



F&K Physiktechnik GmbH

Product Catalogue

2023

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1. Transducer Test System TTS-030



- There are two packages for the Transducer Test System **TTS-030** available.
 - **Package 1** is intended for use with fine / thin wire bond machines only.
 - **Package 2** can be used with heavy wire & die bond machines as well as with fine / thin wire bonders.
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Package 1: Transducer Test System TTS-030 for Fine Wire Bonders

Main features and package content:

- max. output power **5 Watts @ 22 Ohms**
- voltage and power control modes
- ODS interface card
- Transducer cable BNC - crocodile clips
- RS232 serial cable (Null modem cable)
- USB2.0 to Serial converter
- Carry case for TTS-030
(dimensions approx. 510 mm x 410 mm x 200 mm; Aluminium)
- Power cord (DE plus **or** UK plug **or** US plug)
- 230V or 110V

Order number: **100307**

Remark:

- Package 1 (Fine wire package) can be upgraded to Package 2 (Heavy wire / Die Bond package) by purchasing an additional upgrade license at a later time.

Package 2: Transducer Test System TTS-030 for Heavy Wire Bonders & Die Bond Machines

Main features and package content:

- max. output power **30 Watts @ 32 Ohms**
- voltage and power control modes
- ODS interface card
- Transducer cable BNC - crocodile clips
- RS232 serial cable (Null modem cable)
- USB2.0 to Serial converter
- Carry case for TTS-030
(dimensions approx. 510 mm x 410 mm x 200 mm; Aluminium)
- Power cord (DE plus **or** UK plug **or** US plug)
- 230V or 110V

Order number: **100306**

General remark:

- Supply voltage: **230VAC** or **110 VAC** 50/60 Hz.
- Selected type of power cord plug (DE or UK or US).

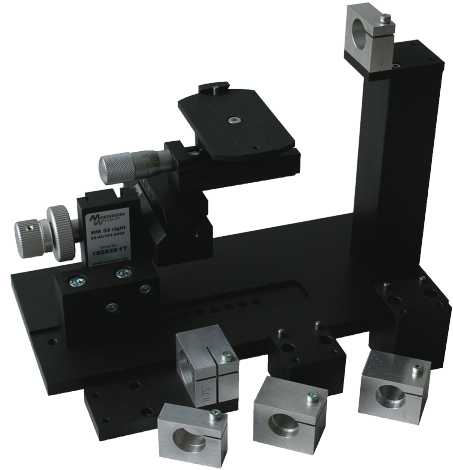
2. Accessories for Transducer Test System TTS-030

Transducer Test Set

Main features and package content:

- Test Set Base with micro-manipulator
- Transducer clamp 0.5"
- Transducer clamp 0.6"
- Transducer clamp 0.75"
- Transducer clamp 13mm
- Transducer clamp 16mm

Order number: **100322**



ODS-TTS Transportation case

Main features and package content:

- Carry case for TTS-030, ODS-20/21 and Transducer Test Set
- external dimensions approx. 620 mm x 420 mm x 210 mm; Aluminium

Order number: **100146**



Remark:

- Picture above shows **ODS-TTS Transportation** case with all devices inside. Case contents are not included into order number 100146.

Transducer cable TTS - Crocodile clips

Order number: **100253**



Transducer cable TTS – KnS Ball Bonder

Order number: **100070**



Transducer cable TTS – F&K G4

Order number: **100255**



Transducer cable TTS – F&K G5

Order number: **100254**



3. Optical Displacement Measurement System ODS-20



- The **ODS-20** comes as a complete package for vibration excursion measurements at the tip of the bonding tool.
- Different sensor head versions available, see package details
- Functionality can be expanded by adding a load cell sensor to evaluate also the bond force unit of a wire bond machine, creating a **2-in-1 system**.

