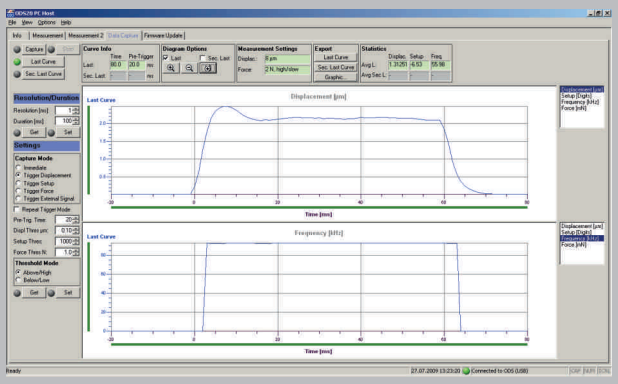
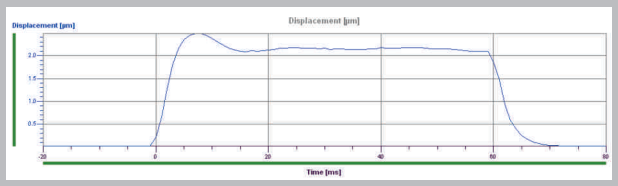
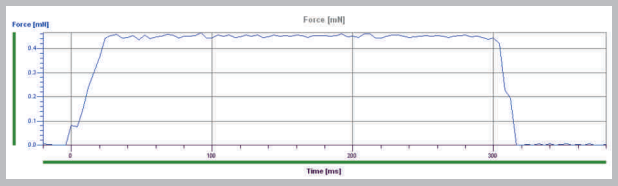
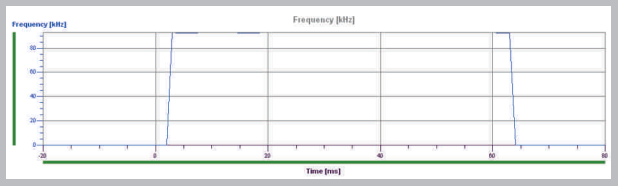
ODS-20

Optical Displacement Measurement System









The optical displacement measurement system **ODS-20** is now able not only to measure the vibration excursion of bond tools for wire and die bonders, but also to measure the bond force dynamically.

The **ODS-20** scans the mechanical oscillating tool using eye-safe visible red laser light.
An optional available load cell, integrated in the sensor head or as a separate sensor head, is used for bond force measurement.

With the **ODS-20** one can check and calibrate the output of the ultrasonic generator using the displacement values, measured at the tip of the bonding tool. Now it will become easy to evaluate also the function of the bond force generating system of a bonder.

The **ODS-20** can be used for all common bonding tools - wedges, capillaries and die collets.

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ODS-20

Optical Displacement Measurement System

Specification

ODS-20	*Model name*
100184	*Order number*
Mechanical displacement (peak-peak) Mechanical vibration frequency Bond force [1]	*Measured values*
3 selectable ranges range 1: 0.1 to 2 µm @ 30..250 kHz range 2: 0.1 to 8 µm @ 30..200 kHz range 3: 0.1 to 20 µm @ 30..150 kHz	*Displacement measuring ranges* [2] [3]
range 1: ± 0.05 µm range 2: ± 0.1 µm range 3: ± 0.2 µm	*Displacement measuring accuracy*
range 1 & 2: ± 0.001 µm range 3: ± 0.01 µm	*Displacement measuring Resolution*
30 kHz .. 250 kHz with ± 20 Hz accuracy	*Frequency measurement range and accuracy*
2 selectable ranges range 1: 0 to 2 N range 2: 0 to 20 N	*Bond force measuring ranges* [1]
range 1: ± 0.01 N (±1g) range 2: ± 0.5%, minimum ± 0.02 N (±2g)	*Bond force measuring accuracy*
± 0.5%	*Bond force linearity*
Class II (eye safe)	*Laser class*

Power supply

Plug-in power supply	*Type*
100 – 240 VAC, 50/60 Hz	*Input voltage*
15 VDC, stabilized	*Output voltage*
max. 1.0 A	*Output current*

Dimensions, Weight

length / height / width (weight) 2.47” x 0.79” x 0.59” (approx. 40g)	*Laser sensor*
length / height (w/o force sensor) / width (weight) 2.47” x 0.42” x 0.59” (approx. 40g)	*Force sensor*
length / height / width (weight) 6.1” x 3.54” x 8.03” (approx. 1100g)	*Electronic unit*
length / height / width (weight) 2.76” x 1.97” x 1.57” (approx. 150g)	*Power supply*

Communication

USB and RS232 communication port
for use with data sampling software

[1] Applicable, if bond force option ordered.

[2] Other measuring ranges are possible,
please ask for special calibrations.

[3] All displacement values are peak-peak.

F&K reserves the right to change this specification without notice.

DS204020523H

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