TEST-OK

Catalog

Systems | Storage | Module Material | Probes

221104

TEST-OK

Efficient Test Design, Powerful Test Software, Modular Test Fixtures

Founded in 2008 and based in the Netherland, TEST-OK offers a smart and unique test system that allows product and manufacturing organizations to meet their test requirements. With the development of functional test systems from start to finish for a large scope of assemblies on one platform, we help clients to increase test development productivity and reduce costs.

TEST-OK provides a wide range of standard module materials to efficiently design and build a dedicated Test Module for an assembly. To design and create the required test routines TEST-OK includes TEST-TRACK; powerful Test Software, easy to learn and to apply thanks to TEST-TRACK's intuitive script language and the hundreds of ready-to-use test routines. Debugging, adjusting and optimizing the tests, as well as the final product testing can all be done on the modular and robust TEST-OK Test Fixture. TEST-TRACK's administration component includes, among other things, track and trace functionality, storage of test results in either a MySQL or MSSQL database and report possibilities. TEST-OK systems are used by organizations in industrial, consumer, automotive, telecom and medical electronics and the EMS industry.

Effizientes Test Design, Leistungsstarke Test Software Zur Anwendung modulare Prüfadapter

Gegründet wurde das niederländische Unternehmen TEST-OK im Jahr 2008. Die Idee dabei war, ein intelligentes und einzigartiges Testsystem für Produkt- und Fertigungsunternehmen zu bieten, damit Testanforderungen für elektronische Baugruppen oder bestückter Leiterplatten erfüllt werden können. Mit der Entwicklung von Funktionstestsystemen von Anfang bis zum Ende, geeignet für eine große Vielfalt an Baugruppen auf einer Plattform, helfen wir unseren Kunden Ihre Testentwicklungs-Produktivität zu steigern und Kosten zu senken.

TEST-OK bietet eine breite Palette von Standard-Modulen und Materialien um effizient ein dediziertes Testmodul für eine Baugruppe zu entwerfen und zu erstellen. Für die erforderlichen Testroutinen umfasst das TEST-OK System der Programm TEST-TRACK, eine leistungsstarke Testsoftware. Dank der intuitiven Skriptsprache TEST-TRACKs und der Vielzahl von ready-to-use Testbefehlen, ist diese einfach zu erlernen und anzuwenden. Debugging, die Anpassung und Optimierung der Tests sowie die abschließende Produktprüfung können alle auf den modularen und robusten TEST-OK-Testadapter erfolgen. Die TEST-TRACKs Verwaltungskomponente enthält unter anderem eine Track & Trace-Funktionalität, Speicherung von Testergebnissen in einer MySQL oder MSSQL Datenbank und Dokumentationsmöglichkeiten der Testergebnisse.
TEST-OK-Systeme finden Anwendung in der Industrie-, Konsum-, Automobil-, Telekommunikations- und Medizinelektronik, sowie im EMS Bereich.

Contents

Dual Side Contact Systems

The TEST-OK Dual Side Contact Systems series provides a flexible and robust system for building your functional test. Whether testing single boards, panels, or groups, TEST-OK offers mechanical and electrical solutions which can easily be applied by customers. The integrated software package includes comprehensive test scripting capabilities, ensuring short development times.

The system itself can be used for an unlimited number of TEST-OK ‘modules’, meaning that large or small quantities of multiple different products can all be handled on the same system. The modules themselves consist of standard components, which are presented in this catalog. These components, along with custom module boards made from PCB material, can be combined and configured to meet all our customer’s testing demands.

We offer test systems with varying capabilities, such as the maximum amount of contacts with the Unit Under Test (UUT). Every system is compatible with our hardware solutions, such as the Test Controller Card TCC 1800-UE, which can be controlled over the Ethernet, and provides all industry standard communication interfaces.

All TEST-OK hardware is compatible with TEST-TRACK, a powerful database based software solution for the building of tests, administration of results, and printing of labels and documents.

Several systems are available as mechanical solutions only, with DIN 41612 connectors on the rear of the test system, or with a system into which customer specific cards can be integrated.

Dual Side Contact System

TOK 4000 Systems

Description	4000-BPL	4000-AQ
Two-sided probing	Y	Y
Max. no of contacts	604	412
Expansion Board (96 pins)	Y	N
TCC 1800-UE	Y	Y
Bottom Module contacts	288	192
Top Module contacts	288	192
Available with DIN 41612 connectors	N	Y
Top Module	Y	Y
Magnetic Downholder System	N	N
TEST-OK Module System	Y	Y

TEST-OK 4000-BPL

Description

The TEST-OK 4000-BPL provides a complete mechanical test solution: contacting from the top and bottom of the UUT at the same time, highly robust and precise mechanics, and the possibility to place a customer specific Expansion Board into the rear of the system for an extra 96 contacts. The Expansion Board has a bezel which can be machined by the customer to create specific outputs for external instrumentation, programmers, or power supplies. The Top Module system can be adjusted to three different height. If necessary the Magnetic Downholder System can be implemented with this system.

The TEST-OK 4000-BPL is only available with the TCC 1800-UE Test Controller Card. The 2X24VAC power supply option can also be included in the system.

Key features

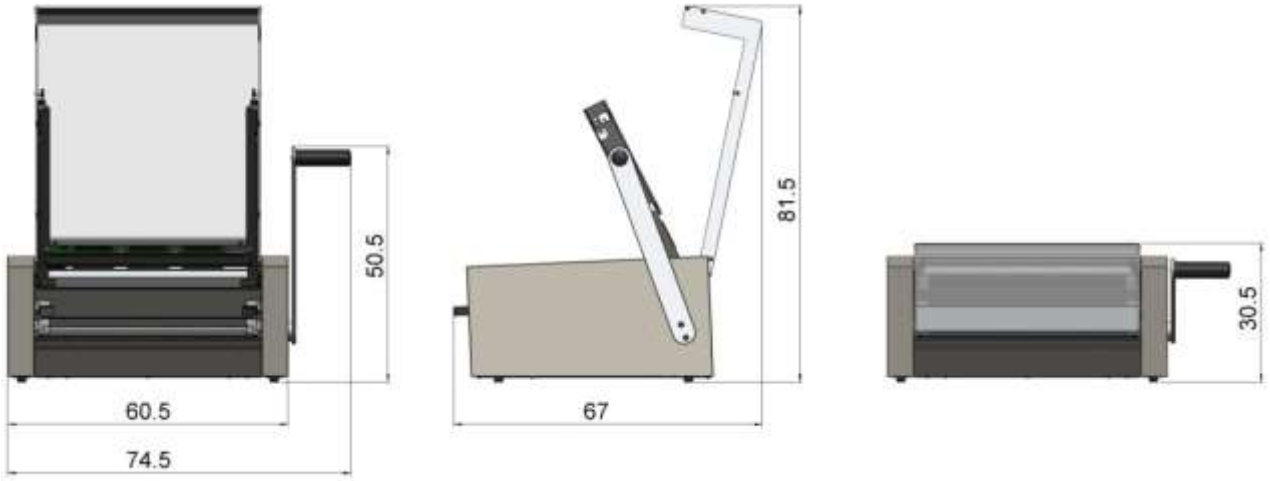
- Two-sided probing of UUT
- Max. no of contacts: 604
- Available with Expansion Board (96 pins)
- Compatible with TCC 1800-UE Test Controller Card
- 288 contacts for Bottom and Top modules
- Maximum 400N on UUT (approx. 400 test probes of 100 gr)
- Compatible with interchangeable TEST-OK Module system

TEST-OK 4000-BPL

Specifications

Dimensions	605 x 565 x 305 mm (w x d x h)
Weight	35 kg
Power	Voltage Range: 100-240 VAC ±10% auto switch Frequency Range: 45-65 Hz
Operating environment	Temperature: +5° to 40°C Humidity: 20-85% non-condensing free air
Max. UUT size	390 x 390 mm
Min. pitch of UUT test pads	50 mil

Dimensions



How to order

TOK 4000	-	BPL	-	1800UE	-	24	-	1
Series		Mechanics		Hardware		24 VAC		Top Module
TOK 4000		BPL		TCC1800UE		0 = without 24 = with		0 = without 1 = with

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Dual Side Contact System

TEST-OK 4000-AQ

Description

The TEST-OK 4000-AQ provides a complete mechanical test solution: contacting from the top and bottom of the UUT at the same time, highly robust and precise mechanics.

The TEST-OK 4000-AQ comes with the high end TCC 1800-UE controller card. The Top Module system can be adjusted in 3 different heights. If necessary, the Magnetic Downholder System can be used.

The TEST-OK 4000-AQ is available with the 2X24VAC power supply option.

Key features

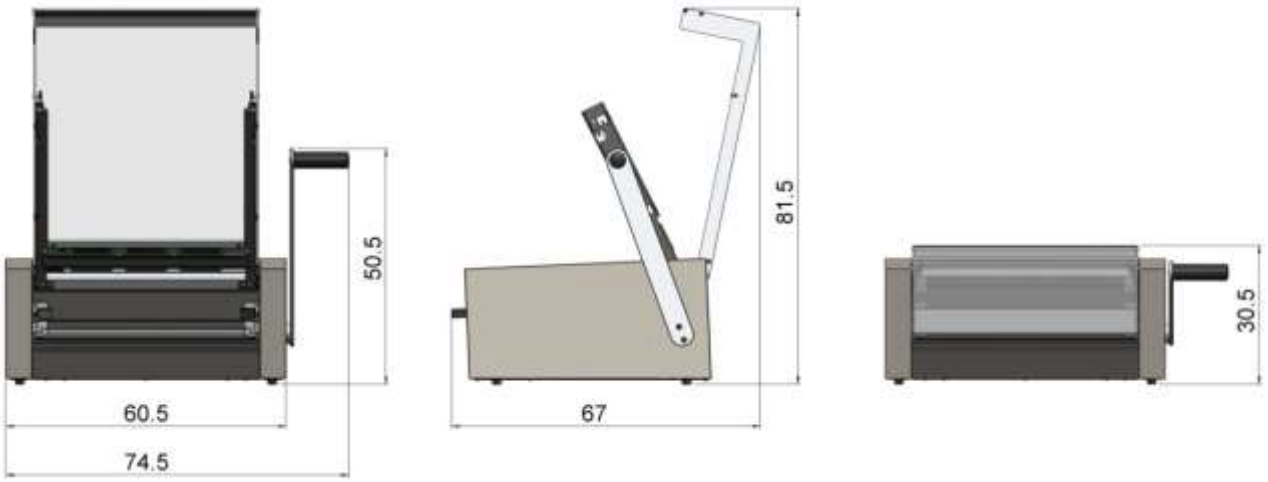
- Two-sided probing of UUT
- Max. no of contacts: 412
- Compatible with TCC 1800-UE Test Controller Card
- 192 contacts for Bottom and Top modules
- Available with DIN 41612 connectors by FEED-THROUGH Card
- Maximum 400N on UUT (approx. 400 test probes of 100 gr.)
- Compatible with interchangeable TEST-OK Module system

Specifications

Dimensions	605 x 565 x 305 mm (w x d x h)
Weight	35 kg
Power	Voltage Range: 100-240 VAC ±10% auto switch Frequency Range: 45-65 Hz
Operating environment	Temperature: +5° to 40°C Humidity: 20-85% non-condensing free air
Max. UUT size	390 x 390 mm
Min. pitch of UUT test pads	50 mil

TEST-OK 4000-AQ

Dimensions



TOK 4000-AQ-TCC1800UE

TOK 4000-AQ mechanics with TCC 1800-UE.

- Optional 2x24 VAC Power Supply with cover switch
- Optional Top module connection system with 192 contacts

TEST-OK 4000-AQ

TOK 4000-AQ-FT

The TOK 4000-AQ system without electronics. It includes the Feed Through card instead of a TCC card. The TOK 4000-AQ-FT can be used in combination with external electronics. It includes an internal power supply allowing the FEED-THROUGH card to be interchanged with a TEST-OK Test Controller Card.

- Optional 2x24 VAC Power Supply with cover switch
- Optional Top module connection system with 192 contacts

TOK 4000-AQ-E

The TOK 4000-AQ system without electronics. It can be customized with electronics with the form factor of a TEST-OK Test Controller Card.

- Optional Top module connection system with 192 contacts
- Optional customer specific internal AC – DC power supply

How to order

TOK 4000	-	AQ	-	1800UE	-	24	-	1
Series		Mechanics		Hardware		24 VAC 1)		Top Module
TOK 4000		AQ		TCC1800UE FT E		0 = without 24 = with		0 = without 1 = with

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Single Side Contact System

The TEST-OK Single Side Contact System series provides a flexible and robust system for building your functional test. Whether testing single boards, panels, or groups, TEST-OK offers mechanical and electrical solutions which can easily be applied by customers. The integrated software package includes comprehensive test scripting capabilities, ensuring short development times.

The system itself can be used for an unlimited number of TEST-OK ‘modules’, meaning that large or small quantities of multiple different products can all be handled on the same system. The modules themselves consist of standard components, which are presented in this catalog. These components, along with custom module boards made from PCB material, can be combined and configured to meet all our customer’s testing demands.

The TEST-OK Single Side Contact System can be equipped with a Magnetic Downholder System for testing of panels.

We offer test systems with varying capabilities, such as the maximum amount of contacts with the Unit Under Test (UUT). Every system is compatible with our hardware solutions, such as the Test Controller Card TCC 1800-UE, which can be controlled over the Ethernet, and provides all industry standard communication interfaces.

All TEST-OK hardware is compatible with TEST-TRACK, a powerful database based software solution for the building of tests, administration of results, and printing of labels and documents.

Several systems are available as mechanical solutions only, with DIN 41612 connectors on the rear of the test system, or with a system into which customer specific cards can be integrated.

Single Side Contact System

TOK 4000 Systems

Description	4000-B-BPL	4000-B
Two-sided probing	N	N
Max. no of contacts	302	206
Expansion Board (96 pins)	Y	N
TCC 1800-UE	Y	Y
Bottom Module contacts	288	192
Top Module contacts	N/A	N/A
Available with DIN 41612 connectors	N	Y
Top Module	N	N
Magnetic Downholder System	Y	Y
TEST-OK Module System	Y	Y

TOK 4000-B-BPL			17
TOK 4000-B			19

Single Side Contact System

TOK 4000-B-BPL

Description

Please note:
The following illustrations shows a system with the Magnetic Downholder cover option

The TEST-OK 4000-B provides a complete mechanical test solution which offers one-side test probe contacting of the UUT and the possibility to place a customer specific Expansion Board into the rear of the system for an extra 96 contacts. The Expansion Board has a bezel which can be machined by the customer to create specific outputs for external instrumentation, programmers, or power supplies.

