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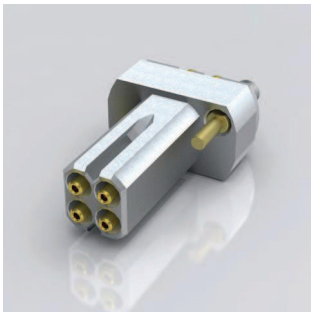
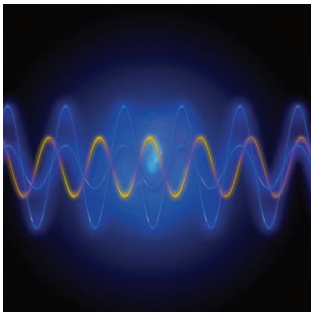
# PRODUCT PORTFOLIO CONTACT PROBES

## FOR RADIO FREQUENCY MEASUREMENTS

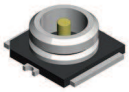
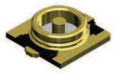
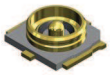
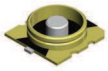
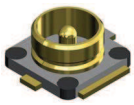
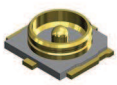
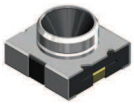
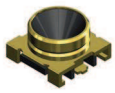
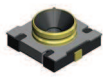
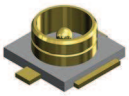
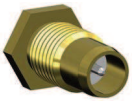
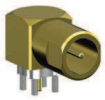
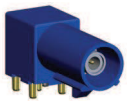
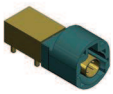
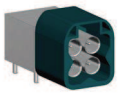
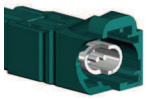




Version 2.2

FEINMETALL
Contact Technologies

# OVERVIEW OF CONNECTORS

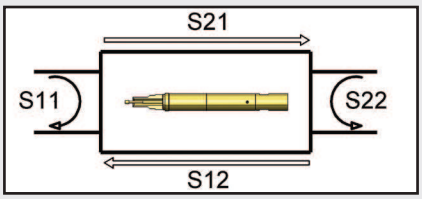
| | | | | |
|---|---|---|---|---|
| GSC-Male | HSC-Male | JSC-Male | KSC-Switch | LSC-Male |
|  |  |  |  |  |
| MHF-Male | MHF5-Male | SWD-Switch | SWF-Switch | SWG-Switch |
|  |  |  |  |  |
| SWH-Switch | SWJ-Switch | U.FL-Male | | |
|  |  |  | | |
| BMA-Male | BNC-Female | DIN 1,0/2,3-Female | FME-Male | FAKRA-Male |
|  |  |  |  |  |
| FAKRA-Female | GT16 Male | HSD-Male | HSD-Female | HFM®-Male |
|  |  |  |  |  |
| H-MTD®-Male | MATE-AX®-Male | MMBX-Female | MMCX-Female | mSMP-Male |
|  |  |  |  |  |
| N-Type-Female | QMA-Female | RF-Male | R-TNC-Female | R-SMA-Female |
|  |  |  |  |  |
| SMA-Female | SMB-Female | SMB-Male | SMC-Male | SMP-Male |
|  |  |  |  |  |
| PCB GSG | PCB-coax-closed | PCB-coax-open | PCB-coax-kidney | PCB GSG |
|  |  |  |  |  |
| PCB GGSGG | F-Type | HDMI 1.4 | HDMI 2.0 | RCA |
|  |  |  |  |  |
| RJ-9 | RJ-11 | RJ-45 | RJ-50 | MATEnet® |
|  |  |  |  |  |
| Mikro-USB | Mini-USB | USB 2.0 A | USB 3.0 A | USB 3.1 C |
|  |  |  |  |  |

**Design of RF-Probes**

Spring contact probes for RF-applications are coaxial probes. The inner and outer conductors are designed and dimensioned according the RF specific requirements. That means the signals within a wide frequency band are transmitted with a minimum loss. For evaluation of RF-probes various definitions and parameters are relevant.

**Two-Port Network**

The common two-port network describes the characteristics of possible transmission paths. These can be wires, radio transmissions or RF-contact probes.




**S-Parameters**

In radio frequency technology the transmission characteristics of two-port networks are described by S-parameters (scattering parameters). The S-parameters are typically specified as attenuation given in decibel [dB].

**S11: Reflection loss input side**
**S21: Insertion loss forward**
**S12: Insertion loss backward**
**S22: Reflection loss output side**

**Matching**

The matching always refers to the impedance of the DUT and its RF related environment. The more constant the impedance on the transmission path, the better is the reflection and transmission behavior. For RF testing always the complete transmission path of DUT, RF-probe and connecting element has to be considered. A major part of the signal loss is caused by mismatching between RF probe and DUT. The frequency response charts in the specification sheets of the probes HF60 include the probe as well as an RF-connector (representing the DUT) and a connecting element with connected cable. The type and length of the cable is also influencing the transmission of the signal and may lead to a reduced bandwidth. For reference, the values S21 and S11 for the HF60 without DUT and connecting element are shown as well.

**Insertion Loss**

The insertion loss describes the transmission behavior of a two-port network and is represented by the value S21. Very often the 3dB cutoff frequency is used as characteristic value. This is the frequency with an attenuation of -3dB. At this frequency the power has reduced by 50% and the voltage by 30%.

**Frequency**

The values for frequency specified in the catalogue correspond to the maximum operating frequency recommended by FEINMETALL. Depending on the application and the permissible transmission quality, the high-frequency probes can also be used above this. On request, diagrams with the frequency characteristics are available.

# New generation for RF-Probes

| | RF-Series | | DUT | | Mounting version | | Center |
|---|---|---|---|---|---|---|---|
| z.B. | HF60-0001 | | SMA-F | 8 | P | MCX | - |
| | Number | | | Cutoff frequency * | | Connection | |

**Type number:**

Is composed of RF-Series and number

**DUT (e.g.):**

SMA-F (Female)
SMB-M (Male)
GSG (Ground-Signal-Ground)

**Mounting options:**

F (flange)
P (plug-in)
S (threaded)

**Center:**

Center specifies only distance ground to signal, otherwise the field is left blank

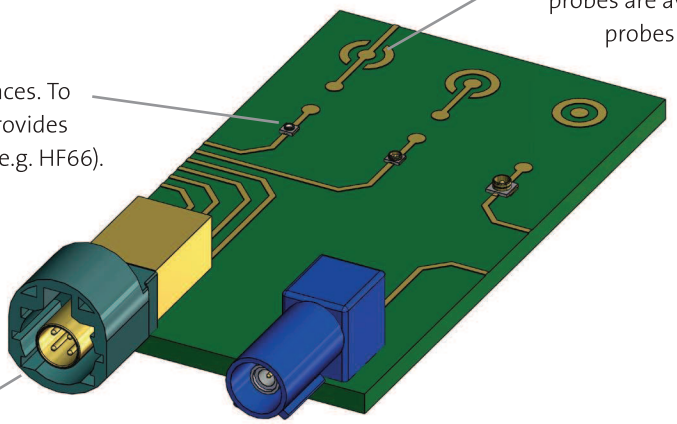
* the specified value is the recommended maximum operating frequency.