3.1 ODS-20 Standard Package

Package content:

- ODS-20 base device
- Sensor head SK020SL, laser sensor head for vibration measurement only
- ODS-20 CD with software & manuals
- USB2.0 A-B cable
- USB2.0 to Serial converter
- Power supply with plug set (EU, AU, UK & US)
- Storage & carry case

Order number: **100184**

3.2 ODS-20 Shinkawa Package

Package content:

- ODS-20 base device
- Sensor head SK020HL, laser sensor head for vibration measurement only for Shinkawa ball bond machines
- ODS-20 CD with software & manuals
- USB2.0 A-B cable
- USB2.0 to Serial converter
- Power supply with plug set (EU, AU, UK & US)
- Storage & carry case

Order number: **100398**

3.3 Available sensor head options:

Sensor head SK020SB

Separate sensor head for bond force measurements.

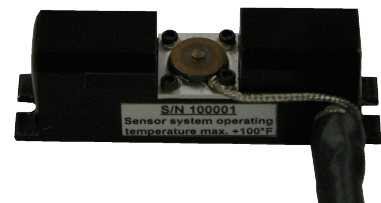
Order number: **100444**



Sensor head SK020SF

Combined sensor head, load cell integrated into laser head.

Order number: **100188**



Remarks:

- **2-in-1 Solution:**
ODS-20 Standard Package can be ordered together with additional sensor head **SK020SB**, so it will be shipped with two sensor heads (**SK020SL & SK020SB**).
Recommended configuration for customer requiring not only vibration excursion measurements, but also bond force measurement.
- Standard load cell for bond forces up to 2 kg (20N).
Other force ranges on request, please ask.

4. Optical Displacement Measurement System ODS-21



- There are two packages for the Optical Displacement Measurement System **ODS-21** available.
 - **Standard Package** is intended for use with fine / thin wire bond machines only.
 - **BFS Package** is also a **2-in1 solution** and to measure not only the vibration excursion on K&S ball bonders but also the bond force.
-

Package 1: ODS-21 Standard Package for K&S bonders

Main features and package content:

- **ODS-21** with vibration excursion measurement only, seamless replacement of the **K&S USG PORTABILITY CALIBRATION KIT**
- ODS-21 base device
- Sensor head SK021KL, laser sensor head for vibration measurement only
- Shim block
- PC-Host-SW (CD)
- USB 2.0 A-B cable
- RS232 cable DSUB9m/f crossed
- Power supply with plug set (EU, AU, UK & US)
- Storage & carry case

Order number: **100315**

Package 2: ODS-21 BFS Package (with additional bond force sensor for K&S bonders)

Main features and package content:

- **ODS-21** with vibration excursion measurement and bond force measurement, extended replacement of the **K&S USG PORTABILITY CALIBRATION KIT**
- ODS-21 base device
- Sensor head SK021KL, laser sensor head for vibration measurement only
- Sensor head SK021KD, additional sensor head for bond force measurements
- Shim block
- PC-Host-SW (CD)
- USB 2.0 A-B cable
- RS232 cable DSUB9m/f crossed
- Power supply with plug set (EU, AU, UK & US)
- Storage & carry case

Order number: **100316**

Remark:

- Standard load cell for bond forces up to 2 kg (20N).
Other force ranges on request, please ask.
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5. Bond Force Calibration System BFS-20



- The **BFS-20** comes as a complete package for calibrating the bond force unit of F&K Delvotec wire bonders.
- It can be used also on other wire bonder brands to evaluate the function of the bond force unit.

Package content:

- BFS-20 base device
- Sensor head SK020SB, sensor head for force measurement only
- BFS-20 CD with software & manuals
- RS232 serial cable (Null modem cable) for communication with F&K bonder
- USB 2.0 A-B cable
- Power supply with plug set (EU, AU, UK & US)
- Storage & carry case

Order number: [100388](#)

Remark:

- Standard load cell for bond forces up to 2 kg (20N).
Other force ranges on request, please ask.