The TOK 4000-B-BPL can deliver forces of up to 400 N to the UUT due to the integrated innovative Magnetic Downholder System, and is therefore a powerful and efficient test tool.

The TOK 4000-B-BPL is only available with the TCC 1800-UE Test Controller Card. The 2X24VAC power supply option can also be included in the system.

Specifications

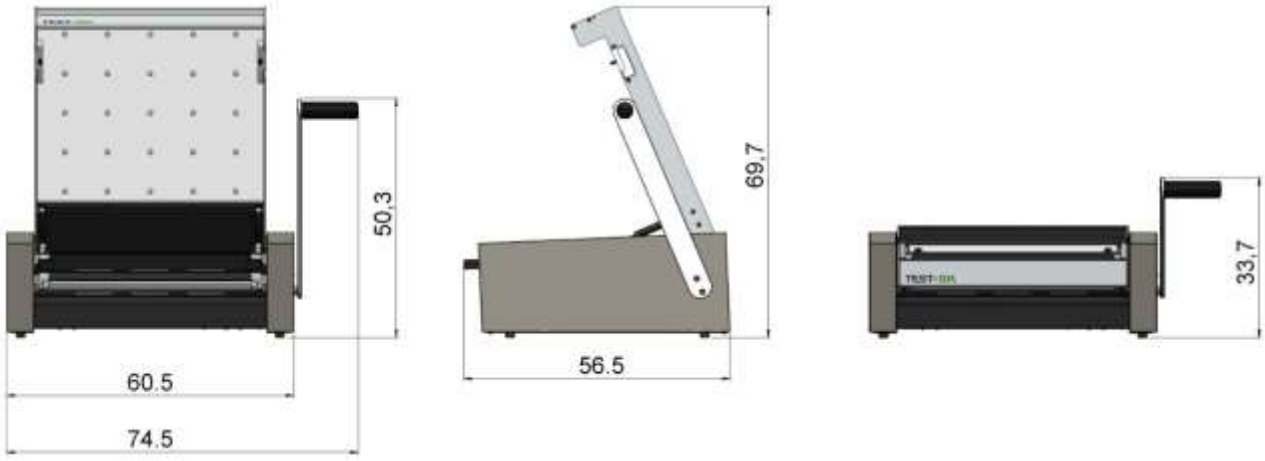
Dimensions	605 x 565 x 240 mm (w x d x h)
Weight	30 kg
Power	Voltage Range: 100-240 VAC ±10% auto switch Frequency Range: 45-65 Hz
Operating environment	Temperature: +5° to 40°C Humidity: 20-85% non-condensing free air
Max. UUT size	390 x 390 mm
Min. pitch of UUT test pads	50 mil

Key features

- One-sided probing of UUT
- Max. no of contacts: 302
- Compatible with TCC 1800-UE Test Controller Card
- 288 Bottom Module contacts
- Magnetic Downholder System supported
- Maximum 400N on UUT (approx. 400 test probes of 100 gr)
- Compatible with interchangeable TEST-OK Module system

TOK 4000-B-BPL

Dimensions



TOK 4000-B-BPL

The TOK 4000-B system with a backplane, and therefore a slot for an expansion board. This configuration includes a TCC 1800UE.

- Optional 2x24 VAC Power Supply with cover switch
- Optional Magnetic Downholder System
- Available with Expansion Board (96 pins)

How to order

TOK 4000	-	B	-	1800UE	-	1	-	1
Series		Mechanics		Hardware		24 VAC 1)		Downholder Cover
TOK 4000		B		BPL		0 = without 1= with		0 = without 1 = with

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TEST-OK 4000-B

Description

Please note:
The following illustrations shows a system with the Magnetic Downholder cover option

The TEST-OK 4000-B provides a complete mechanical test solution which offers one-side test probe contacting of the UUT. The TOK 4000-B can deliver forces of up to 400 N to the UUT due to the integrated innovative Magnetic Downholder System, and is therefore a powerful and efficient test tool.

The TEST-OK 4000-B is available with the TCC1800-UE.

The TOK 4000-B is also compatible with the 2x24 VAC power supply option, as long as a Test Controller Card is integrated.

Specifications

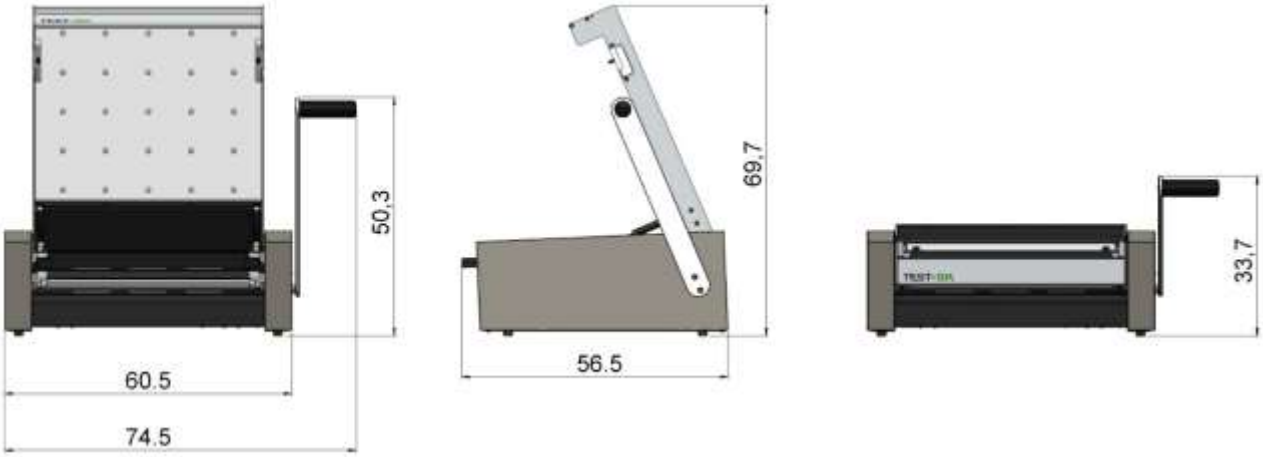
Dimensions	605 x 565 x 240 mm (w x d x h)
Weight	30 kg
Power	Voltage Range: 100-240 VAC ±10% auto switch Frequency Range: 45-65 Hz
Operating environment	Temperature: +5° to 40°C Humidity: 20-85% non-condensing free air
Max. UUT size	390 x 390 mm
Min. pitch of UUT test pads	50 mil

Key features

- One-sided probing of UUT
- Max. no of contacts: 206
- Compatible with TCC 1800-UE Test Controller Card
- 192 Bottom Module contacts
- Magnetic Downholder System supported
- Available with DIN 41612 connectors by FEED-THROUGH Card
- Maximum 400N on UUT (approx. 400 test probes of 100 gr)
- Compatible with interchangeable TEST-OK Module system

TEST-OK 4000-B

Dimensions



TOK 4000-B-TCC1800UE

TOK 4000-B mechanics with TCC 1800-UE.

- Optional 2x24 VAC Power Supply with cover switch
- Optional Magnetic Downholder Cover

TEST-OK 4000-B

TOK 4000-B-FT

The TOK 4000-B system without electronics. It includes the Feed Through card instead of a TCC card. The TOK 4000-B-FT can be used in combination with external electronics. It includes an internal power supply allowing the FEED-THROUGH card to be interchanged with a TEST-OK Test Controller Card.

- Optional 2x24 VAC Power Supply with cover switch
- Optional Magnetic Downholder Cover

TOK 4000-B-E

The TOK 4000-B system without electronics. It can be customized with electronics with the form factor of a TEST-OK Test Controller Card.

- Optional Magnetic Downholder System
- Optional customer specific internal AC – DC power supply

How to order

TOK 4000	-	B	-	1800UE	-	1	-	1
Series		Mechanics		Hardware		24 VAC 1)		Magnetic Downholder Cover
TOK 4000		B		TCC1800UE FT E		0 = without 1= with		0 = without 1 = with

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

1) Not available for TOK 4000-B-E.

19 Inch System

The 19 Inch TEST-OK System offers the TCC1800-UE controller card in a 19 inch rack or desktop set-up, in order to control a custom test setup. This offer the possibility to have all outputs on DIN 41612 connectors on the front side of the rack/desktop, or to integrate an internal Expansion Board, adding custom electronics by defining a customer specific connector interface.

These systems are mainly used to test assembled products or to control in-line test solutions.

19 Inch System with Expansion Board

The 19" System is a versatile device with multiple functions. The model with an Expansion Board presented here is available as a rack mount device as well as a desktop model.

The rack mount version is used as an in-line test system when connected to an in-line bed of nails.

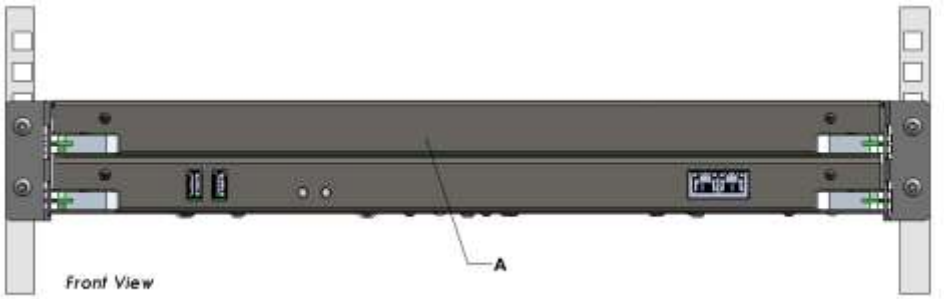
The desktop model allows for the automatic testing of small batches over external connectors.

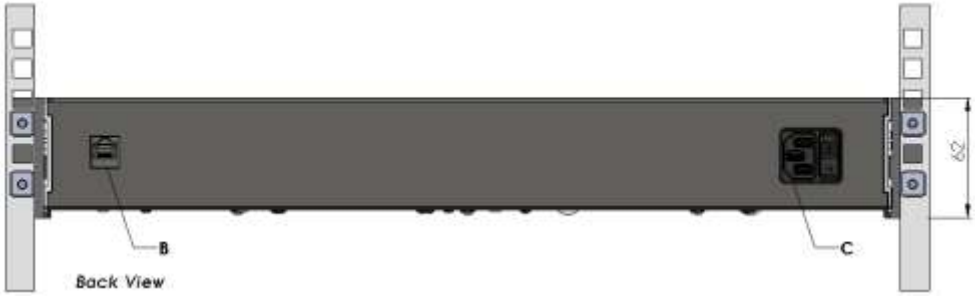
The integrated TCC 1800 UE card has the additional advantage of being compatible with the TEST-OK 4000-BPL and is therefore interchangeable between the two systems.

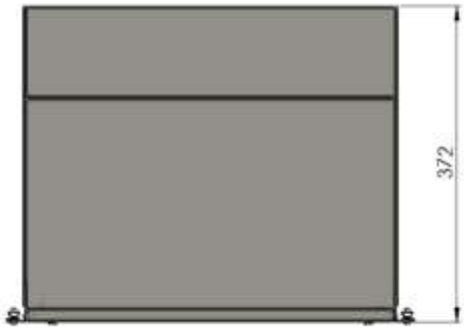
The Expansion Board allows implementation of additional electronics between the TCC 1800-UE card and the user's own system. It also provides the opportunity to connect the 19" System to customer specific connectors.

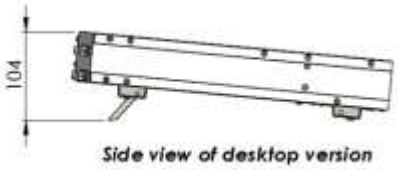
(See 19" System with Flat cable for alternative models.)

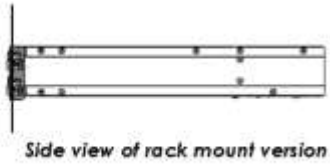
Dimensions (mm)











Width:	**443 mm**
Depth:	**372 mm**
Height:	**62 mm**

Power Supply

Input:	100 – 240 V AC 2,2 A
Output:	27 V DC 5,6 A

Connectors

A:	Outputs on the bezel of this expansion board can be designed specifically to the user's requirements.
B:	Ethernet (10/100 Mbps)
C:	Mains connector with switch

Expansion Board

For information and specifications regarding the Expansion Board, please refer to the following document: 'Expansion Board for 19" System'.

19 Inch System with Expansion Board

Fasteners (included with Rack Mount)

Caged nut M5:	Farnell # SCF009
Torx screw M5:	ISO 7380TX - M5 x 16

TCC 1800-UE

Connectors

USB (2x)

Ethernet (2x)

Customized bezels can be ordered on request

How to order

19” Desktop	- Expanded	- 1800-UE
19” System Series	Version	TCC
19” Desktop 19” Rack Mount	Flat cable Expanded	1800UE

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

19 Inch System with Flat cables

The 19" System is a versatile device with multiple functions. The model with flat cables presented here is available as a rack mount device as well as a desktop model.

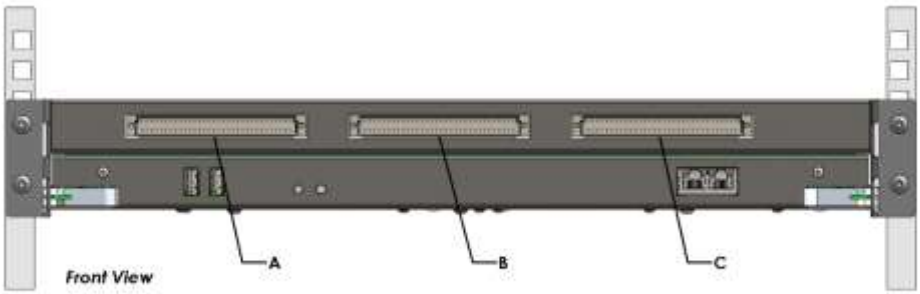
The rack mount version is used as an in-line test system when connected to an in-line bed of nails.

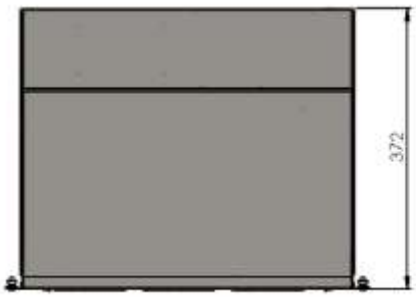
The desktop model allows for the automatic testing of small batches over external connectors.

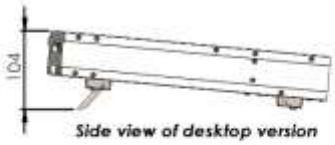
The integrated TCC 1800 UE card has the additional advantage of being compatible with the TEST-OK 4000-BPL and is interchangeable between the two systems.