# COAXIAL PROBES FOR RADIO FREQUENCY MEASUREMENTS

FEINMETALL offers sophisticated contact solutions for various industries and applications. Coaxial probes cover a wide range of radio frequency applications like contacting standard RF connectors, switch connectors or RF test points on the PCB.

**SMD mini coax and SMD switch connectors**
be used on PCBs as RF interfaces. To contact these FEINMETALL provides different types of RF probes (e.g. HF66).

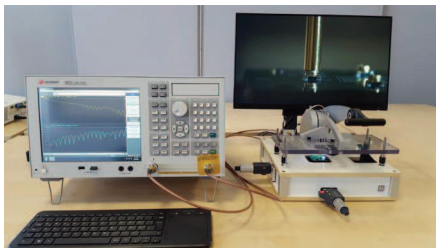
**PCB test points**
For RF contacts directly on the PCB special RF probes are available. The probe design of these probes (e.g. HF05, HF60) is adapted to the typical requirements of the test points.



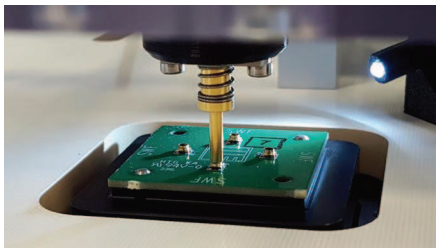
**Connectors**
In various telecommunications, consumer electronics and automotive applications different standard connectors like SMA, SMB, SMC, HSD are used. FEINMETALL offers different probe series for contacting these connectors (e.g. HF60, HF19, HF66).

| RF type | | DUT | | Mounting version | Pitch |
|---|---|---|---|---|---|
| e.g. | HF60-0001 | SMA-F | 8 | P | MCX - |
| | Number | | Cutoff frequency | | Connection type |

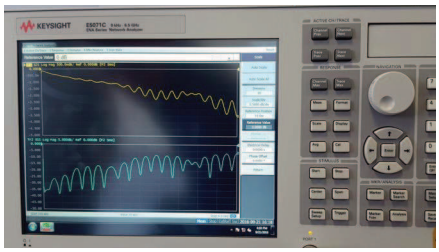
RF test set-up



Contacting RF connector



RF monitoring



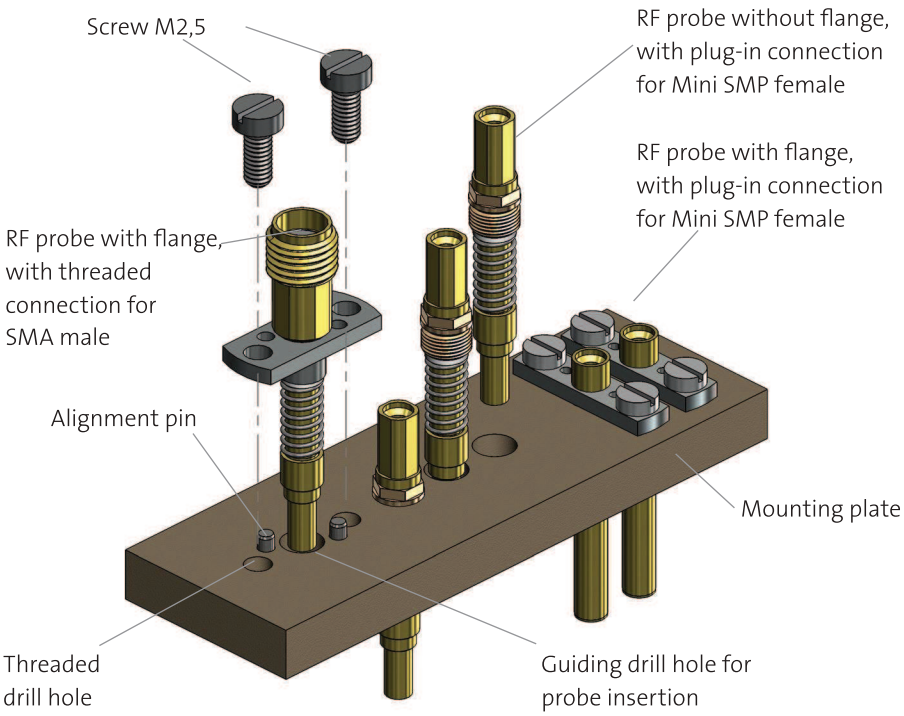
### Mounting Options

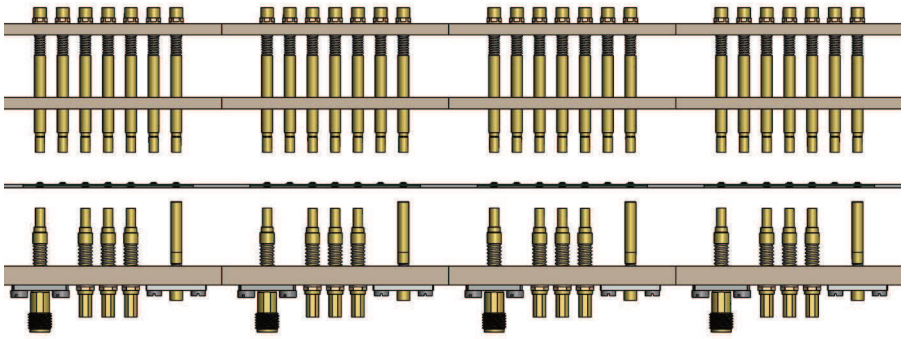
For the new RF probe series HF66 and HF05 different mounting options are possible.

Some probes can be threaded directly into the mounting plate.

Some versions have a flange that is screwed to the mounting plate, this version allows a simple adjusting and contacting of the DUT. The drill hole for mounting needs to have a sufficient diameter to allow a movement of the probe.
For mounting RF probes with flange drill holes for the centering pins, threaded holes for the fixing screws as well as guiding holes for the probe are needed. These need to correspond with the pattern of the flange.