6. Ultrasonic Generators

- There is the UUG-050 family of fully digital ultrasonic generators for wire and (flip-chip) die bonding available.
 - These generators usually come with housing and power supply. However for very price sensitive markets the UUG-050 standard model and the UUG-050-B model are also available as board level versions.
 - Also the other generator models are fully digital generators.
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UUG-050

Order number: **100167**

Remark:

- Standard model for fine/thin wire bonding (ball & wedge bonder).
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UUG-050-B

Order number: **100175**

Remark:

- Increased power compared to standard model
 - Recommended for Ultrasonic Flip-Chip die bonders for low pin counts
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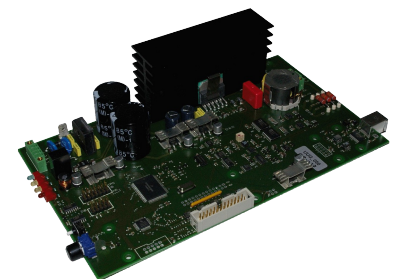


UUG-050 Board

Order number: **100363**

Remark:

- Standard model as board level version. Recommended for fine wire bonder (ball & wedge bonder) for machine integration.
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UUG-050-B Board

Order number: **100362**

Remark:

- Increased power version as board level generator. Recommended for Ultrasonic Flip-Chip die bonders for low pin counts for machine integration.
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UUG-130

Order number: **100456**

Remark:

- Recommended for Ultrasonic Flip-Chip die bonders for small (low) and medium pin counts & wire bonders
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UUG-140

Order number: **100487**

Remark:

- Recommended for Ultrasonic Flip-Chip die bonders for medium pin counts & heavy wire bonders
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UUG-050-X

Order number: **100323**

Remark:

- Recommended for U/S flip chip die bonders with high bond force / high pin counts & heavy wire/heavy ribbon (HARB) bonders
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DUG-100

Order number: **100418**

Remark:

- Recommended for use with high power transducers PTP series.
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Available options:

PC-Host Software for UUG-050 family

Order number: **100278**

PC-Host Software for UUG-130 (digital delivery)

Order number: **900001**

PC-Host Software for UUG-140 (digital delivery)

Order number: **900002**

General Remarks:

- All UUG models are fully digital systems.
- Communication protocols for UUG-050 family and UUG-1xx for seamless machine integration available on request.
- Customized version on request.

7. Ultrasonic Transducers

Fine/Thin wire wedge-wedge transducer

- **FK065-D1** 65 kHz Order No.: **100115**
- **FK100C-0** 100 kHz Order No.: **100085**
- **FK100C-3** 100 kHz Order No.: **100086**
- **FK120N** 120 kHz Order No.: **100087**
- **FK140R-1** 140 kHz Order No.: **100090**
- **PTW100A0** 100 kHz Order No.: **N.A. - please ask** (low cost version)



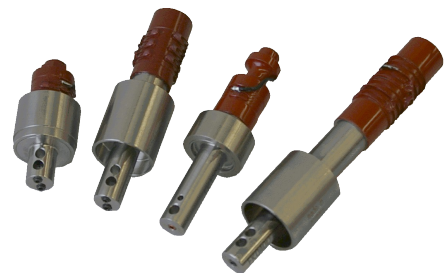
Fine/Thin wire ball-wedge transducer

- **FK066G** 66 kHz Order No.: **100355**
- **FK067M** 67 kHz Order No.: **100501**
- **FK067X** 67 kHz Order No.: **100125**
- **FK100F-2** 100 kHz Order No.: **100089**
- **FK120S-2** 120 kHz Order No.: **100092**
- **FK140L** 140 kHz Order No.: **N.A.**
- **FK145P** 145 kHz Order No.: **100196**
- **PTB065A0** 65 kHz Order No.: **100449** (low cost version)



Heavy Wire / Die-bond transducer

- **FK040U** 38 kHz Order No.: **100091**
- **FK054A** 57 kHz Order No.: **100088**
- **FK058HR** 58 kHz Order No.: **100258**
- **FK090Z-1** 88 kHz Order No.: **100280**
- **FK120K** 120 kHz Order No.: **100185**
- **FK120KD** 120 kHz Order No.: **N.A.**
- **PTH060A0** 58 kHz Order No.: **100485** (low cost version)



TAB transducer

- **FK065TAB** 65 kHz Order No.: **N.A.**

High power transducer

- **PTP030A0** 30 kHz Order No.: **100469**
- **PTP040A0** 44 kHz Order No.: **100470**



Remark:

- Other frequencies or models on request.

Contact

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