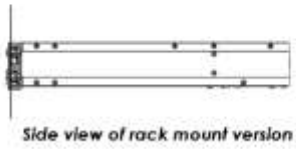
(See 19" System with Expansion Board for alternative models.)

Dimensions (mm)









Width: **443 mm**
Depth: **372 mm**
Height: **62 mm**

Power Supply

Input:	100 – 240 V AC 2,2 A
Output:	27 V DC 5,6 A

Connectors

A, B, & C:	3M - 3695-0000 - PLUG DIN41612 IDC 64WAY (3x)
Mates with:	DIN 41612 Type C sockets
D:	Ethernet (10/100 Mbps)
E:	Mains connector with switch

Fasteners (included with Rack Mount)

Caged nut M5:	Farnell # SCF009
Torx screw M5:	ISO 7380TX - M5 x 16

19 Inch System with Flat cables

TCC 1800-UE

Connectors

USB (2x)
Ethernet (2x)

Customized bezels can be ordered on request.

How to order

19" Desktop	-	Flatcable	-	1800-UE
19" System Series		Version		TCC
19" Desktop 19" Rack Mount		Flatcable Expanded		1800UE

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Trolley

For the quality and continuity of your tests, the ESD-safe and damage-free handling, storage and transport of TEST-OK Modules is important.

Every TEST-OK system fits on top of the storage system, thus creating a flexible workplace suitable for development, testing and production.

Available as a lockable ESD-safe cabinet with adjustable feet and as a trolley, equipped with anti-static wheels including brake. It is possible to mount two cabinets together for more storage.

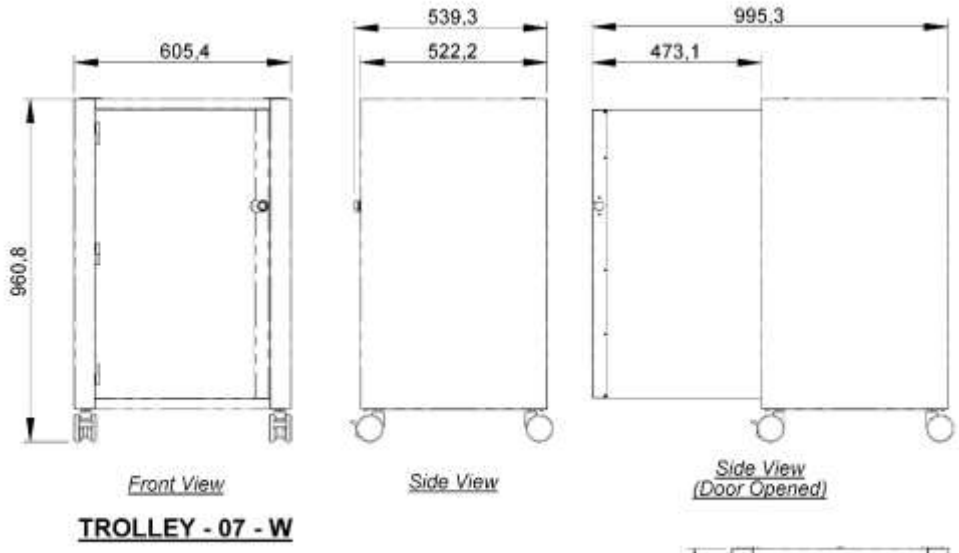
The capacity for one trolley is 7 sets of modules (a combination of Bottom and Positioning Modules).

Trolley

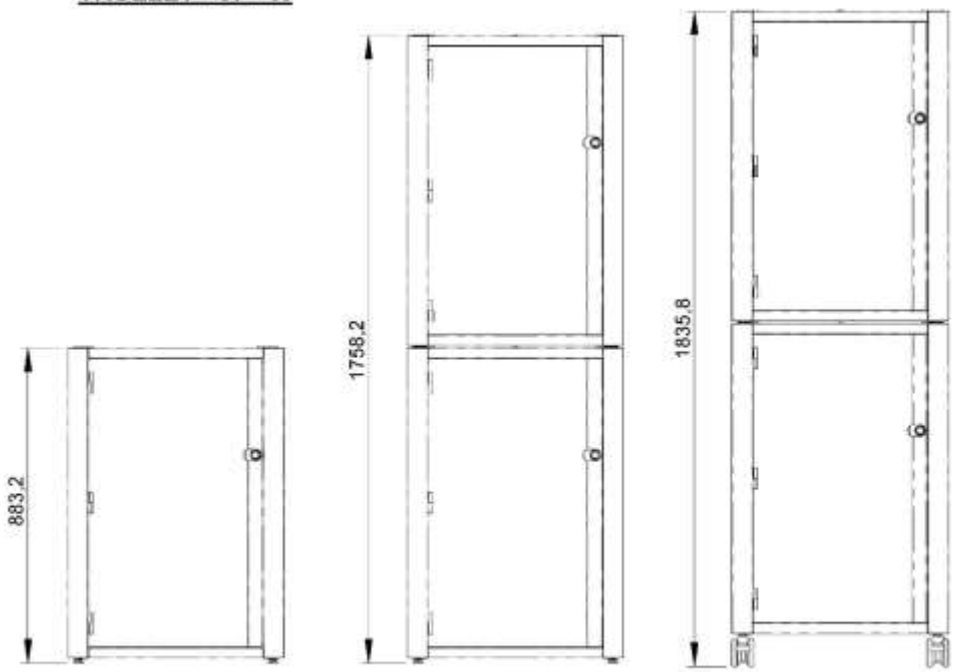
Seven sets of Modules (a combination of Bottom and Positioning Modules) can be stored in the TEST-OK Trolley, available with and without ESD-safe wheels.

Please note:
If you own a TROLLEY-07-XX, it is possible to upgrade it into a TROLLEY-14-XX, in that case you need to order a **TROLLEY-07-SL**

Dimensions



TROLLEY - 07 - W



TROLLEY - 07 - NW

TROLLEY - 14 - NW

TROLLEY - 14 - W

Specifications

	TROLLEY-07-XX	TROLLEY-14-XX
Weight	50 kg	100 kg
Storage	7 Sets	14 Sets
Transparent Door	1 Lockable Door	2 Lockable Doors
ESD Safe	Yes	Yes

Trolley

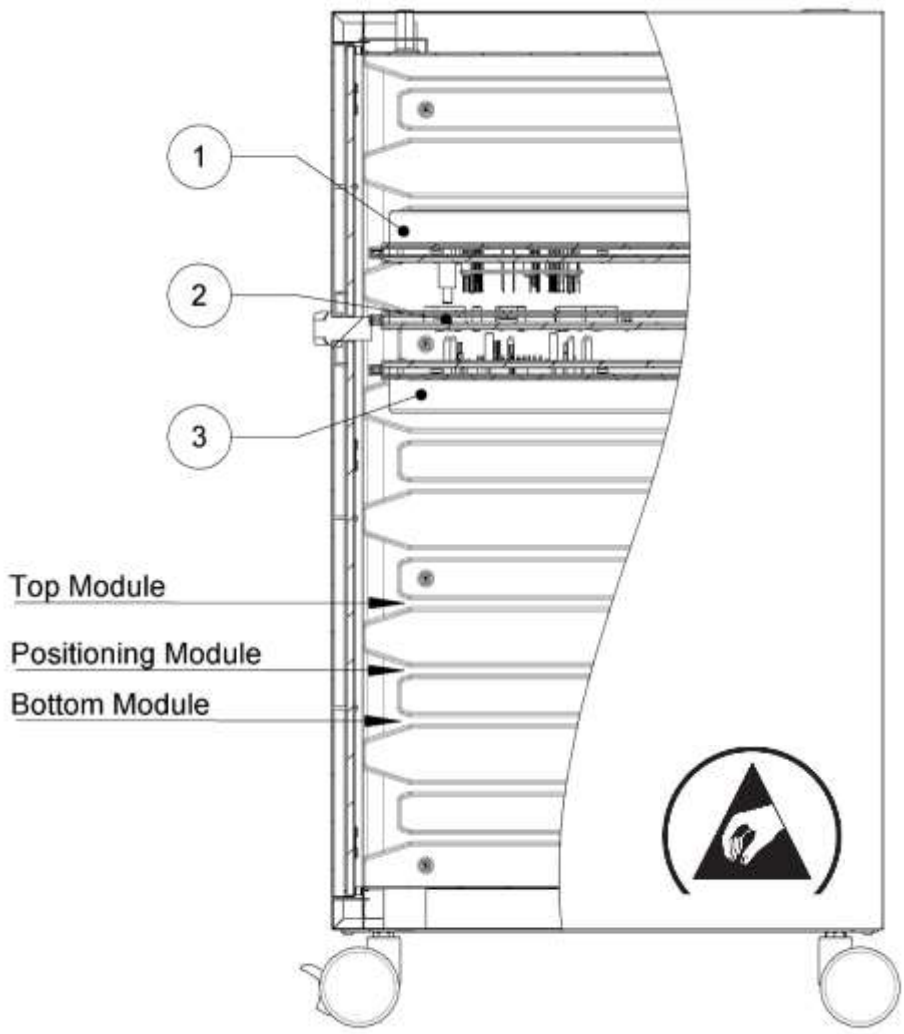
Description

Please pay close attention to the grooves in which the modules are placed. The longer grooves indicates the separation between Module sets or a Top Module.

The Trolley is available with and without ESD-safe wheels.

The transparent door has a lockable push-lock.

The trolley is an ESD-safe storage facility for your TEST-OK Modules.



Legend

1. Top Module
2. Positioning Module
3. Bottom Module

Materials

TROLLEY	Aluminium, Stainless steel, ESD powder coated
	ESD wheels
	ESD-safe polycarbonate door

How to order

TROLLEY - 07 - W

Series	Size	Wheels
TROLLEY	07 14	W NW SL

Test Controller Card

The Test Controller Cards form a range of test electronics for the TEST-OK system and cover a wide spectrum of common test functions for production testing of printed circuit boards (PCBs).

The TCC 1800-UE is an improved version of the established TCC-1800* card with additional communication interfaces and full support for Ethernet connectivity to the PC and the UUT including USB pass-through.

Test Controller Cards

Description	TCC 1800-UE
No. of contact pins	192
PC interfacing	Ethernet
Ethernet to module	Y
Isolated USB to module	Y
Expansion Board support over Ethernet	Y
Expansion Board support over USB	Y
Analog inputs	16
Analog outputs	16
RS 485	N
UART	Y
SPI	Y
CAN	Y
I2C (master)	Y
Digital inputs	24
PWM outputs	2
Digital outputs	52
Adjustable Power Supply with current measurement	2
Fixed power supplies	2
In Circuit Programmer	1

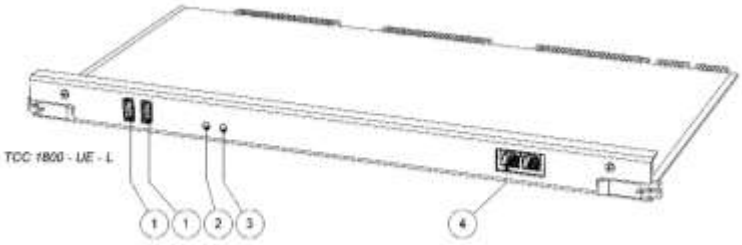
*Not in production anymore

Test Controller Card

TCC 1800-UE		33
TCC FEED-THROUGH		36

TCC 1800-UE

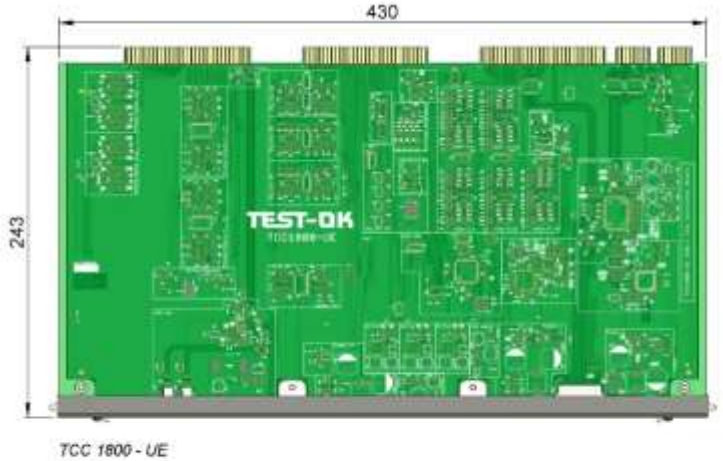
Types

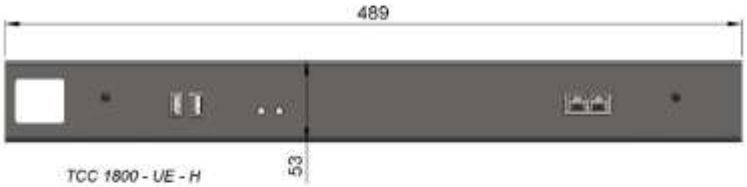


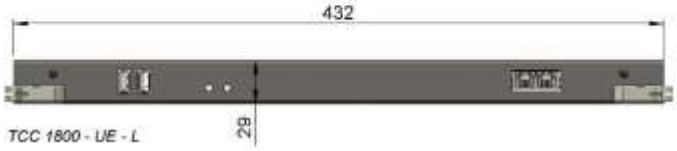
Legend

1.	**USB Type A**	For connecting USB peripherals
2.	**LED**	Indicates power on\off
3.	**LED**	Indicates connection to computer yes\no
4.	**UTP socket (2x)**	Connects to your network

Dimensions







TCC 1800-UE

Versions

Version	Type	TEST-OK 4000 AQ	TEST-OK 4000 BPL	TEST-OK desktop system
TCC 1800-UE	L		x	x
	H	x		

Description and functionality

The TCC 1800-UE is dedicated to network requirements. If installed in a network the TEST-OK system is visible on any computer, even the connected USB devices, for example a programmer, printer or barcode scanner.

Without installing complex software on your test computer, debugging a TEST-OK module is possible on any computer in the company, without having to move the TEST-OK system..

