy	±0,5 °C
Resolution	0.1 °C
Measuring interval	0.1 s bis 2 s
Measuring channels	8 channels for Ni/CrN

DIMENSIONS HORUS® ELECTRONIC VP TRANSMITTER

Length	100 mm
Width	90 mm
Height	40 mm

DIMENSIONS MEASURING BOARD

0GP-VA-2540	Length	400 mm
	Width	250 mm
	Height	14 mm
0GP-VA-5040	Length	400 mm
	Width	500 mm
	Height	14 mm

AMBIENT CONDITIONS MEASURING BOARD

Ambient temperature (long time)	280 - 300 °C
Max. ambient temperature for 20 s is	350 °C
Max. height with electronics	43 mm
Guaranteed radio contact even in vacuum systems	
Free field range	> 300 m

FURTHER SERVICES

Customer-specific measuring boards

Customer-specific software features

ORDER DATA

- 0GP-VA-2540 (250 mm x 400 mm)
- 0GP-VA-5040 (500 mm x 400 mm)



1x measuring board VACUUM V6 with 8 thermocouples Ni/CrNi

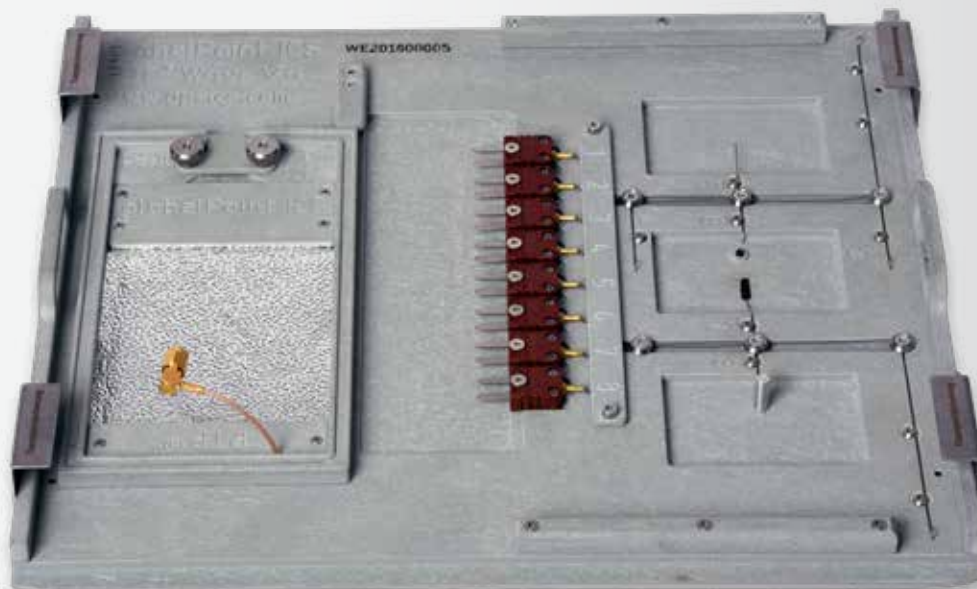
- 0GP-ME-V2VAC



1x horus®VAC electronics + software
1x calibration horus®VAC electronics (incl. certificate with DKD reference)
1x aluminium case with insert for electronics and Shuttle

➤ Wave

horus® measuring system for process recording, -analysis and optimization



Measuring board WAVE V6 (OGP-WE001)

➤ Measuring board WAVE V6

- Recording of the cross profiles over the entire transport length and width
- Measurement of the preheating temperature of the PCB top/bottom
- Measurement of the atmospheric temperature
- Measurement of dwell times left, centre and right
- Measurement of the conveyor speed
- Recording of the energy input in a measuring dummy as a basis for evaluating the risk to sensitive components (electrolytic capacitors, plastic parts, ...)
- High-temperature antenna onboard

The **measuring board WAVE V6** and **measuring electronics horus®** make an ideal and versatile instrument for process recording, analysis and optimisation available.

The **measuring board WAVE V6** has eight thermocouples of the highest accuracy class. These are placed permanently stable on specially designed measuring fields. The measuring board is used to check the system parameters and their optimisation in the soldering system.

horus® transmits the measured temperature values in real time using the WIFI transmission standard. No internet connection is required. **horus®** is optimally designed for the soft soldering process of wave soldering. The exclusive use of standard interfaces enables maximum flexibility. A built-in NiMH

rechargeable battery ensures at least two hours of continuous operation and requires an average time of 45 minutes to recharge. The integrated battery charge status display and monitoring of the internal electronics temperature ensure maximum safety and uninterrupted operation.