**Mounting example HF66**

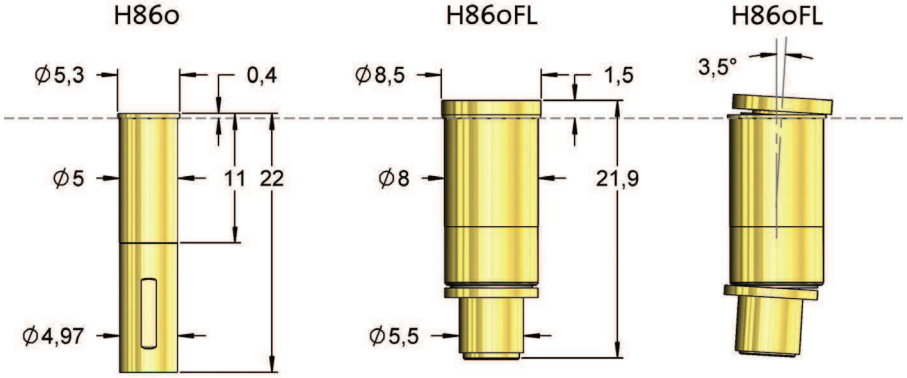


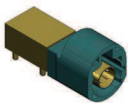
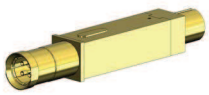
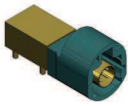
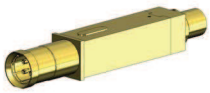
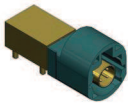
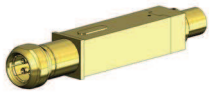
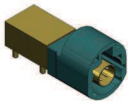
### Mounting Options

The new receptacle H860FL allows a flexible (floating) mounting of the high frequency probe HF60. It permits a wobbling by 360 degrees in case of a small offset to the DUT. Such a possible offset is compensated without damaging the DUT. In released mode the HF probe is returned to its zero point position.

**Mounting example HF60**



# COAXIAL PROBES FOR RADIO FREQUENCY MEASUREMENTS

| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| HSD-Male |  |  | 2 GHz | pluggable | H819AE2/3 | HF81905B0001G1270 | |
| HSD-Male |  |  | 3 GHz | pluggable | HSD-F | HF81955B1005G2000 | |
| HSD-Male |  |  | 3 GHz | pluggable | HSD-F | HF81955B1006G2020 | |
| HSD-Male |  |  | 2 GHz | pluggable | H819AE4 | HF81914S0004L1270 | |
| HSD-Female |  |  | 2 GHz | pluggable | H819AE2/3 | HF81912B0002G2020 | |

## Connection Cables for HF19

By combining the connection elements H819AE2 and H819AE1 a **defined and reproducible measuring** setup with fix parameters can be realized.

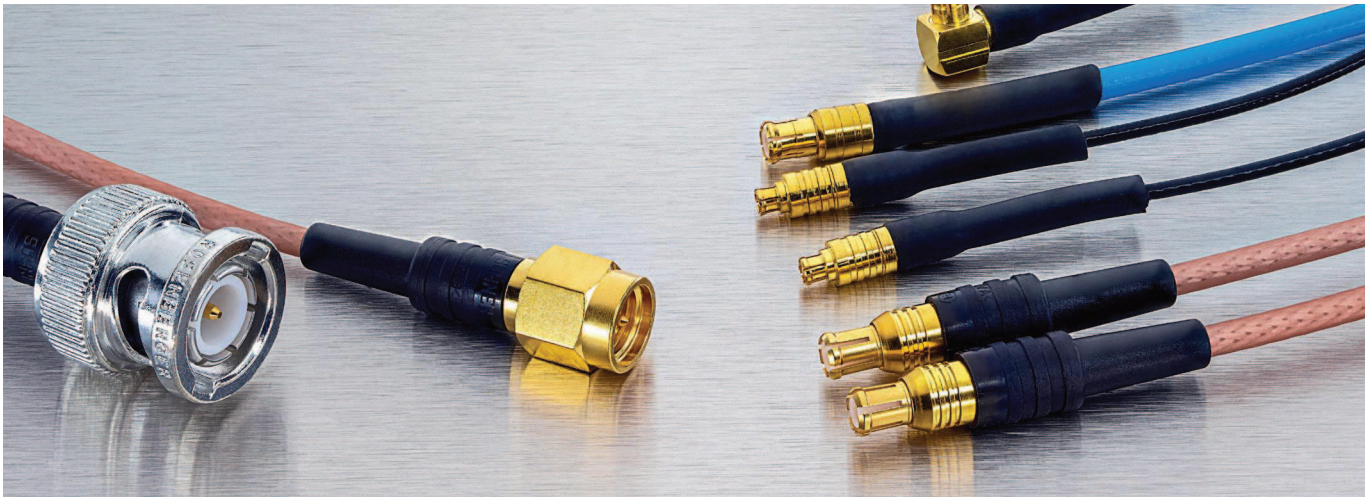
HF19 H819AE2 H819AE1 (HSD-Female)

**Connection on both sides:**
**D4K- Dacar 535,**
socket 4-pole, straight
Length: 500 mm (± 10 mm)

**Connection units selectable**

HF19 H819AE3

for direct soldering



## Connection Cables for HF60

**Connection element with pre-assembled coaxial cable RG 316**.
Impedance: 50 Ohm
Cutoff frequency: recommended up to **3 GHz**
Standard length: 700 mm

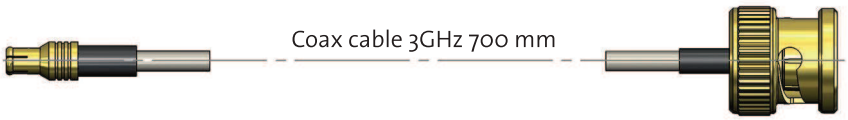
**H860AE1**

MCX-M straight — Coax cable 3GHz 700 mm — unassembled

**H860AE3**

MCX-M straight — Coax cable 3GHz 700 mm — SMA-M straight

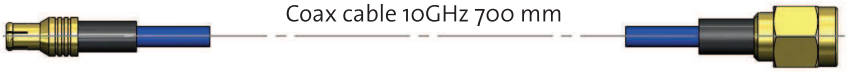
**H860AE4**



MCX-M straight — Coax cable 3GHz 700 mm — BNC--M straight

**Connector with pre-assembled coaxial cable Multiflex 86**.
Impedance: 50 Ohm
Cutoff frequency: recommended up to **10 GHz**
Standard length: 700 mm

**H860AE2**

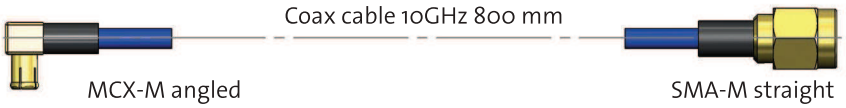


MCX-M straight — Coax cable 10GHz 700 mm — SMA-M straight

**H860AE5**

MCX-M straight — Coax cable 10GHz 1500 mm — SMA-M straight

**H860AE6**

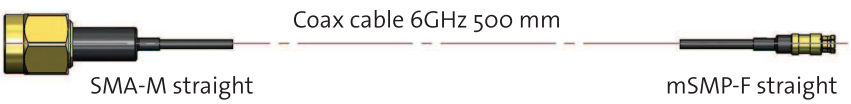


MCX-M angled — Coax cable 10GHz 800 mm — SMA-M straight

## Connection Cables for HF66

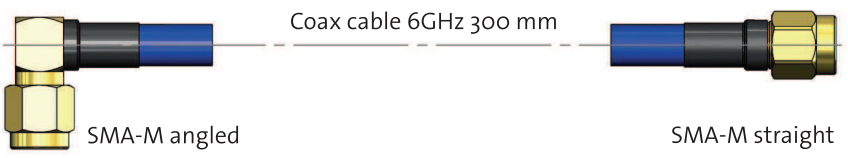
**Connector with pre-assembled highly flexible coaxial cable**.
Impedance: 50 Ohm
Cutoff frequency: recommended up to **6 GHz**