Key features

- 192 connections on Card Edge (3 reserved, 52 ground)
- Up to 24V operation for all digital and analog I/O
- 2 independent power supplies 0..24V DC / 3A max
- 16 Analog Inputs, 12-bit A/D converters
- 16 Analog Outputs, 12-bit D/A converters
- 24 Digital inputs
- 52 Digital outputs with programmable '1' level
- Digital I/O is extensible on test module
- 2 PWM outputs
- UART channel
- In-circuit programmer
- I2C
- CAN
- USB
- LAN connection
- 4 port USB hub

TCC 1800-UE

Specifications

2 Programmable power supplies	Power supply 1 and 2	1.2 - 24 V / 3 A
Current measurement	Resolution 1 mA	0 - 3 A
2 Fixed power supplies	Power supply 1	5 V / 0.5 A
	Power supply 2	28 V / 0.5 A
16 Analog inputs		0 - 24 V / 5.9 mV resolution
16 Analog outputs		0 - 24 V / 5.9 mV resolution
24 Digital inputs with Schmitt Trigger	1 frequency measurement/pulse counter	0 - 24 V
	4 pulse width/pulse counters	0 - 24 V
52 Digital Outputs (20 bi-directional)	3 groups of 8 bits with programmable logic '1' level	1.5 - 24 V
	4 'High-Side' power outputs with programmable output voltage	5.5 - 24 V
	24 open collector outputs, capable of driving relays	
2 PWM Outputs		5 V, 0 - 1 MHz, 0 - 100% Duty Cycle
I2C Interface		
SPI extension interface	Additional in- and outputs	
1 Serial channel	UART	5 V
1 In-circuit programmer		
SPI interface		78 kHz - 10 MHz
CAN		2-wire, 1-wire
3 Ethernet	Module (1), expansion board (1), backside (1)	10/100 Mbits/s
4 USB over Ethernet	Module (1), expansion board (1), backside (2)	2.0 High speed supported

Size

Type H	High: for use with TEST-OK 4000-AQ
Type L	Low: for use with TEST-OK 4000-BPL or TEST-OK desktop system

Customized bezels can be ordered on request.

How to order

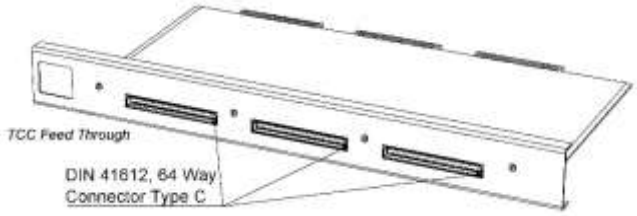
TCC 1800 - UE - H

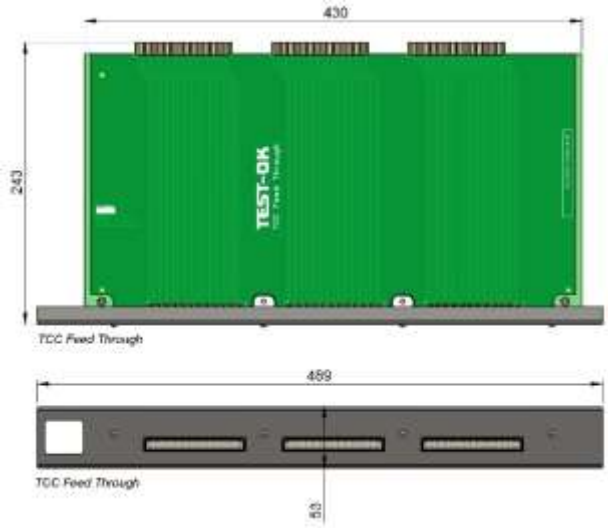
Series	Version	Type
TCC 1800	UE = Ethernet	H = High L =Low

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TCC FEED-THROUGH

Dimensions





Description and functionality

The TCC FEED-THROUGH is used as an alternative to a regular TCC 1800-UE card. Instead of containing hardware and software for testing, the TCC FEED-THROUGH simply transmits signals between the module connections and three external DIN 41612 connectors. Each connection on the modules is transmitted directly to a corresponding pin on the DIN connectors, allowing customers to implement their own external testing system. The FEED-THROUGH card can be replaced with the TCC 1800-UE card in order to upgrade the fixture to include TEST-OK's testing hardware and software.

Connectors: HARTING 09 03 364 6921 PLUG, DIN41612, R/A, C, 64WAY
Compatible with: HARTING 0903 264 6828 DIN SIGNAL TYPE C FEMALE for insulation displacement

Customized bezels can be ordered on request.

How to order

TCC FEED-THROUGH - 192

Series	No.
TCC FEED-THROUGH	192

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Expansion Board

The TEST-OK Expansion Board is a custom plug-in card with 96 freely definable connections on the Module Interface. In combination with the integrated TCC 1800-UE Test Controller Card and Backplane, this additional Expansion Board makes it possible to develop and build test systems according to customer specific standards.

Examples of extra, customized functionality on the Expansion Board are customer specific test signals, additional programmers or Boundary Scan controllers. The Expansion Board can equally be used as an intelligent interfacing board with which associated daughter boards can be tested.

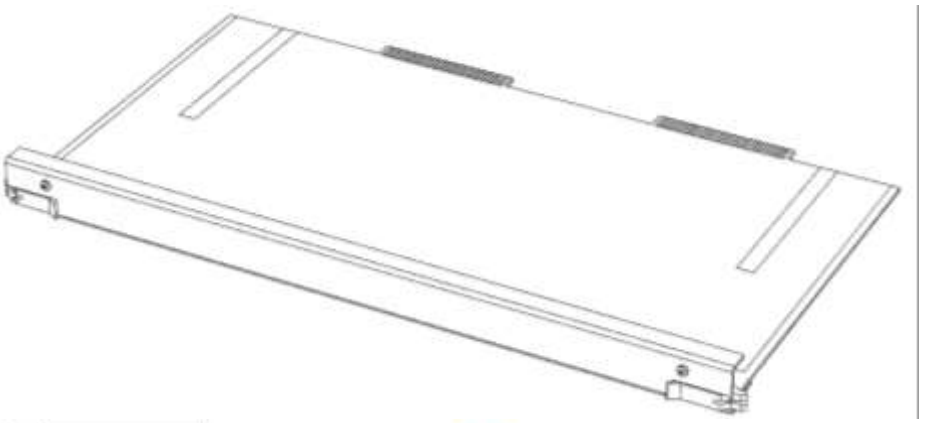
Expansion Board

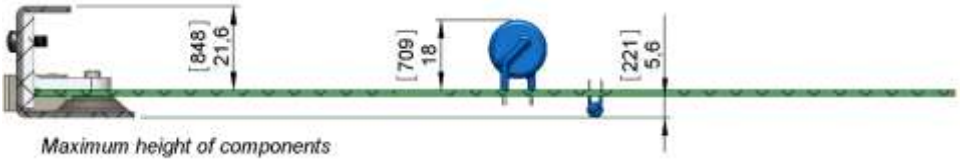
Dimension TOK 9790 - F

The Expansion Board is a configurable board that can be used in addition to the TCC 1800-UE in the TOK 4000-BPL and TOK 4000-B-BPL systems.

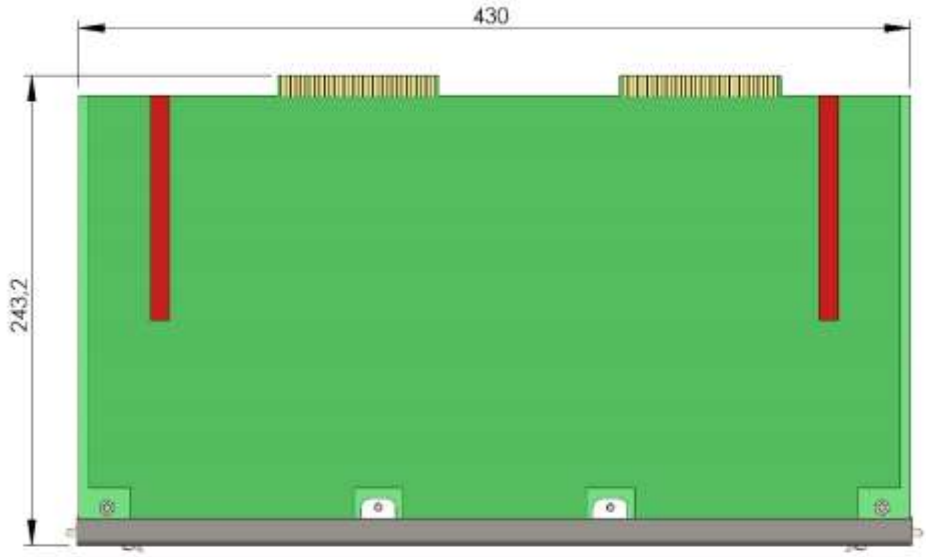
The extra space can be customised according to the user's need and specification.

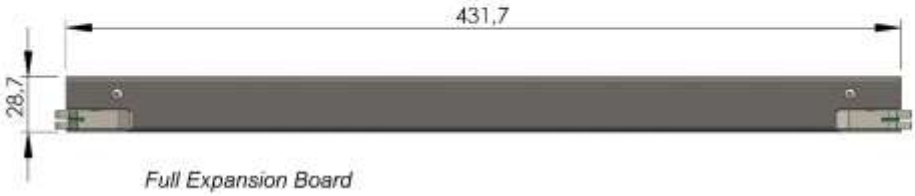
Please consult the datasheet on our website.





Maximum height of components

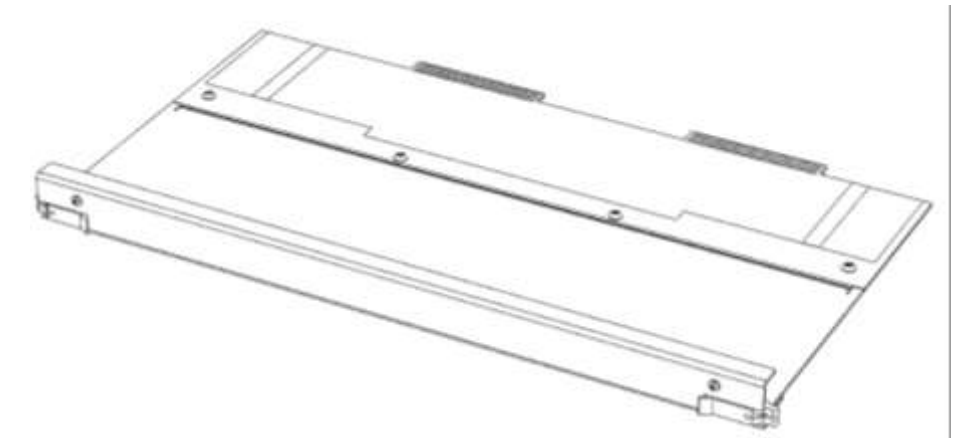


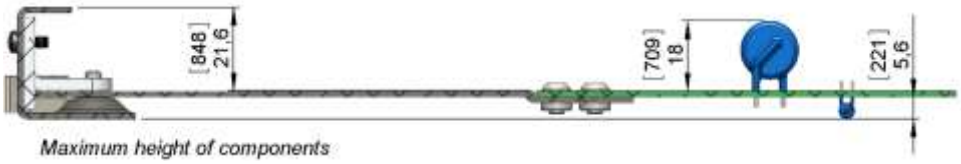


Full Expansion Board

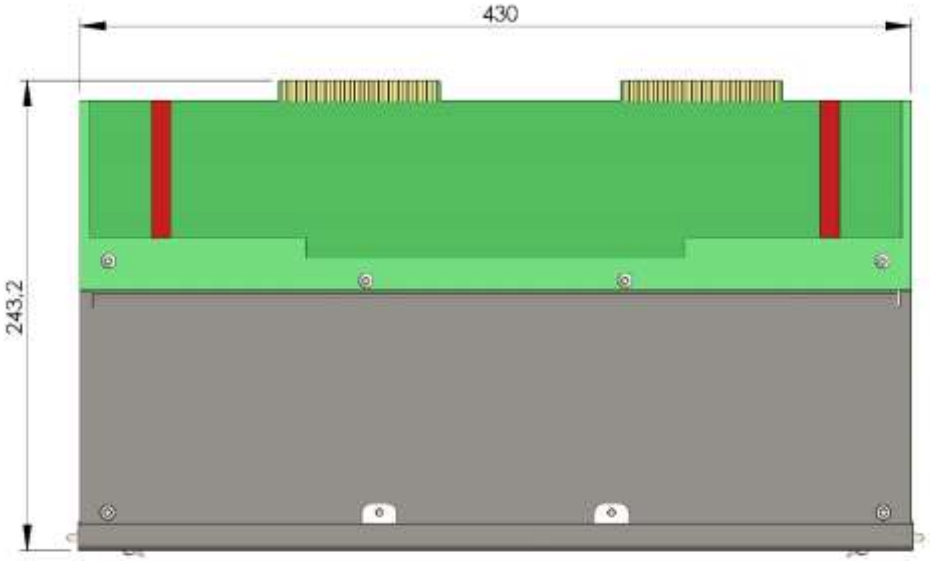
Expansion Board

Dimension TOK 9790 - H





Maximum height of components



Half Expansion Board

Expansion Board

Size

Size F	Full: To be used with full sized expansion board
Size H	Half: To be used with half sized expansion board

Materials

Size F/H	Aluminium, powder coated, bezel parts
Size H	Plate, Aluminium 155 x 430 mm

Fasteners (included)

Size F	Card Inserter & Pin (x2)
	DIN 7985 H – M3x8 Black (2x)
	DIN 934 – M4 (2x)
	ISO 7380 TX – M4x8 (4x)
Size H	Card Inserter & Pin (x2)
	DIN 7985 H – M3x8 Black (2x)
	ISO 7380 TX – M4x8 (4x)
	DIN 7985 H – M4x8 (4x)

Customized bezels can be ordered on request.