The **horus® software** provides outstanding solutions for parameter calculation, process evaluation, profile comparison and documentation. It also guarantees physically correct profile optimization after just one measurement.

Technical data & order information

TECHNICAL HIGHLIGHTS

- > Intelligent WIFI connection makes data transmission and display possible in real time
- > 8 measuring channels with 24 bit resolution
- > Measuring interval from 100 ms; measuring time up to 200 min
- > Internal temperature monitoring and integrated triple thermal protection
- > Electronics: RoHS-compliant with standard USB-C interface and miniature thermal connector
- > Freely editable protocols with profile, gradient and module diagrams
- > Automatic profile evaluation
- > Precise profile prediction after only one measurement!
- > Display of continuous gradient curve
- > Free software updates via the website
- > High-precision interpolating 7-point calibration
- > Modern power management with NiMH rechargeable battery and charge state display via radio signal as well as internal temperature display

TEMPERATURE MEASUREMENT

Measuring range	-150 bis 1,350 °C
Measuring accuracy	±0,5 °C
Resolution	0.1 °C
Measuring interval	0.1 s bis 2 s
Measuring range	8 channels for Ni/CrN

DIMENSIONS HORUS® ELECTRONIC TRANSMITTER

Length	86 mm
Width	86 mm
Height	23 mm

DIMENSIONS MEASURING BOARD

Length	330 mm
Width	300 mm
Height	14 mm

AMBIENT CONDITIONS MEASURING BOARD

Ambient temperature (long time)	280 - 300 °C
Max. ambient temperature for 20 s	350 °C
Max. height with Shuttle	25 mm
Range for measuring in wave soldering systems	at least 10 m
Free field range	> 300 m

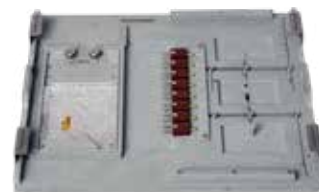
FURTHER SERVICES

Customer-specific measuring boards

Customer-specific software features

ORDER DATA

> OGP-WE001



1x measuring board WAVE V6 with 8 thermocouples Ni/CrNi and shuttle hood

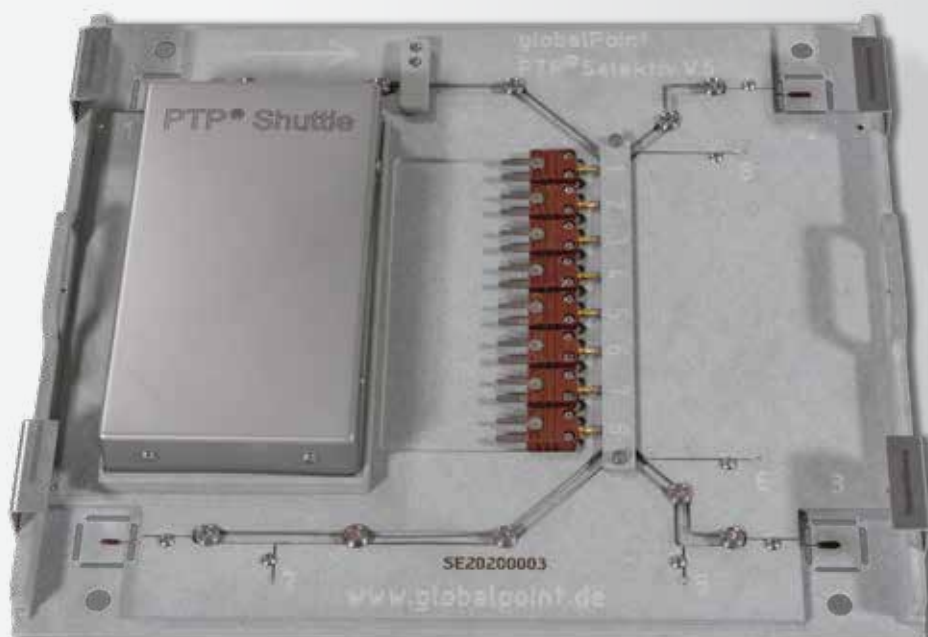
> OGP-ME001



1x horus® electronics + software
 1x calibration horus® electronics (incl. certificate with DKD reference)
 1x aluminium case with insert for electronics and Shuttle

Selective

horus® measuring systems for process recording, -analysis and optimization



Measuring board SELECTIVE V5 (OGP-SE001)

The **measuring board SELECTIVE V5** and **measuring electronics horus®** make an ideal and versatile instrument for process recording, analysis and optimisation available.