**H66AE2**



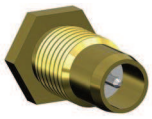
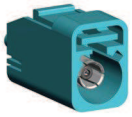
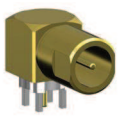
SMA-M straight — Coax cable 6GHz 500 mm — mSMP-F straight

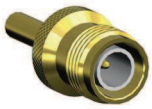
**H66AE3**



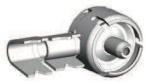
SMA-M angled — Coax cable 6GHz 300 mm — SMA-M straight

# COAXIAL PROBES FOR RADIO FREQUENCY MEASUREMENTS

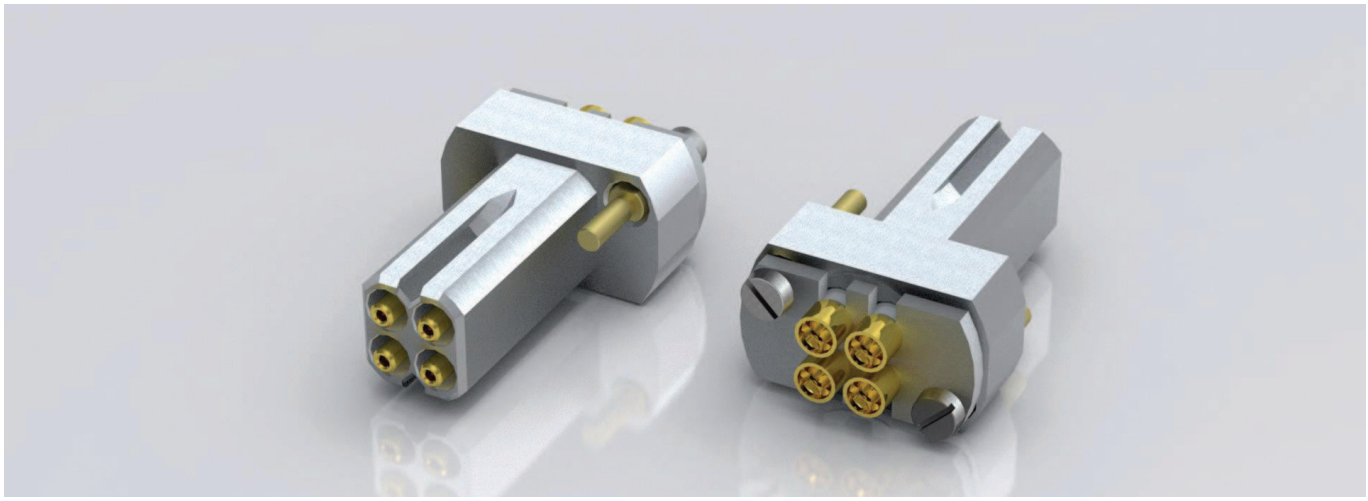
| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| BMA-Male |  |  | 4 GHz | pluggable | MCX | HF86005B0011G530 | |
| | | | 4 GHz | screwable | MCX | HF86005B0011G530M | |
| BNC-Female |  |  | 4 GHz | pluggable | MCX | HF86002B0016G550 | |
| | | | 4 GHz | screwable | MCX | HF86002B0016G550M | |
| DIN 1.0/2.3-Female |  |  | 4 GHz | pluggable | MCX | HF86002B0021G530 | |
| | | | 4 GHz | screwable | MCX | HF86002B0021G530M | |
| Fakra-Male |  |  | 6 GHz | pluggable | MCX | HF86005B0006G470 | |
| | | | 6 GHz | screwable | MCX | HF86005B0006G470M | |
| Fakra-Male |  |  | 6 GHz | pluggable | MCX | HF86005B0026G550 | |
| | | | 6 GHz | screwable | MCX | HF86005B0026G550M | |
| Fakra-Female |  |  | 5 GHz | pluggable | MCX | HF86002B0012G930 | |
| | | | 5 GHz | screwable | MCX | HF86002B0012G930M | |
| FME-Male |  |  | 4 GHz | pluggable | MCX | HF86005B0022G790 | |
| | | | 4 GHz | screwable | MCX | HF86005B0022G790M | |

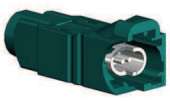
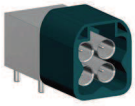
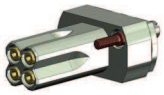
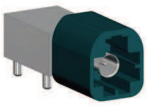
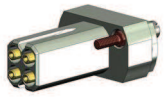
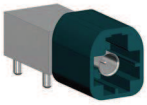
| Connector | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|
| R-SMA-Female |   | 6 GHz | pluggable | MCX | HF86005B0018G530 | |
| | | 6 GHz | screwable | MCX | HF86005B0018G530M | |
| SMA-Female |   | 8 GHz | pluggable | MCX | HF86002B0001G530 | |
| | | 8 GHz | screwable | MCX | HF86002B0001G530M | |
| SMB-Female |   | 6 GHz | pluggable | MCX | HF86002B0005G530 | |
| | | 6 GHz | screwable | MCX | HF86002B0005G530M | |
| SMB-Male |   | 5 GHz | pluggable | MCX | HF86005B0004G530 | |
| | | 5 GHz | screwable | MCX | HF86005B0004G530M | |
| SMC-Male |   | 5 GHz | pluggable | MCX | HF86005B0003G530 | |
| | | 5 GHz | screwable | MCX | HF86005B0003G530M | |
| R-TNC-Female |   | 2 GHz | pluggable | MCX | HF86005B0015G450 | |
| | | 2 GHz | screwable | MCX | HF86005B0015G450M | |
| U.FL Male |   | 5 GHz | pluggable | MCX | HF86005B0002G530 | |
| | | 5 GHz | screwable | MCX | HF86005B0002G530M | |