How to order

TOK 9790 - F

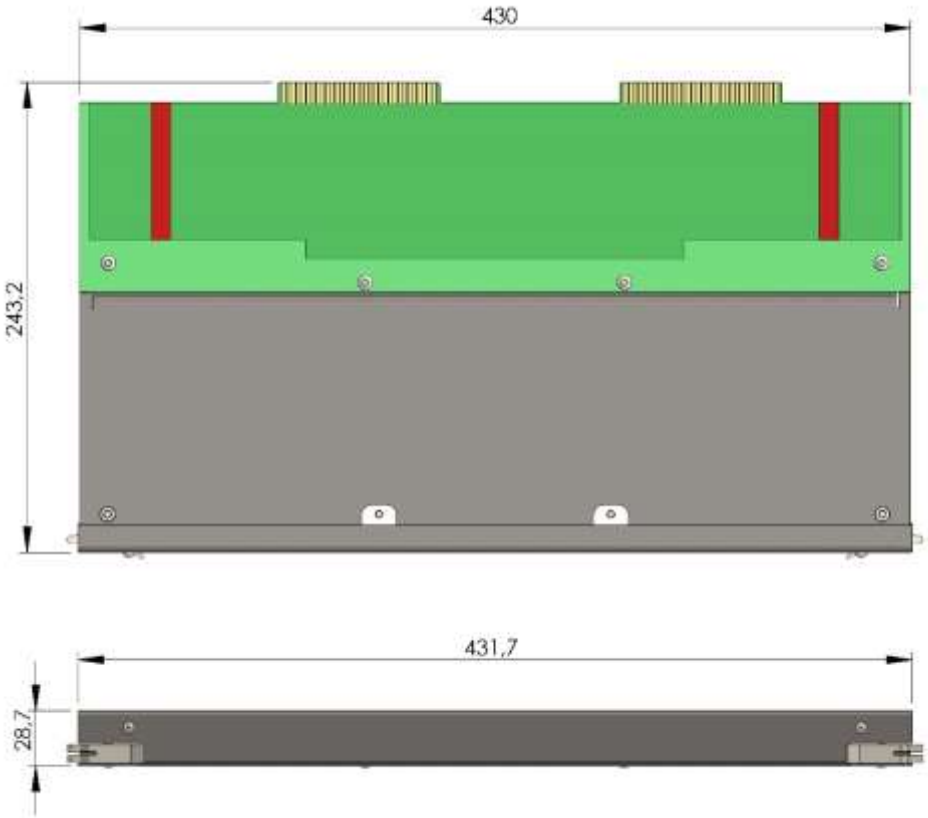
Series	Size
TOK 9790	F = Full H = Half

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Göpel Expansion Board

Boundary Scan Expansion Board developed in cooperation with Göpel electronic.

Dimensions



Customized bezels can be ordered on request.

How to order

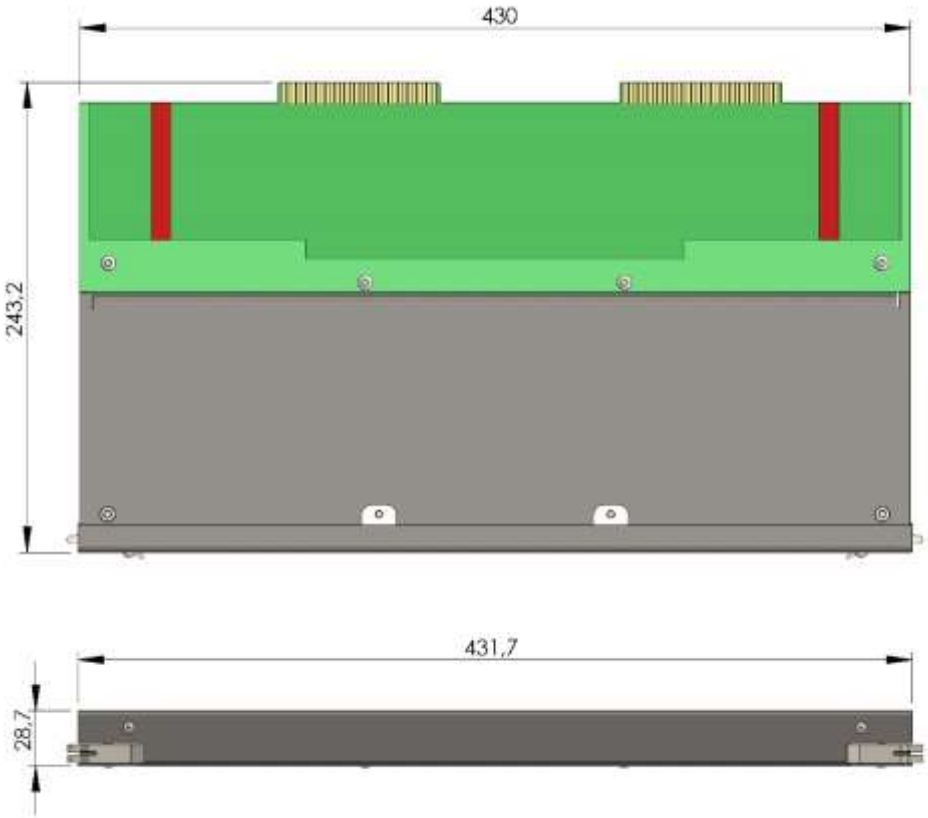
TOK 2513	-	SB02
Series		No.
TOK 2513		SB02

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

JTAG Expansion Board

Boundary Scan Expansion Board developed in cooperation with JTAG.

Dimensions



Customized bezels can be ordered on request.

How to order

TOK 2514 - JT5705/FXT

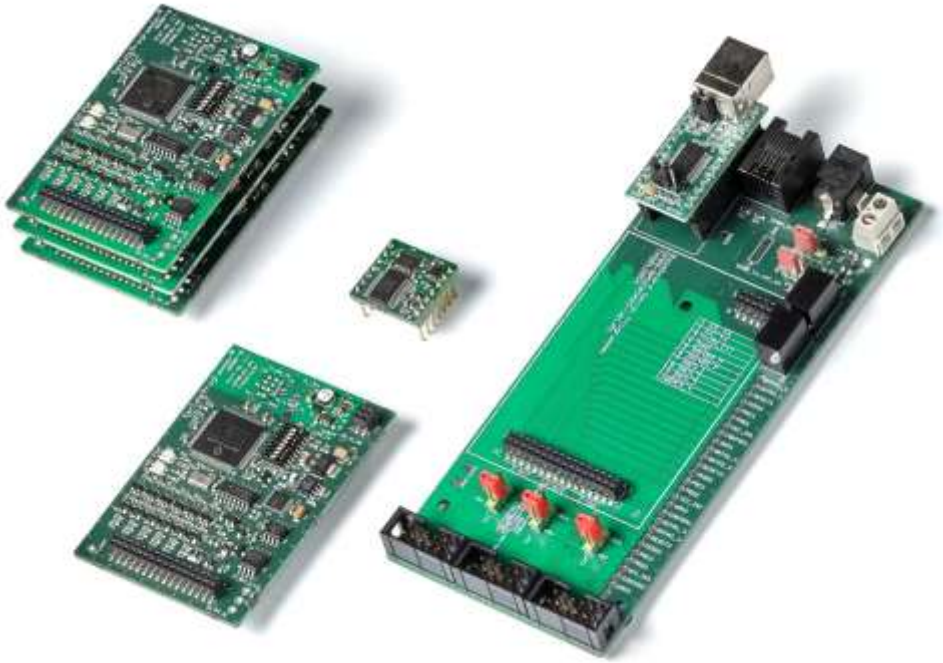
Series	No.
TOK 2514	JT5705/FXT

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

SP08 Serial Programmer

The SP08 parallel programming system is an advanced In-Circuit Flash Programmer for the majority of flash memory-based microcontrollers and memory devices. The SP08 is has embedded storage for programming algorithms and flash images.

Up to 217 SP08 devices can be connected over a single three-wire serial interface. The SP08 devices are controlled over a USB interface. All connected SP08 devices can be started and controlled in parallel, however each SP08 runs totally independently.



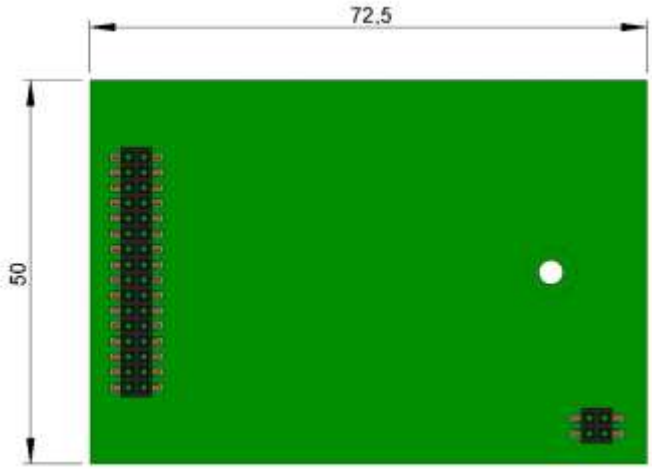
Key features

- Small form factor with 2.0 mm pin header connections,
- Very fast and reliable programming solution
- Devices can be placed close to test probes for optimal signal quality
- Up to 217 SP08 devices can be connected on one serial bus and controlled simultaneously
- On-board flash allows storage of multiple target flash images,
- Support for industry standard programming protocols such as SWD, JTAG, SPI,
- Algorithms for flash devices of different manufacturers can be stored on the same SP08
- Up to 3 SP08 devices can be stacked onto one header to save place
- Development Kit available

SP08

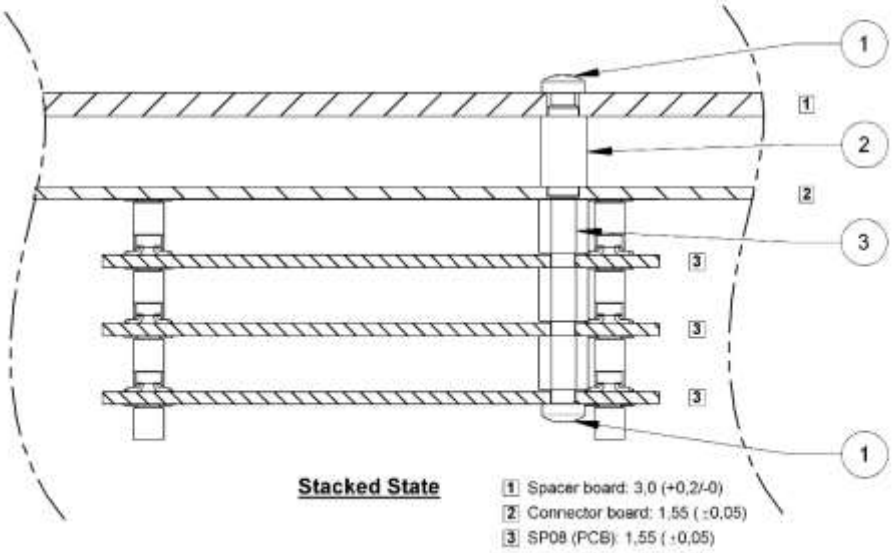
Dimensions

Please consult the documentation on the website for further details.



Component Side

Side View



Stacked State

Legend

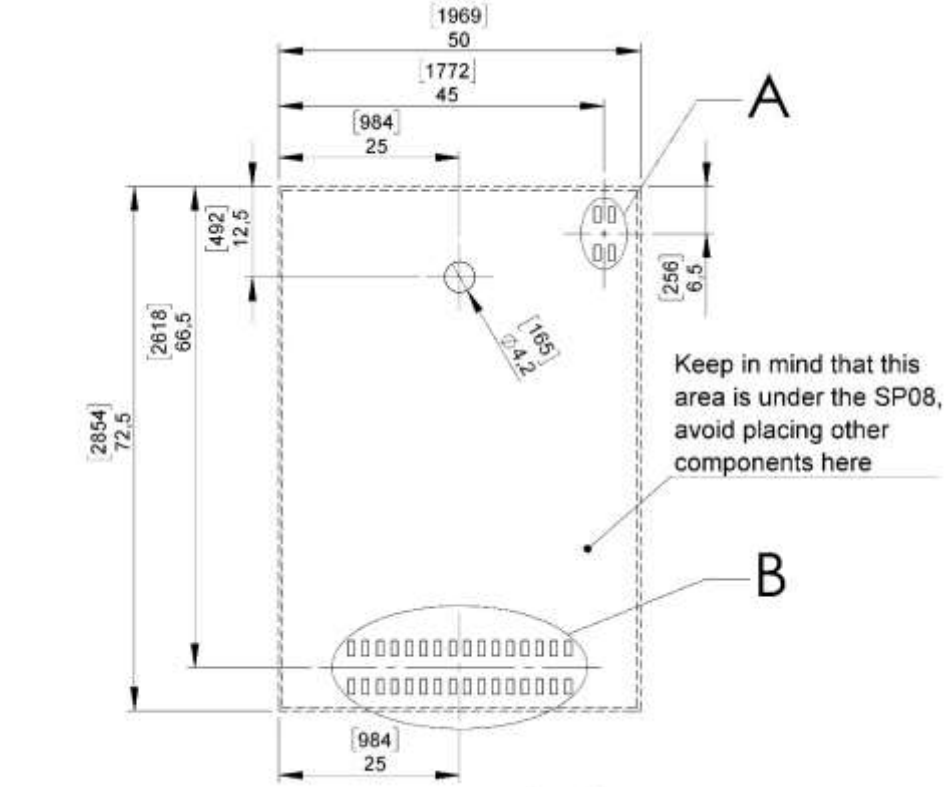
1. DIN 7985 – M3 x 6
2. TOK 9721 – 01 – 9.2 – M3
3. M3 Standoff – h = 7 mm

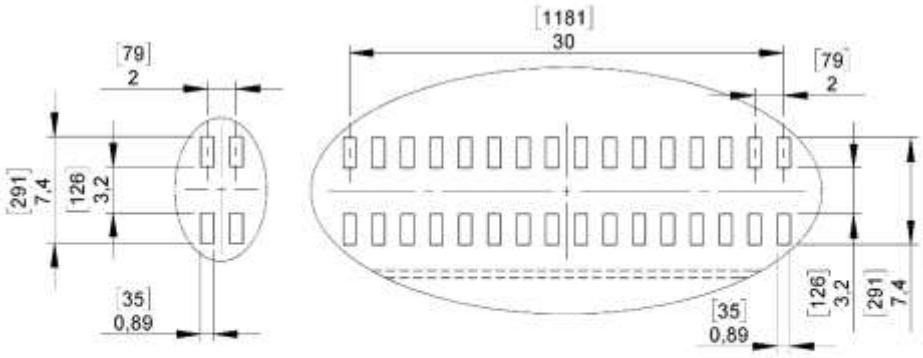
Fasteners (included)

SP08	DIN 7985 – M3 x 6 (x2)
	TOK 9721 – 01 – 9.2 – M3 (x1)
	M3 Standoff – h = 7 mm (equal to stack amount)

SP08

Footprint





DETAIL A

Mating Connector
Socket Header (4 pin, Female)
621004242921

DETAIL B

Mating Connector
Socket Header (32 pin, Female)
621032242921

Drill hole sizes (mm)

Top connector board:	Ø4,2 (±0,05)
Top spacer board:	Ø4,2 (±0,05)
Bottom spacer board:	Ø4,2 (±0,05)
Bottom connector board:	Ø4,2 (±0,05)