The **measuring board SELECTIVE V5** has eight thermocouples of the highest accuracy class. These are placed permanently stable on specially designed measuring fields. The measuring board is used to check the system parameters and their optimisation in the soldering system.

Due to the integrated calibration holes at the corner positions, the measuring board can also be used for the mechanical calibration of the soldering system.

horus® transmits the measured temperature values in real time using the WIFI transmission standard.

No internet connection is required. **horus®** is optimally designed for the soft soldering process of selective soldering. The exclusive use of standard interfaces enables maximum flexibility. A built-in NiMH rechargeable battery ensures at least two hours of continuous operation and requires an average time of 45 minutes to recharge. The integrated battery charge status display and

monitoring of the internal electronics temperature ensure maximum safety and uninterrupted operation.

The **horus®** software provides outstanding solutions for parameter calculation, process evaluation, profile comparison and documentation. It also guarantees physically correct profile optimization after just one measurement.

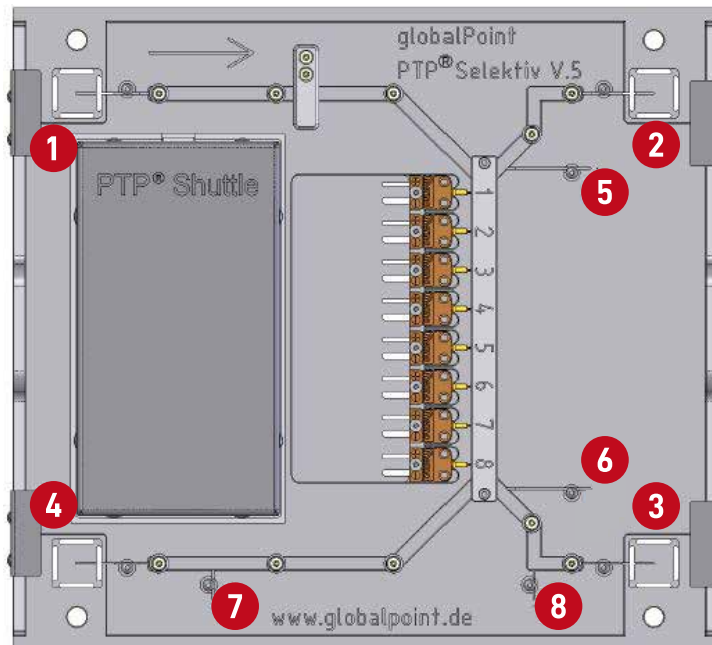
TECHNISCHE DATEN

Maximum ambient temperature for 20s [°C]	350
Long time ambient temperature [°C]	280 - 300
Size (standard board) [WxL]	300 x 330 mm
Max height with Shuttle (from conveyor/pin chain)	≤ 37 mm
Tolerance of thermal sensors [°C], K-Type, class 1, IEC 584	≤ ±1.5
After Calibration [°C] (option)	≤ ±0.2
Max. temperature K-type plug connector green [°C]	220
Max. temperature K-type thermal cable PTFE isolation [°C]	260

➤ Selective

horus® measuring systems for process recording, -analysis and optimization

SOLDERING MACHINE CHECK UP



For the basic soldering machine check-up should preferably be used all thermocouples 1 to 8. The measurement of the preheating profile of a selective soldering machine is done with thermocouples 1, 2, 3 and 4. It is recommended to determine the solder temperature with sensors 5 to 8. The contact time for a correct measurement should be \geq two seconds.

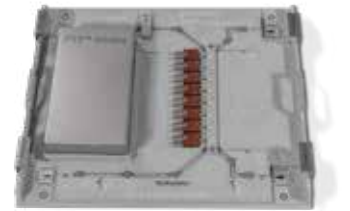
In addition, the movement speed of the axes can be measured. For X-direction thermocouples 7 to 8 and a nozzle movement speed of 4 mm/s are used. For Y-direction thermocouples 5 to 6 and a nozzle movement speed of 4 mm/s are used.

Furthermore, the four holes at the corners can be used for a mechanical check of the machine. This check can help to detect a rotation of the axis system.

In the process of a manufacturing shift the atmosphere temperature as a function of the system workload can vary strongly. These fluctuations can quite affect the results of measurement at the measuring standards.

For all measurements (apart from 1, 2, 3 and 4) it is recommended mostly to switch off the fluxing module. That's the best way to avoid solder sticking on the sheathed thermocouples.