# COAXIAL PROBES FOR RADIO FREQUENCY MEASUREMENTS

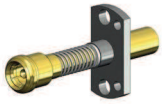
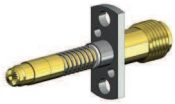
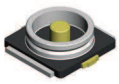
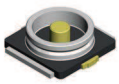
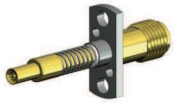
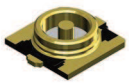
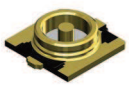
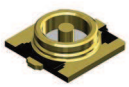
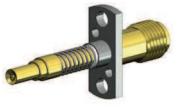
| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| GT16-Male |  |  | 4 GHz | pluggable | MCX | HF86005B0023G530 | |
| | | | 4 GHz | screwable | MCX | HF86005B0023G530M | |
| MMBX-Female |  |  | 4 GHz | pluggable | MCX | HF86002B0024G530 | |
| | | | 4 GHz | screwable | MCX | HF86002B0024G530M | |
| MMCX-Female |  |  | 6 GHz | pluggable | MCX | HF86002B0014G530 | |
| | | | 6 GHz | screwable | MCX | HF86002B0014G530M | |
| mSMB-Male |  |  | 6 GHz | pluggable | MCX | HF86005B0013G530 | |
| | | | 6 GHz | screwable | MCX | HF86005B0013G530M | |
| N-Connector-Female |  |  | 6 GHz | pluggable | MCX | HF8602B0027G430 | |
| | | | 6 GHz | screwable | MCX | HF8602B0027G430M | |
| QMA-Female |  |  | 6 GHz | pluggable | MCX | HF86002B0017G730 | |
| | | | 6 GHz | screwable | MCX | HF86002B0017G730M | |
| RF-Male |  |  | 5 GHz | pluggable | MCX | HF86005B0007G530 | |
| | | | 5 GHz | screwable | MCX | HF86005B0007G530M | |

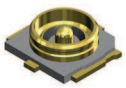
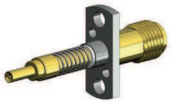
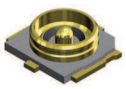
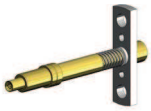
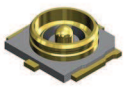
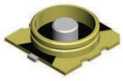
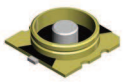
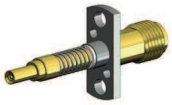
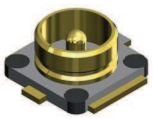
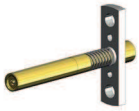
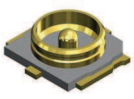
| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| PCB GSG |  |  | 4 GHz | pluggable | MCX | HF86002B0009G960 | |
| | | | 4 GHz | screwable | MCX | HF86002B0009G960M | |
| PCB GGSGG |  |  | 4 GHz | pluggable | MCX | HF86002B0025G960 | |
| | | | 4 GHz | screwable | MCX | HF86002B0025G960M | |
| PCB Coax closed |  |  | 4 GHz | pluggable | MCX | HF86018B0019G530 | |
| | | | 4 GHz | screwable | MCX | HF86018B0019G530M | |
| PCB Coax open |  |  | 4 GHz | pluggable | MCX | HF86002B0008G530 | |
| | | | 4 GHz | screwable | MCX | HF86002B0008G530M | |
| PCB Coax open |  |  | 4 GHz | pluggable | MCX | HF86018B0010G530 | |
| | | | 4 GHz | screwable | MCX | HF86018B0010G530M | |
| PCB Coax kidney |  |  | 4 GHz | pluggable | MCX | HF86018B0020G530 | |
| | | | 4 GHz | screwable | MCX | HF86018B0020G530M | |



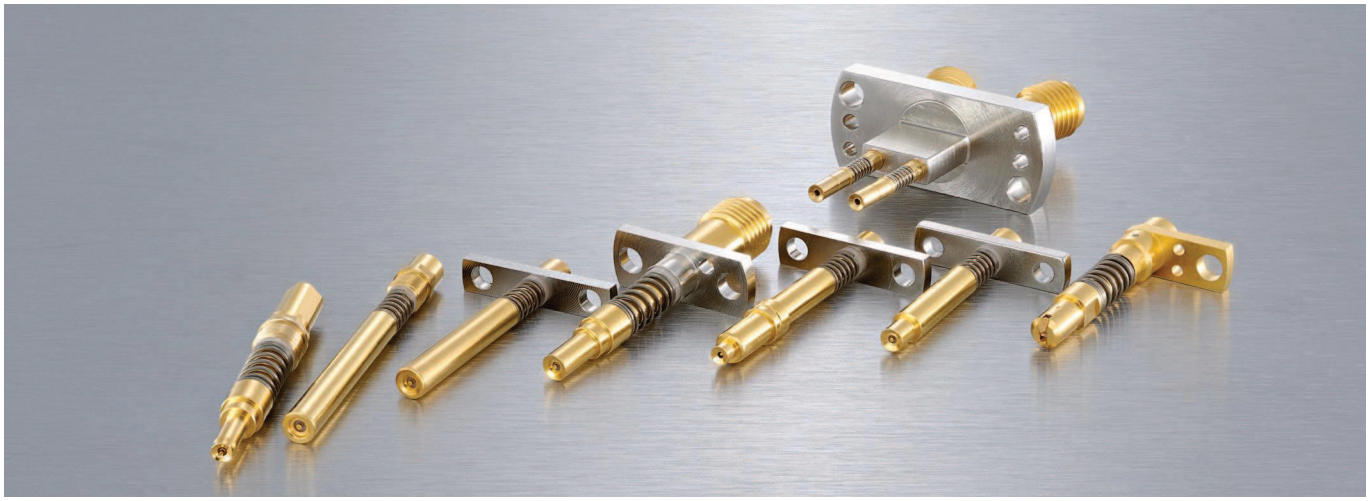
| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| H-MTD® Male |  |  | 14 GHz | with flange | H-MTD-F | NEW HF77-0003BG01-1 | |
| 4-fold HFM® Male |  |  | 12 GHz | pluggable | M-SMP | HF77-0001BG04-1 | |
| 1-fold HFM® Male |  |  | 12 GHz | pluggable | M-SMP | HF7716B0001G530 | |
| 4-fold MATE-AX ® Male |  |  | 12 GHz | pluggable | M-SMP | HF77-0002BG04-1 | |
| 1-fold MATE-AX ® Male |  |  | 12 GHz | pluggable | M-SMP | HF7716B0002G530 | |
| PCB-GSG |  |  | 6 GHz | with flange | M-SMP | HF05-0001 | |
| PCB-GSG |  |  | 6 GHz | with flange | M-SMP | HF05-0002 | |

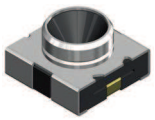
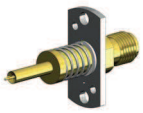
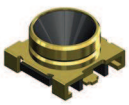
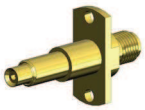
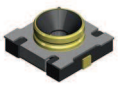
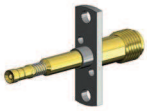
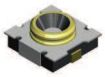
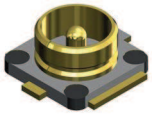
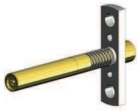
# COAXIAL PROBES FOR RADIO FREQUENCY MEASUREMENTS

| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| Fakra-Male |  |  | 6 GHz | with flange | MCX | NEW HF66-0017 | |
| SMP-Male |  |  | 18 GHz | with flange | SMA | NEW HF66-0018 | |
| HSC-Male |  |  | 6 GHz | pluggable | M-SMP | HF66-0006 | |
| HSC-Male |  |  | 6 GHz | with flange | SMA | HF66-0008 | |
| JSC-Male |  |  | 6 GHz | pluggable | M-SMP | HF66-0002 | |
| JSC-Male |  |  | 6 GHz | pluggable | M-SMP | HF66-0010 | |
| JSC-Male |  |  | 6 GHz | with flange | SMA | HF66-0012 | |