How to order

SP08

Series
SP08

TOK 9273 - 2 x 24 VAC

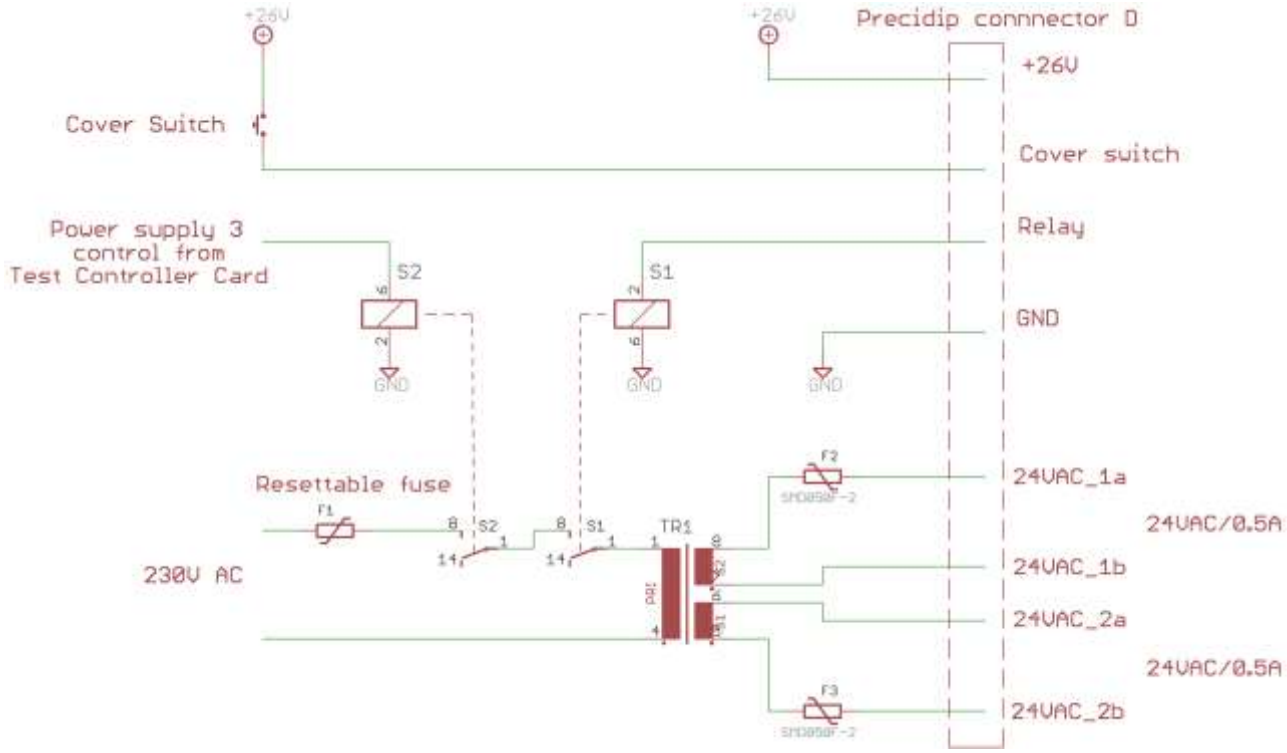
2 x 24V AC and Cover Switch, Main Characteristics

This option has two functions. The first function is a switch that detects whether the cover of the test system is closed or not. The state of the switch is available on connector D and will be +26V if the switch is closed and floating when the switch is open ('Cover Switch' in the illustration below). The user can use this signal to activate a relay that disconnects a high voltage from the UUT when the cover is opened.

The second function is an additional power supply consisting of a transformer with two secondary windings of 24VAC / 0.5A each.
The power supply can be controlled by addressing power supply 3 from the Test Description Language. However, a second condition must be met before the transformer will be activated: a relay (S1 in the figure below) on the primary side must be activated via connector D. This input (called 'RELAY') can either be connected to the +26V that is also available on connector D so that it is always on or it can be connected to the COVER SWITCH pin on the connector, activating the relay only when the cover is closed.*

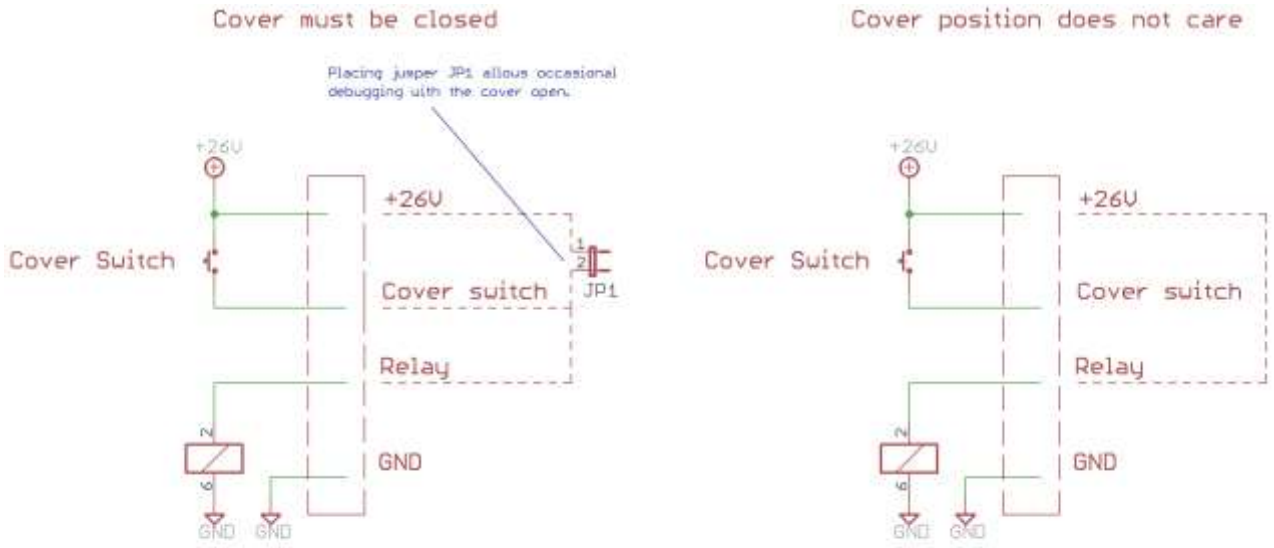
Supply 3 will also be switched off at the end of each test and when the TCC loses connection with the PC application, just like the other two power supplies.

** It is advised to place a jumper here for debugging purposes. During debugging jumper JP1 must be placed so that a test will run with an opened cover. (See next page for more information)*



Optional TOK 9273 Power Board

TOK 9273 - 2 x 24 VAC



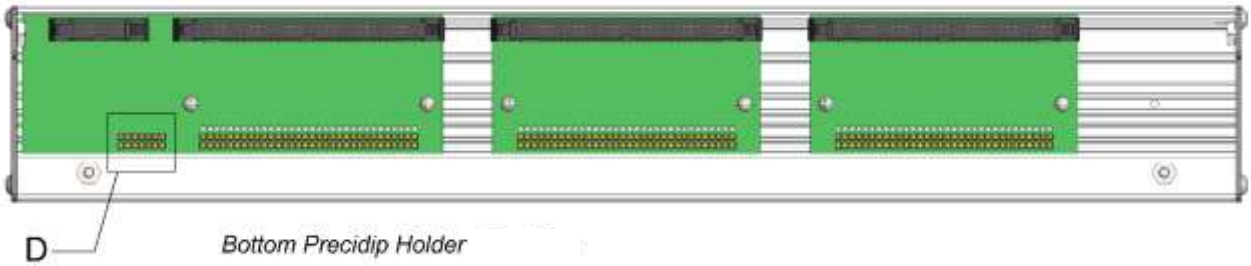
It is possible to add a relay on the TEST-OK module to control additional items.
In this case, connect the relay between the 'Cover switch' and 'GND' pins.

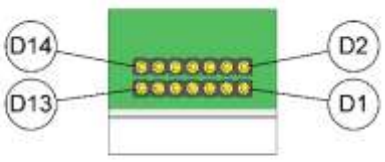
Connector D

Optional 2x24VAC power supply and Cover Switch interface.

Pin	*Signal*	*Pin*	*Signal*
D1	Reserved	D2	Reserved
D3	24V AC 2b	D4	24V AC 2b
D5	24V AC 2a	D6	24V AC 2a
D7	24V AC 1b	D8	24V AC 1b
D9	24V AC 1a	D10	24V AC 1a
D11	Cover Switch	D12	Relay
D13	GND	D14	+26V

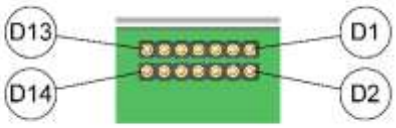
Connector D: Pin Location



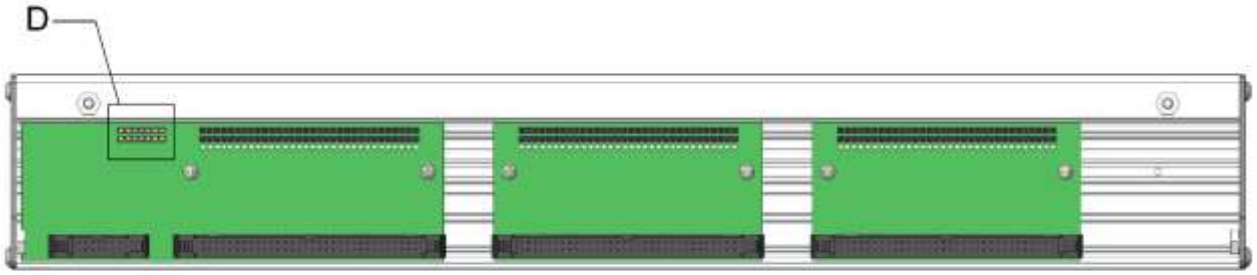


Detail D

TOK 9273 - 2 x 24 VAC



Detail D



Top Precidip Holder

Associated documents

When using a TEST-OK 4000-AQ:
- TOK 9700 & TOK 9705 Series - Boards for TEST-OK 4000-AQ

When using a TEST-OK 4000-BPL:
- TOK 9700 & TOK 9705 Series - Boards for TEST-OK 4000-BPL

When using a TEST-OK Desktop System:
- TOK 9795 Series - Connector Board for TEST-OK Desktop System 19 inch

When using a TCC 1800:
- TCC 1800 - Hardware Reference Manual

When using a TCC 1800-UE:
- TCC 1800-UE - Hardware Reference Manual

How to order

TOK 9273

Series
TOK 9273

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

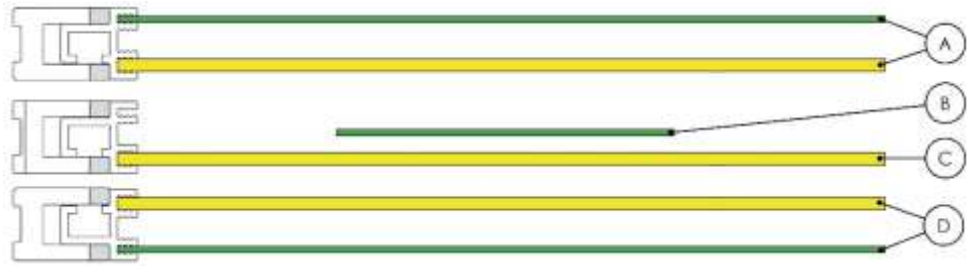
Module Materials

The interchangeable modules inherent to the TEST-OK system are each specific to a under test (UUT). A module consists of at least a Positioning module and a Bottom module. The Positioning module ensures correct placement and fixation of the UUT. The Bottom module incorporates the probes and hardware required for testing. An additional Top module can be used in order to either enable test probing the top side of the UUT, or to ensure that the UUT is not subject to bending (due to a large number test probes).

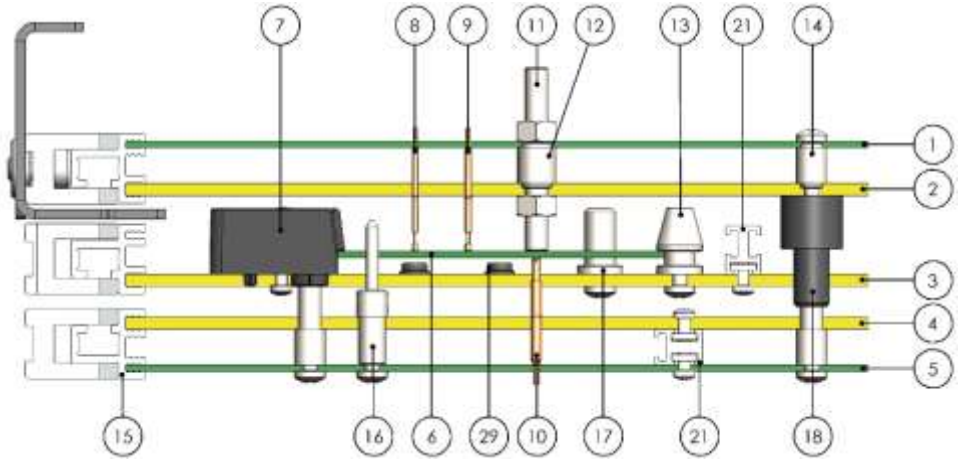
Each module consists of a frame, a board and items specific to the module's purpose. This may include FAST-LOCKs, centre pins, downholders, transparent boards, peripheral pins, BEAMs and much more.

