

horus® electronics + software (OGP-ME-V2)

Measuring board SELECTIVE V5 (OGP-SE001)

horus® shuttle, E-carrier and thermal protection (OGP-SH002)

## ➔ SELECTIVE V5

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

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 elec-

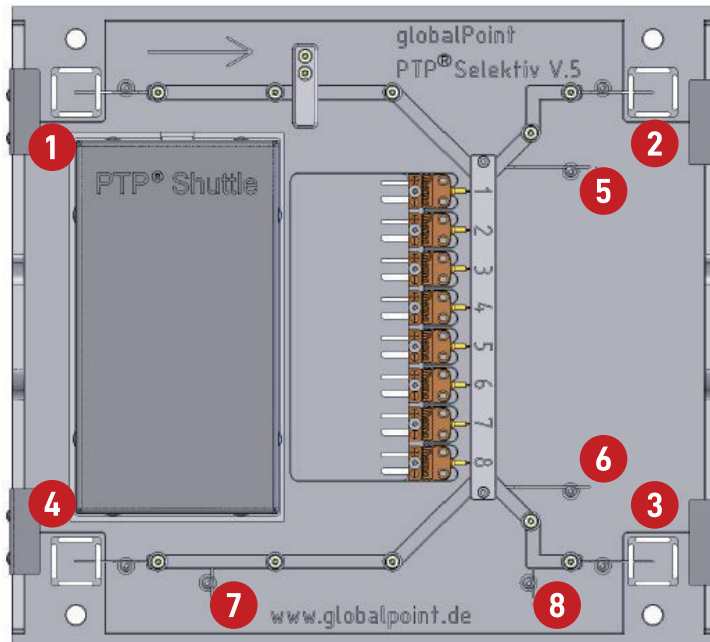
tronics temperature ensure maximum safety and uninterrupted operation.

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

## 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.

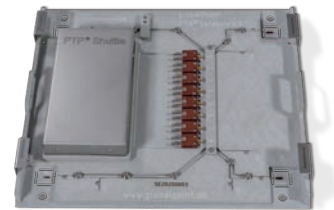
In addition, the movement speed of the axes can be measured. For X-direction thermocouples 7 to 8 and a nozzle movement speed of 4 mm/s are used. For Y-direction thermocouples 5 to 6 and a nozzle movement speed of 4 mm/s are used.

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 the Measuring Board)

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!**