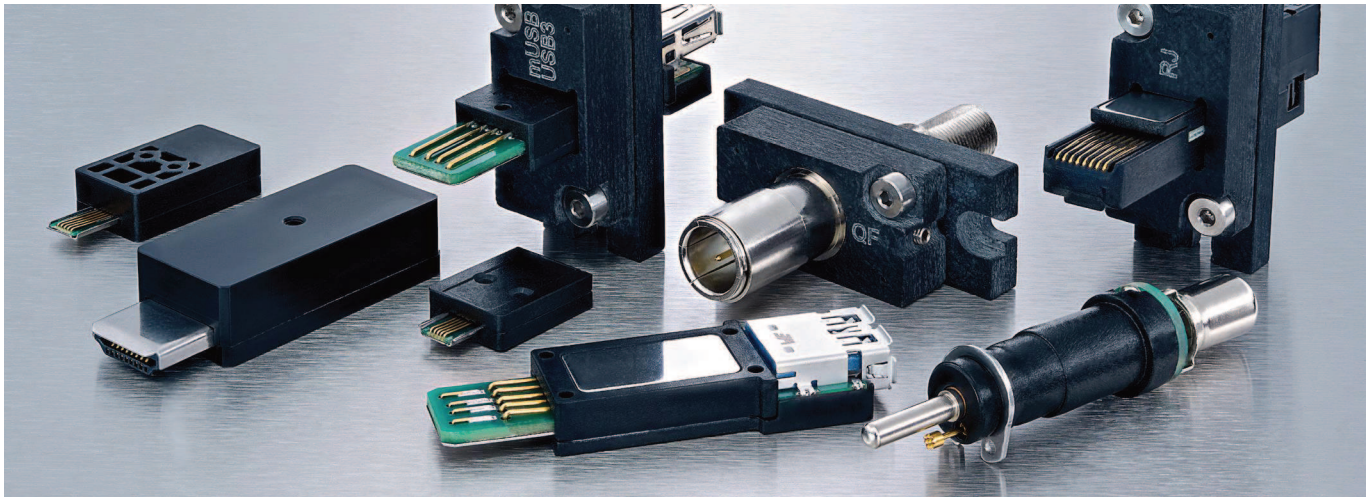
| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| KSC-(Switch) |  |  | 6 GHz | with flange | SMA | HF66-0003 | |
| KSC-(Switch) |  |  | 6 GHz | with flange | M-SMP | HF66-0005 | |
| KSC-(Switch) |  |  | 6 GHz | with flange | M-SMP | HF66-0016 | |
| LSC-Male |  |  | 6 GHz | with flange | M-SMP | HF66-0004 | |
| LSC-Male |  |  | 6 GHz | with flange | SMA | HF66-0011 | |
| MHF-Male |  |  | 6 GHz | with flange | M-SMP | HF66-0014 | |
| MHF5-Male |  |  | 6 GHz | with flange | M-SMP | HF66-0016 | |

# COAXIAL PROBES FOR RADIO FREQUENCY MEASUREMENTS



| Connector | | Probe | Frequency | Mounting | Connection | Order number | Data sheet |
|---|---|---|---|---|---|---|---|
| SWD/ SWF/ SWG - (Switch) |  |  | 6 GHz | with flange | SMA | HF66-0013 | |
| SWF- (Switch) |  |  | 6 GHz | with flange | SMA | HF66-0015 | |
| SWG- (Switch) |  |  | 6 GHz | with flange | SMA | HF66-0007 | |
| SWH- (Switch) |  |  | 6 GHz | pluggable | SMA | HF66-0009 | |
| SWJ- (Switch) |  |  | 6 GHz | with flange | M-SMP | HF66-0001 | |
| U.FL Male |  |  | 6 GHz | with flange | M-SMP | HF66-0014 | |

# CONTACTS FOR COMMON CONNECTOR TYPES



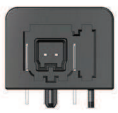

## Long-life test connectors for in-circuit, functional and wire harness testing

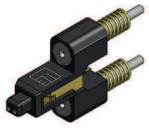
The need for contacting common USB, RJ or HDMI connector types is not only increasing in the **in-circuit and functional test** of printed circuit boards, but is also becoming more and more important in the **wire harness test**.

**Advantages when using FEINMETALL test connectors**

- Very high contact cycles; up to 200,000 (depending on test specimen)
- Test connectors do not snap into the DUT compared to normal plugs
- Unnecessary loading or damage to the contact springs in the test piece is avoided
- fixture-side connection of the test connector is very simple and solder-free, using a standard connector (plug and play). In case of maintenance, it is very easy to replace the test connector.

**MATEnet®**

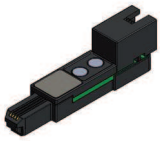




NEW

**TC-P 000 002 MATEnet**
**Order code:** 2112849
Max. data rate: 500MHz
Number Poles: 2

**RJ 09**

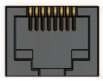


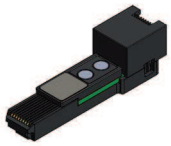
**TC-P 201 004 RJ 09**
**Order code:** 2112151
Max. data rate: 1 Gbit/s
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: 4

**RJ 11**

**TC-P 201 006 RJ 11**
**Order code:** 2112152
Max. data rate: 1 Gbit/s
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: 6

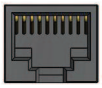
**RJ 45**

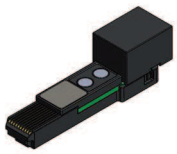




**TC-P 201 008 RJ 45**
**Order code:** 2112142
Max. data rate: 1 Gbit/s
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: 8

**RJ 50**





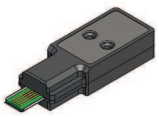
**TC-P 201 010 RJ 50**
**Order code:** 2112153
Max. data rate: 1 Gbit/s
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: 10

# CONTACTS FOR COMMON CONNECTOR TYPES

**Micro-USB**

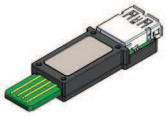
**TC-P 195 005 USB 2.0 B micro**
**Order code:** 2112145
Max. data rate: 480 Mbit/s
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: 5

**Mini-USB**



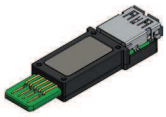
**TC-P 198 005 USB 2.0 B mini**
**Order code:** 2112757
Max. data rate: 480 Mbit/s
Contact cyles: 200.000
Current: 1,0 A at 25°C
Number Poles: 5

**USB Type A**



**TC-P 198 004 USB 2.0 A**
**Order code:** 2112143
Max. data rate: 480 Mbit/s
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: 4

**USB Type A**

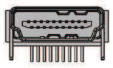


**TC-P 198 009 USB 3.0 A**
**Order code:** 2112159
Max. data rate: 4 Gbit/s
Contact cyles: 50.000
Current: 1,5 A at 25°C
Number Poles: 9