Module Board

Components

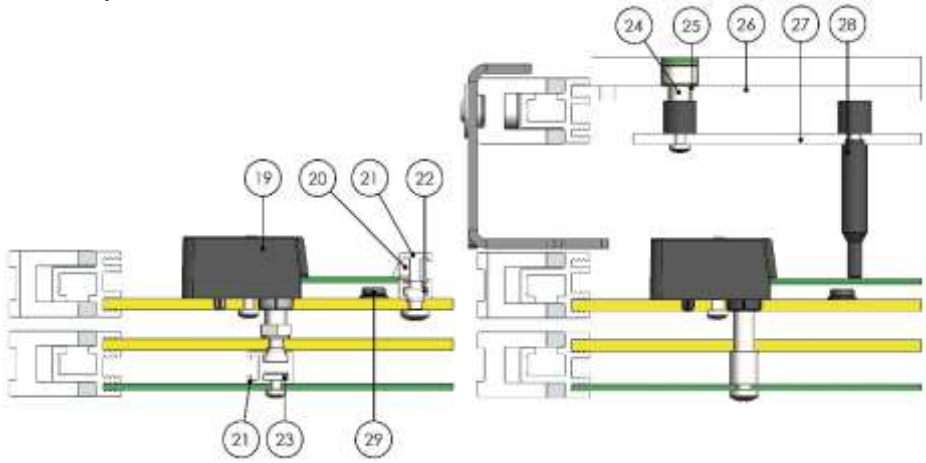


Standard Module Items



BEAM System

Magnetic Downholder System



Legend

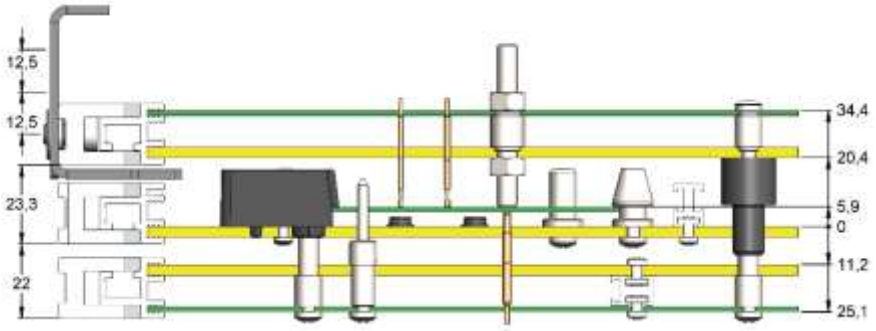
A. Top Module
B. Target PCB (UUT)
C. Positioning Module
D. Bottom Module

1. Top Connector Board
2. Top Spacer Board
3. Positioning Board
4. Bottom Spacer Board
5. Bottom Connector Board
6. Target PCB (UUT)
7. TOK 9710-01 – FAST-LOCK
8. TOK 9750 – Test Probe (100 mil)
9. TOK 9751 – Test Probe (75 mil)
10. TOK 9753 – Test Probe (180)
11. TOK 9730 – Downholder Type 1
12. TOK 9721 – Module Spacer M6
13. TOK 9780 – Peripheral Hook Pin
14. TOK 9721 – Module Spacer M4
15. TOK 9740 – Module Frame Set
16. TOK 9760 – Centre Pin
17. TOK 9770 – Peripheral Positioning Pin
18. TOK 9720-14-29 – Positioning Slider
19. TOK 9710-02 – FAST-LOCK
20. TOK 9833 – BEAM-Hook
21. TOK 9830 – BEAM
22. TOK 9832 – BEAM-Nut
23. TOK 9831 – BEAM-Strip
24. TOK 9743 – Downholder Magnet
25. TOK 9744 – Magnet Cap
26. TOK 9708 – Downholder Adapter Board
27. TOK 9709 – Downholder Sub-board
28. TOK 9735 – Downholder Type 2
29. TOK 9835 – Rubber Base

Module Board

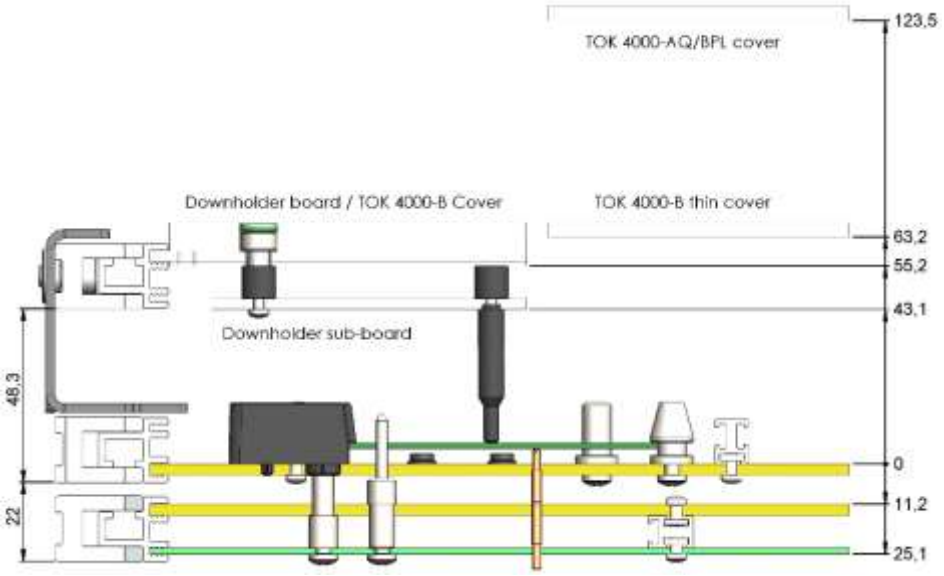
TEST-OK in test position 1

The Top Module can be moved to a higher position, if necessary. Its position can be raised in two increments of 12,5mm.



TEST-OK in test position 2

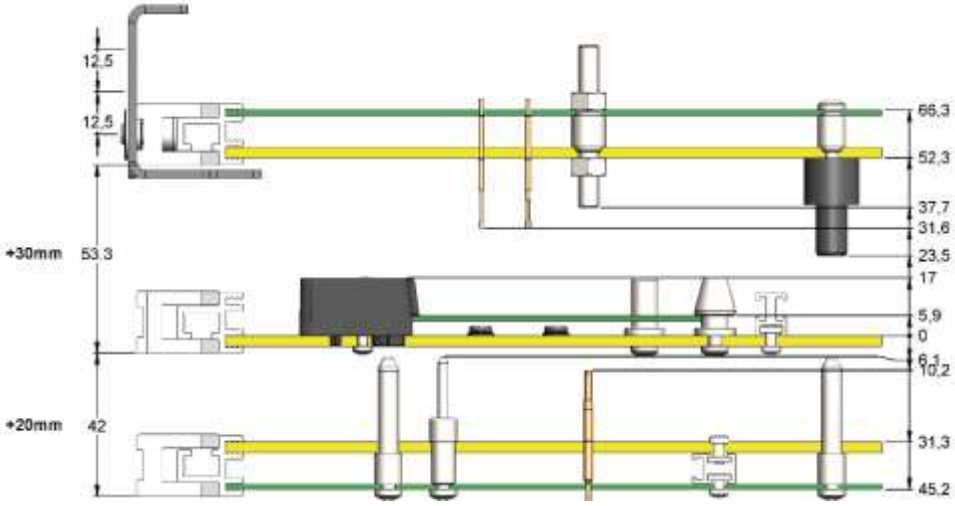
The Downholder Board can be used by moving the Top module into its highest position. The height of the TOK 4000-B Downholder Cover is the same as the Downholder Board used in the TOK 4000-AQ and -BPL.



TEST-OK not in test position

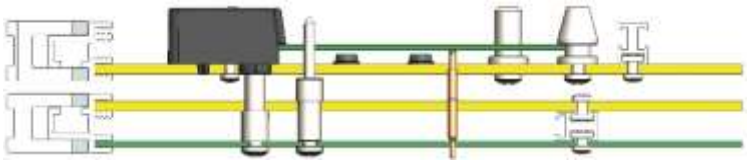
Travel top module: 30mm up.

Travel bottom module: 20mm down.

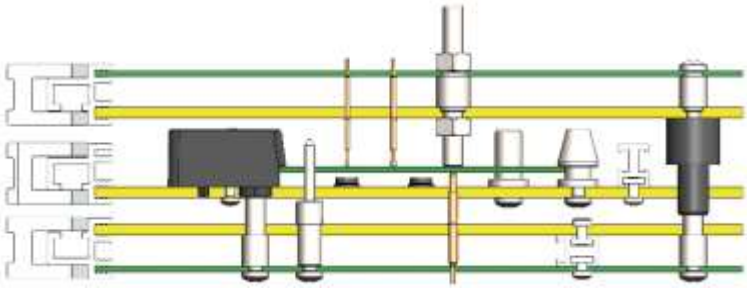


Module Board

Setup 1: bottom & middle module



Setup 2: bottom, middle & top module



Test Probes & Receptacles

TEST-OK offers industry standard test probes in combination with specific receptacles for the TEST-OK module system. TEST-OK provides 50, 75, 100, and 180 mil solutions, all high precision probes, in different lengths, forces, and head styles.

For regular testing, the TOK 9750 test probes provide various spring forces and a large variety of head styles. For applications in which high densities of probes are required, the TOK 9751 test probes are very suitable due to their small diameter. The TOK 9755 test probes offers an even smaller pitch in case it is required. The TOK 9753 test probes are designed to withstand high currents, making them ideal for specific situations.

The standard length of a test probe are 33.3 and 30.2 mm and these are often available from our stock. Custom length test probes can be produced with longer lead time.

Test Probes & Receptacles

TOK 9750 – Test Probe 2,54 mm / 100 mil

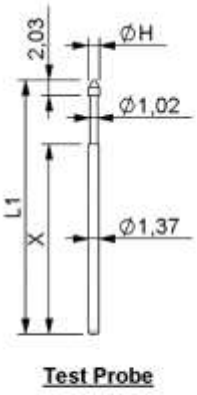
Test probes are available with different head styles. Deviating head styles are available on special request.

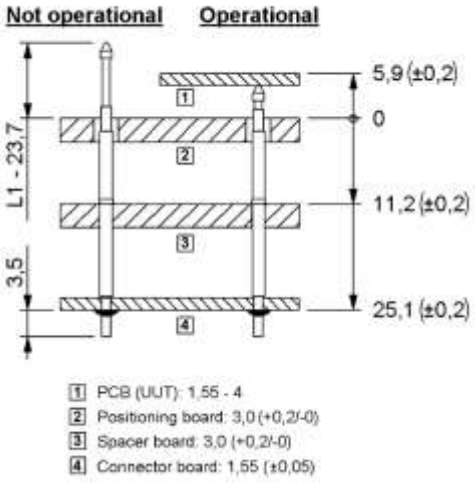
These probes are available in two different lengths, allowing for adapting the height of the probe in respect to the solder end of the component to be tested.

Deviating spring forces are also available on special request.

Please note:
When implementing more than 200N worth of test probes in a module, we strongly advise the use of one or more **TOK 9830 – Beam**s (see p 90).

Dimensions (mm)





Technical Data

Spacing	2,54 mm / 100 mil
Spring force at working level	200 g
Current rating	3,0 A
Typical contact resistance	14 mΩ
Full travel	6,35 mm
Recommended working travel	4,32 mm
Shaft length	See “Lengths” paragraph below

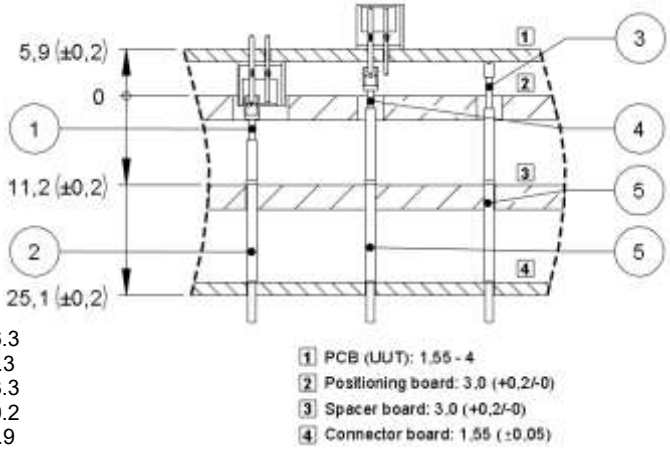
Materials

Pin barrel	Brass, gold plated
Pin spring	Spring steel, gold plated
Pin plunger	Hardened beryllium copper

Lengths

The various lengths of the test probes are appropriate for differing situations:

L1	X	Suitable for contacting of
26.3 mm	17.7 mm	headers on the UUT
30.2 mm	21.8 mm	through hole components on the UUT
33.3 mm	24.9 mm	the UUT itself as well as the pads of SMD components

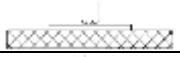
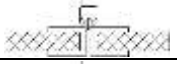
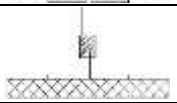
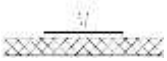
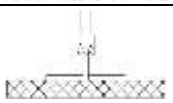
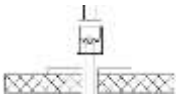
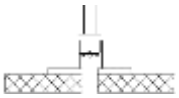
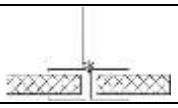


Legend

1. TOK 9750-P-08-200-26.3
2. TOK 9750-R-01-5.6-21.3
3. TOK 9750-P-01-200-33.3
4. TOK 9750-P-08-200-30.2
5. TOK 9750-R-01-9.5-26.9

TOK 9750 – Test Probe 2,54 mm / 100 mil

Head Styles

Type		Dim. ØH	Application		Length(s) *
01	 16 point serrated	1,52 mm		Lands, pads, leads, terminals.	26.3 mm 30.2 mm
02	 6 fluted star	1,52 mm		Plated through holes, pads, lands.	33.3 mm
03	 concave	1,52 mm		Long leads terminal, wire wrap pads.	26.3 mm 30.2 mm
04	 conic head 30°	1,02 mm		Cuts oxidation and contamination.	33.3 mm
05	 4 point crown	1,52 mm		Test pads, leads, solder points.	26.3 mm 30.2 mm
06	 round	1,02 mm		Gold edge fingers, plated through holes. Leaves no marks.	33.3 mm
07	 3 point crown	1,02 mm		Suitable for SMD testing due to smaller head	26.3 mm 30.2 mm
08	 9 point serrated with isolation sleeve	2,23 mm	 connection  no connection	Lands, pads, leads, terminals. The probe within the isolation sleeve will not make an electrical connection if no lead is present. Additionally, the isolation sleeve prevents accidental interference between probes.	26.3 mm 30.2 mm
09	 6 fluted star	1,02 mm		Plated through holes, pads, lands.	33.3 mm
10	 9 point serrated thin	0,60 mm		Small pads (1,2-1,5 mm), small pads with solder.	33.3 mm

* Other lengths can be produced on request

How to order

TOK 9750	-	P	-	01	-	200	-	33.3
Series		Probe		Head style		Spring force (g)		Dimension L1 (mm)
TOK 9750		P		01 05 09 02 06 10 03 07 04 08		100 200		26.3 30.2 33.3

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9750 – Receptacle 2,54 mm / 100 mil

The Test Probe Receptacle is available with two solder end types.

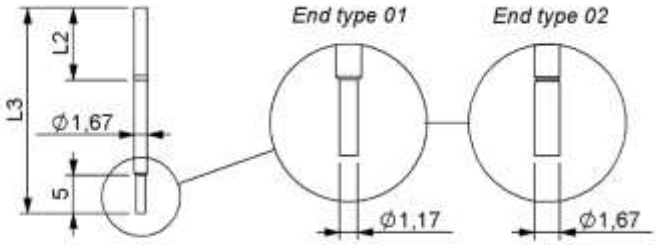
End type 01 facilitates high density of test probes with a pitch of 100 mils. An example of this is the application of probing a DIN41612 connector with 3 rows of solder pins.

End type 02 can be used as a replacement for industry standard receptacles.