CONTENT OF DELIVERY



1x Measuring board with integrated modules:

- > 4 x sensors preheating temperature / PCB below and above
- > 2 x sensors solder contact X-direction (speed and temperature)
- > 2 x sensors solder contact Y-direction (speed and temperature)
- > 1 x thermo-protection-cover for electronics

1x Documentation (Manual and description of Measuring Pallet)

1x Thermo-Protection for electronics

1x 8 K-type thermo cables for the connection contact-strip to electronics

Option: Delivery of customized measuring boards on request!



Professional Temperature Monitoring

**Innovative monitoring to ensuring
reproducibility in the soldering process**
(100 % process control)

- Efficiency increase of the plant for maximum availability
- Innovative technology in line with the latest trends
- Automatic control for assured quality and reliability
- Monitoring always there for you, essential facilitation for customer audits

100 % Traceability and beyond

- Highest throughput with maximum quality
- Safeguarding of production data exclusively for Ersa with independent external measuring system
- Detailed process monitoring and assurance of product quality
- Simple, automatic generation and backup of production data

US[®]

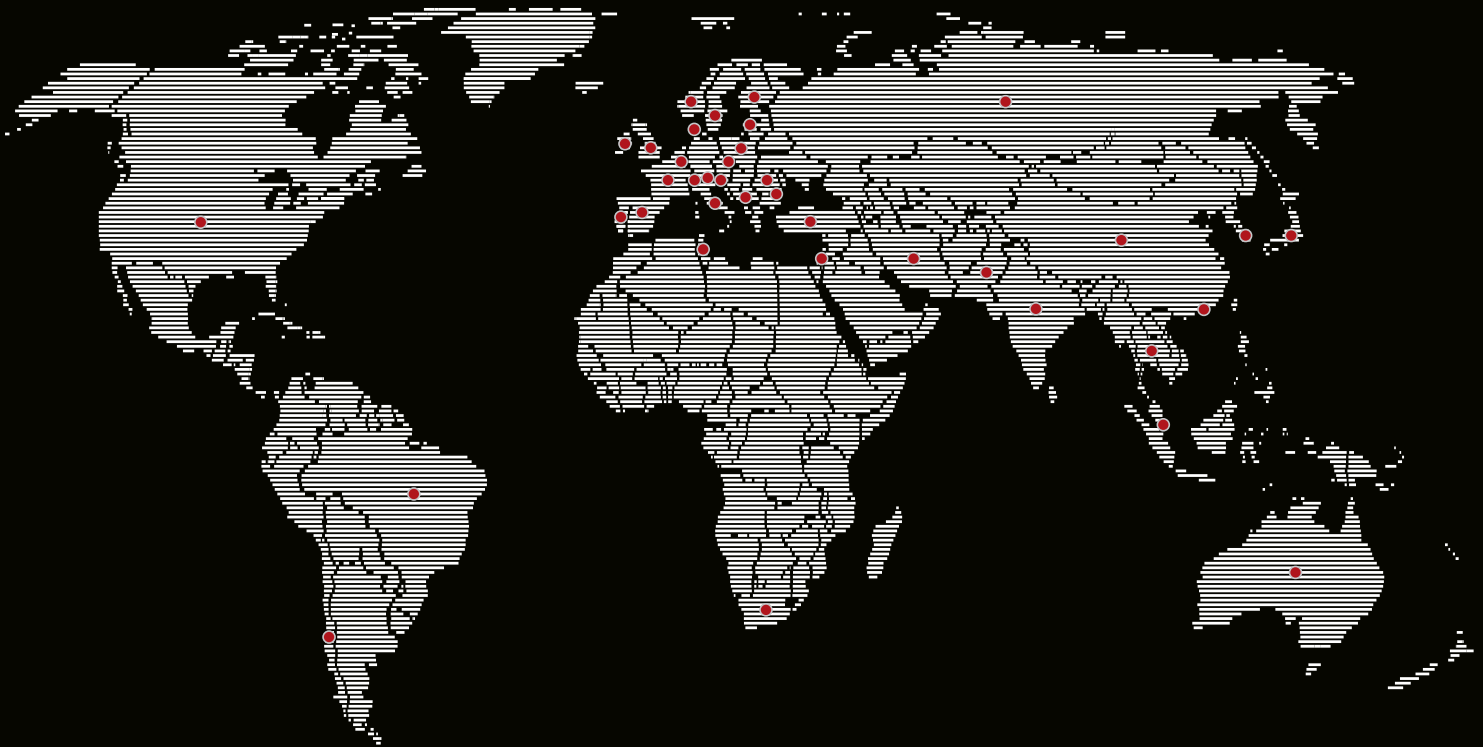


HOTFLOW THREE

for Ersas soldering machines



Worldwide – Our Sales & Service Network



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at any time at www.globalpoint.de**

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Professional Temperature Profiling & Monitoring

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