**USB Type C**

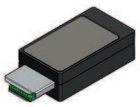
**TC-P 756 024 USB 3.1 C**
**Order code:** 2112853
Max. data rate: 5 Gbit/s
Contact cyles: 50.000
Current: 5,0 A at 25°C
Number Poles: 24

**HDMI 1.4**



**TC-P 197 019 HDMI 1.4**
**Order code:** 2112148
Max. data rate: 8,16 Gbit/s
Contact cyles: 50.000
Current: 0,5 A at 25°C
Number Poles: 19

**HDMI 2.0**



**TC-P 226 019 HDMI 2.0**
**Order code:** 211218
Max. data rate: 14,4 Gbit/s
Contact cyles: 50.000
Current: 0,5 A at 25°C
Number Poles: 19

**F-Type for SAT / Loop**

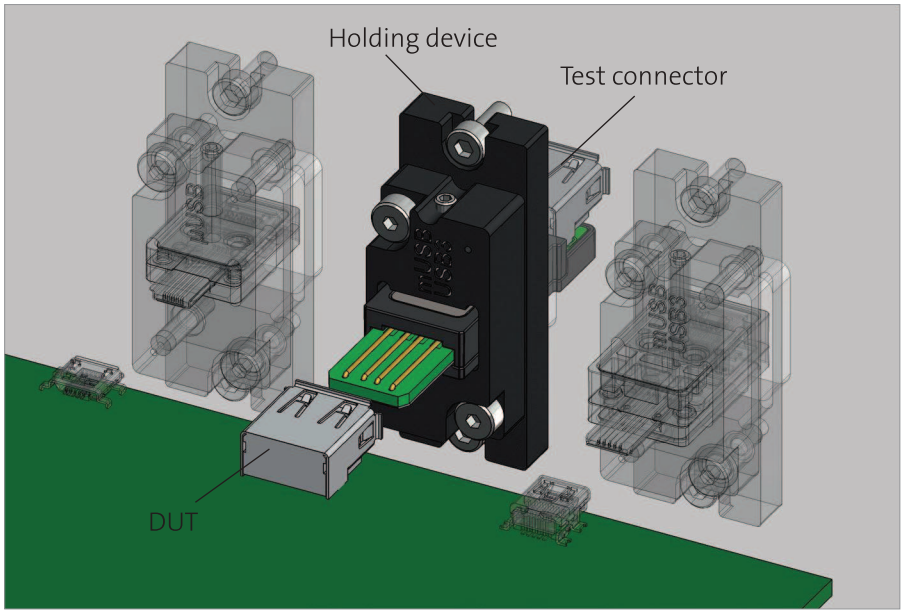
**TC-P 196 001 F QF**
**Order code:** 2112149
Max. data rate: 300 khz - 3 Ghz
Contact cyles: 50.000
Current: 1,5 A at 25°C
Number Poles: (Coaxial)

**RCA (Chinch) audio/video**

**TC-P 200 002 RCA**
**Order code:** 2112150
Max. data rate: 500 khz
Contact cyles: 200.000
Current: 1,5 A at 25°C
Number Poles: (Coaxial)

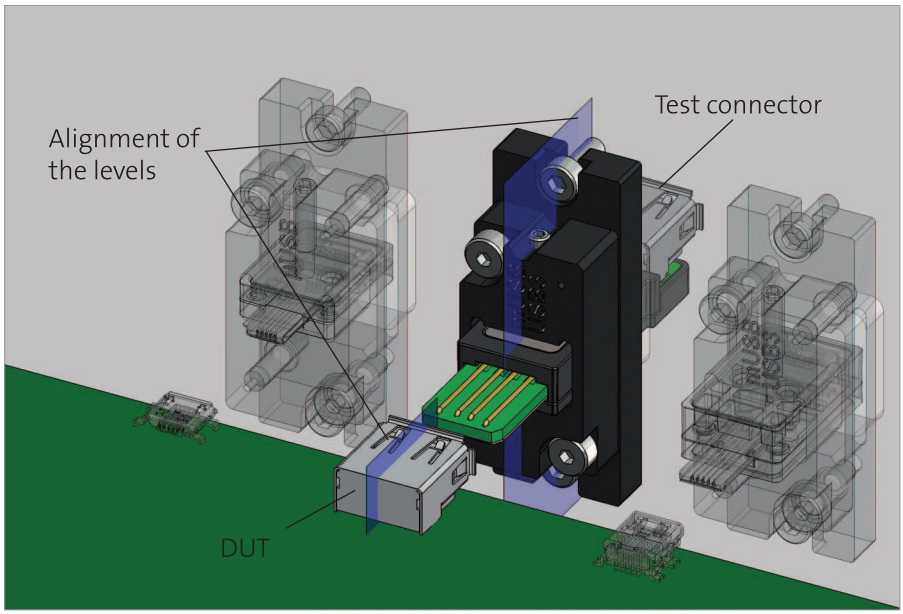
# MOUNTING OF TEST CONNECTORS

Choose the test connector and holding device according to your needs.
In this example: USB

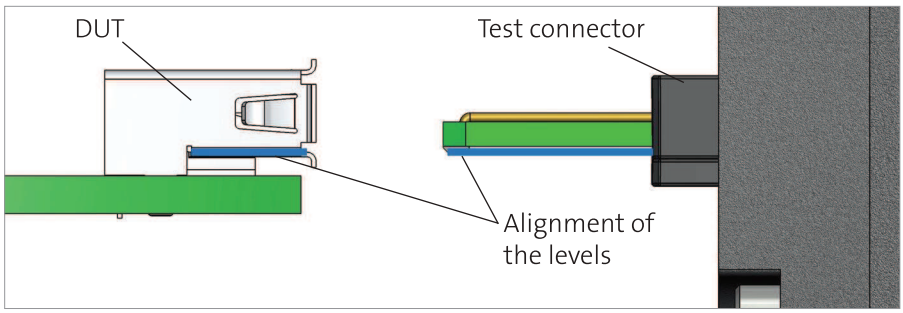



Please note the following guidelines for building up a test fixture

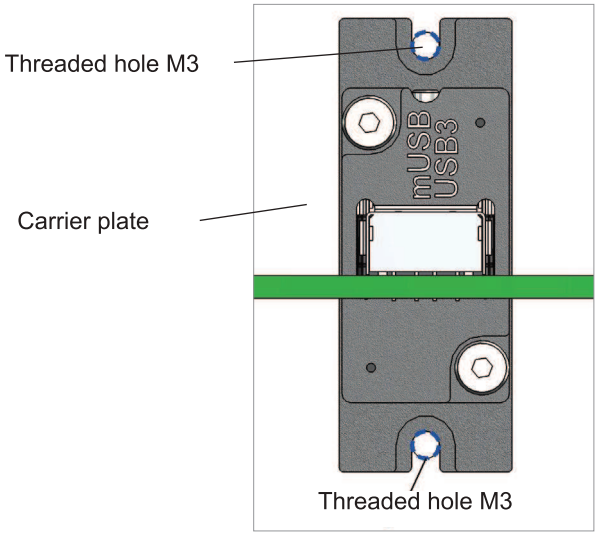
Align the median level of the connector to be tested (DUT) and of the test connector.



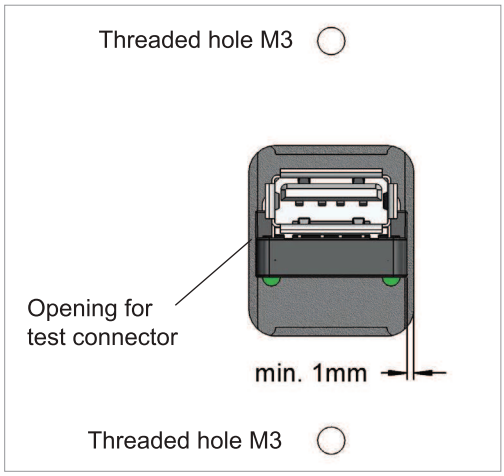

Align the lower level of the test connector on the lower internal level of the connector to test (DUT)

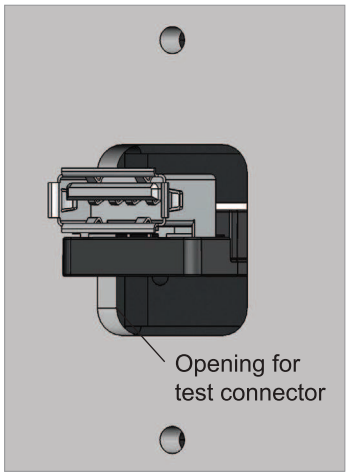


Place two opposite threaded holes M3 onto the carrier plate. For fixing of the holding device, two screws M3x8 (ISO4768) are required - **not included in delivery!**



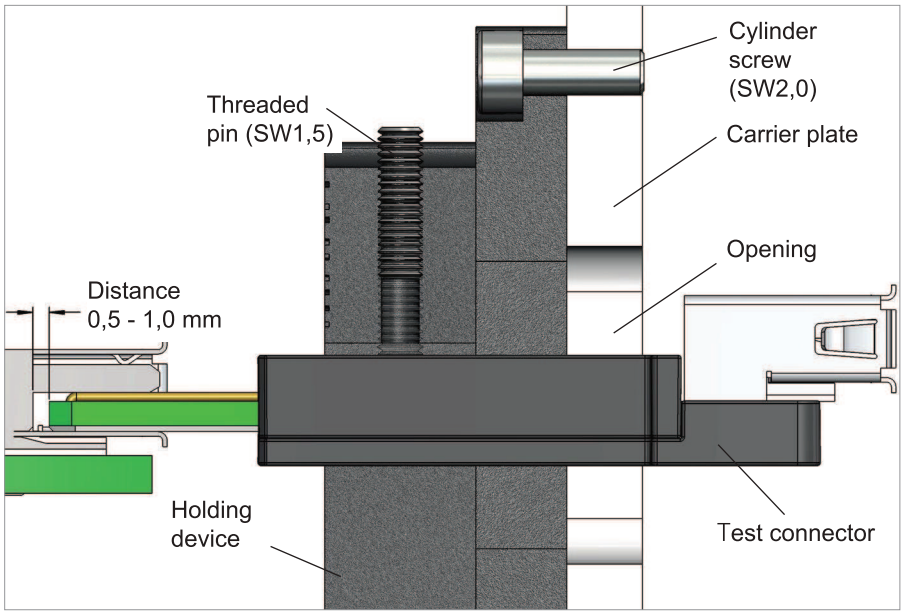

Cut a sufficient opening into the carrier plate to have enough space for later insertion of the test connector from the back. Leave at least 1 mm space between opening and test connector.



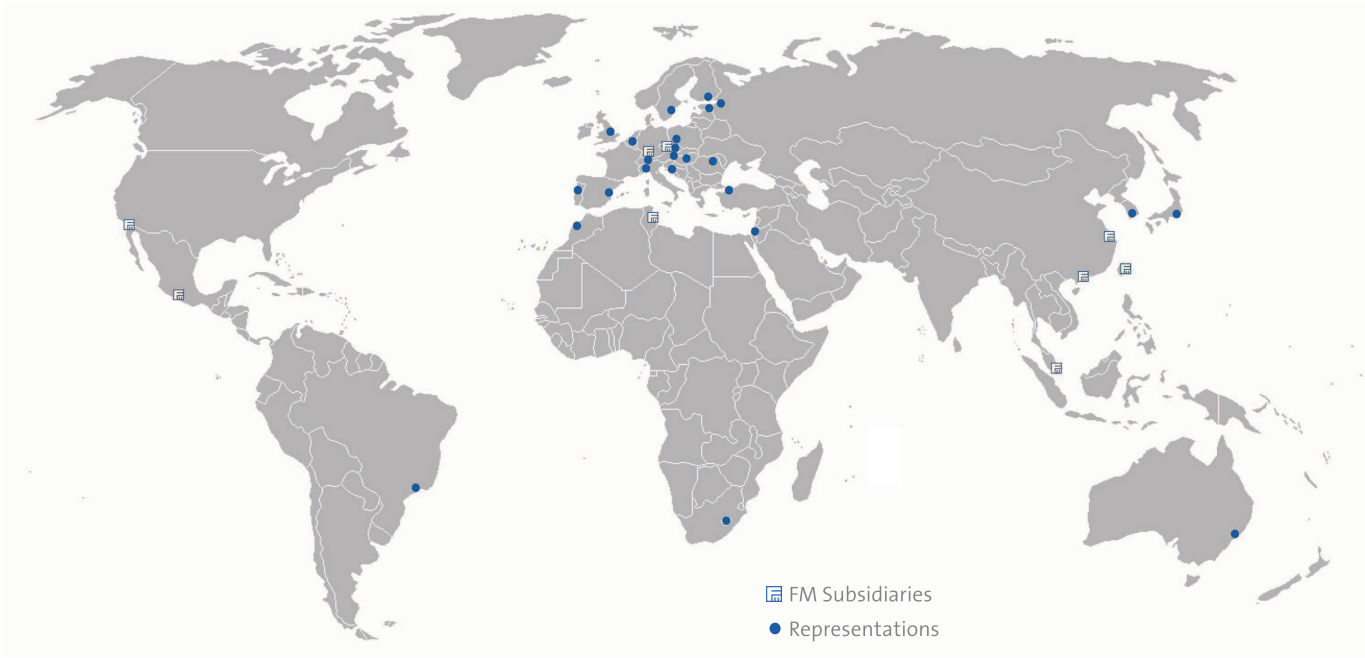




Loosen the retaining screw of the test connector.
Insert the test connector into the DUT until it comes to rest. Retract the test connector for 0.5 to 1 mm in order to prevent damages of the DUT.

Now the test connector can be fixed by using the threaded pin.



# INTERNATIONALLY POSITIONED FOR YOU





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