Two lengths are available:
TOK-9750-R-XX-3.9-21.3 is suitable for use with test probes of length 26.3.

TOK-9750-R-XX-9.5-26.9 is suitable for use with test probes of length 30.2 and 33.3.

Dimensions (mm)



Test Probe Receptacle

Technical data

Spacing (minimum)	2,54 mm / 100 mil

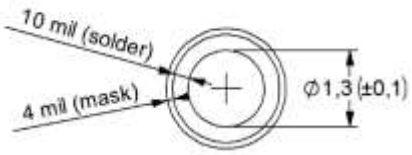
Materials

Receptacle	Bronze, gold plated

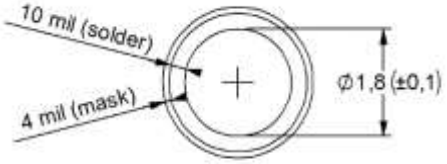
Drill hole sizes (mm)

Positioning board	Ø3,2 (±0,05)
Spacer board	Ø1,7 (±0,05)
Connector board	Ø1,3 (±0,1) with end type 01
	Ø1,8 (±0,1) with end type 02

Routing



Pad layout (end type 01)



Pad layout (end type 02)

How to order

TOK 9750	-	R	-	01	-	9.5	-	26.9
Series		Receptacle		End type		Dimension L2 (mm)		Dimension L3 (mm)
TOK 9750		R		01 02		9.5		18.2 23.0 26.9

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9751 – Probe 1,91 mm / 75 mil

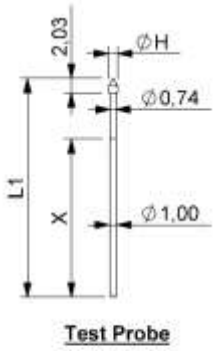
The TOK 9751 - Probes are generally used when high densities of test probes are required.

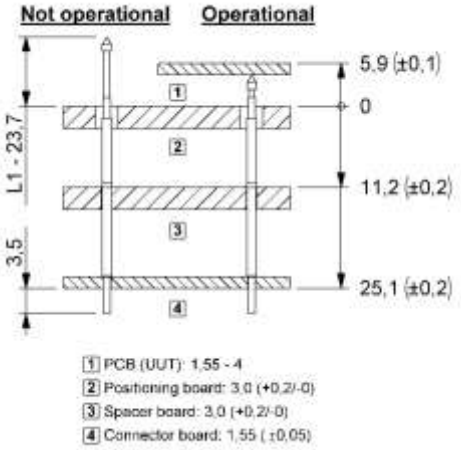
Test Probes are available with different head styles. Deviating head styles are available on special request.

Deviating spring forces are also available on special request.

Please note:
When implementing more than 200N worth of test probes in a module, we strongly advise the use of one or more **TOK 9830 – Beam**s (see p 90).

Dimensions (mm)





Technical Data

Spacing	1,91 mm / 75 mil
Spring force at working level	200 g
Current rating	3,0 A
Typical contact resistance	20 mΩ
Full travel	6,35 mm
Recommended working travel	4,25 mm
Shaft length	See “Lengths” paragraph below

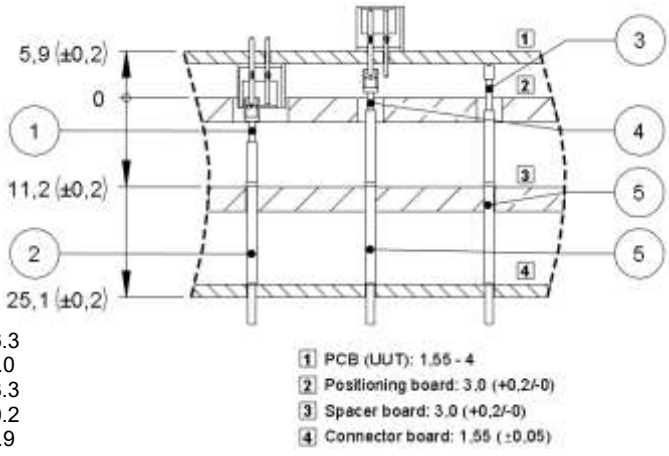
Materials

Pin barrel	Brass, gold plated
Pin spring	Spring steel, gold plated
Pin plunger	Hardened beryllium copper

Lengths

The various lengths of the test probes are appropriate for differing situations:

L1	X	Suitable for contacting of
26.3 mm	17.7 mm	headers on the UUT
30.2 mm	21.8 mm	through hole components on the UUT
33.3 mm	24.9 mm	the UUT itself as well as the pads of SMD components

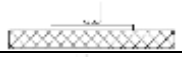
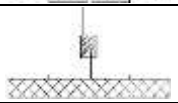
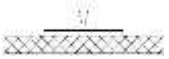
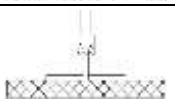
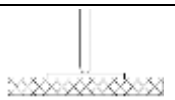
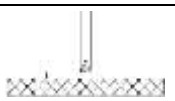
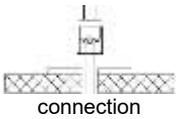
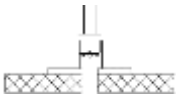
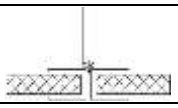


Legend

1. TOK 9751-P-08-200-26.3
2. TOK 9751-R-01-5.6-23.0
3. TOK 9751-P-01-200-33.3
4. TOK 9751-P-08-200-30.2
5. TOK 9751-R-01-9.5-26.9

TOK 9751 – Probe 1,91 mm / 75 mil

Head Styles

Type		Dim. ØH	Application		Length(s) *
01	16 point serrated	1,22 mm		Lands, pads, leads, terminals.	26.3 mm 30.2 mm
02	6 fluted star	1,22 mm		Plated through holes, pads, lands.	33.3 mm
03	concave	1,40 mm		Long leads terminal, wire wrap pads.	26.3 mm 30.2 mm
04	conic head 30°	0,74 mm		Cuts oxidation and contamination.	33.3 mm
05	4 point crown	1,22 mm		Test pads, leads, solder points.	26.3 mm 30.2 mm
06	round	0,74 mm		Gold edge fingers, plated through holes. Leaves no marks.	33.3 mm
07	3 point crown	0,74 mm		Suitable for SMD testing due to smaller head	26.3 mm 30.2 mm
08	9 point serrated with isolation sleeve	1,93 mm	 connection  no connection	Lands, pads, leads, terminals. The probe within the isolation sleeve will not make an electrical connection if no lead is present. Additionally, the isolation sleeve prevents accidental interference between probes.	26.3 mm 30.2 mm
09	6 fluted star	0,74 mm		Plated through holes, pads, lands.	33.3 mm
10	9 point serrated thin	0,53 mm		Small pads (1,2-1,5 mm), small pads with solder.	33.3 mm

* Other lengths can be produced on request

How to order

TOK 9751 - P - 01 - 200 - 33.3

Series	Probe	Head style	Spring force (g)	Dimension L1 (mm)
TOK 9751	P	01 05 09 02 06 10 03 07 04 08	100 200	26.3 30.2 33.3

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9751 – Receptacle 1,91 mm / 75 mil

The Test Probe Receptacle is available with two solder end types.

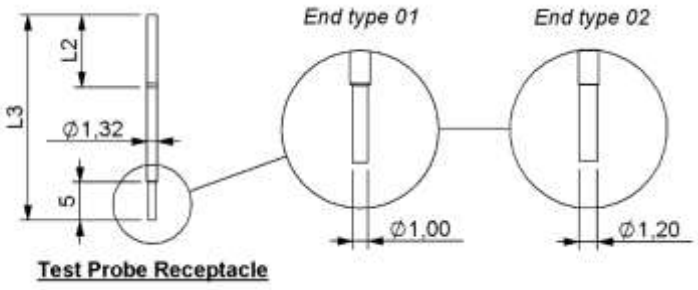
End type 01 facilitates high density of test probes with a pitch of 75 mils. An example of this is the application of probing a metric connector with 3 or more rows of solder pins, with a pitch of 2 mm.

End type 02 can be used as a replacement for industry standard receptacles.

Two lengths are available:
TOK-9751-R-XX-5.6-23.0 is suitable for use with test probes of length 26.3.

TOK-9751-R-XX-9.5-26.9 is suitable for use with test probes of length 30.2 and 33.3.

Dimensions (mm)



Test Probe Receptacle

Technical data

Spacing (minimum)	1,91 mm / 75 mil

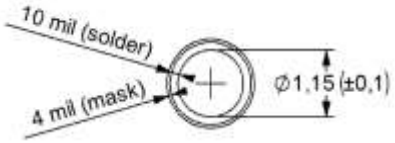
Materials

Receptacle	Bronze, gold plated

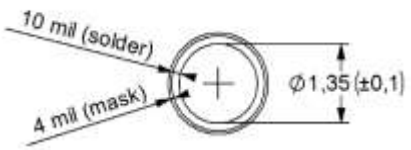
Drill hole sizes (mm)

Positioning board	Ø3,2 (±0,05)
Spacer board	Ø1,35 (±0,05)
Connector board	Ø1,15 (±0,1) with end type 01
	Ø1,35 (±0,1) with end type 02

Routing



Pad layout (end type 01)



Pad layout (end type 02)

How to order

TOK 9751 - R - 01 - 9.5 - 26.9

Series	Receptacle	End type	Dimension L2 (mm)	Dimension L3 (mm)
TOK 9751	R	01 02	5.6 9.5	18.2 23.0 26.9

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9753 – Test Probe 4,50 mm / 180 mil

The TOK 9753 test probes are high current probes, suitable for continuous currents of up to 8,0 A, and peak currents of up to 15 A.

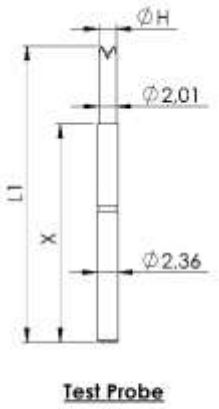
Test probes are available with different head styles. Deviating head styles are available on special request.

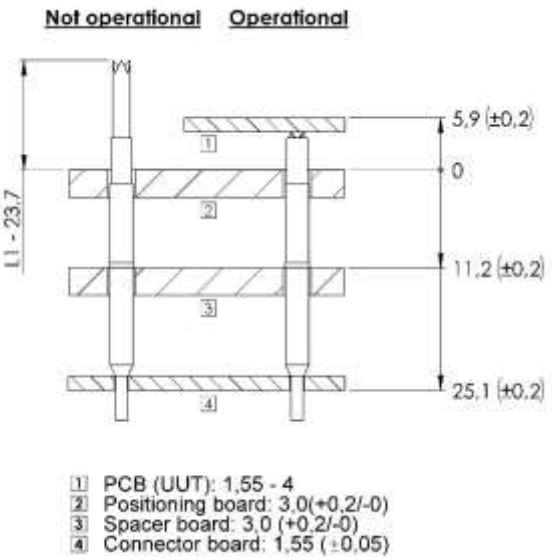
These probes are available in two different lengths, allowing for adapting the height of the probe in respect to the solder end of the component to be tested.

Deviating spring forces are also available on special request.

Please note:
When implementing more than 200N worth of test probes in a module, we strongly advise the use of one or more **TOK 9830 – Beam**s (see 90).

Dimensions (mm)





Technical Data

Spacing	4.5 mm / 180 mil
Spring force at working level	200 g
Current rating	7,0 A (Peak: 30A)
Typical contact resistance	50 mΩ
Full travel	6,30 mm
Recommended working travel	4,30 mm

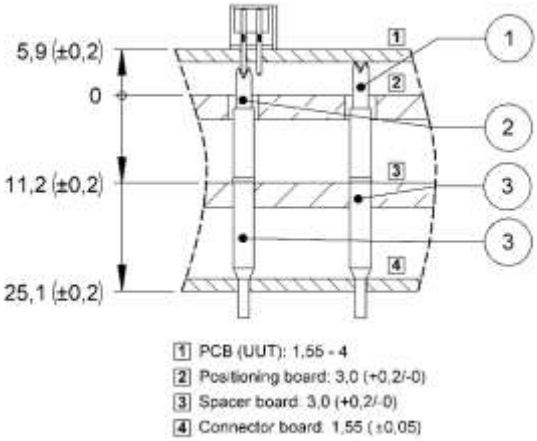
Materials

Pin barrel	Brass – Deep Silver plated
Pin spring	Music Wire, Deep Silver plated
Pin plunger	Hardened beryllium copper

Lengths

The various lengths of the test probes are appropriate for differing situations:

L1	X	Suitable for contacting of
30.2 mm	21.8 mm	through hole components on the UUT
33.3 mm	24.9 mm	the UUT itself as well as the pads of SMD components

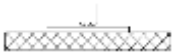
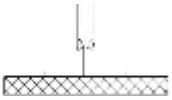
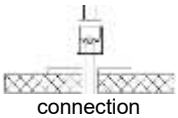
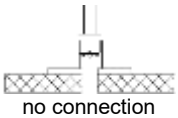


Legend

1. TOK 9753-P-05-200-33.3
2. TOK 9753-P-05-200-30.2
3. TOK 9753-R-01-9.5-26.9

TOK 9753 – Test Probe 4,50 mm / 180 mil

Head Styles

Type		Dim. ØH	Application		Length(s) *
01	 9 point serrated	3,90 mm		Lands, pads, leads, terminals.	30.2 mm 33.3 mm
05	 4 point crown	2,01 mm		Test pads, leads, solder points.	30.2 mm 33.3 mm 33.8 mm**
08	 9 point serrated with isolation sleeve	3,90 mm	 connection  no connection	Lands, pads, leads, terminals. The probe within the isolation sleeve will not make an electrical connection if no lead is present. Additionally, the isolation sleeve prevents accidental interference between probes.	30.2 mm

* Other lengths can be produced on request
** The extra length is to ensure that the probe touches the UUT first when closing the machine and touches the UUT last when opening the machine.

How to order

TOK 9753 - P - 01 - 200 - 33.8

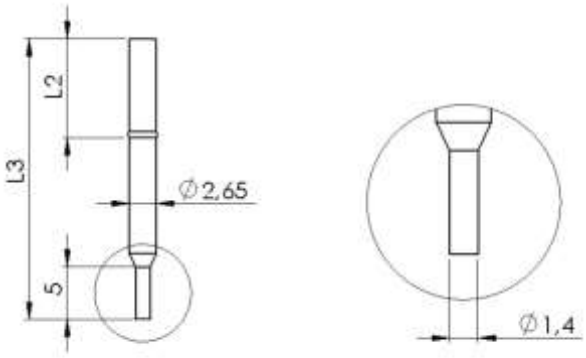
Series	Probe	Head style	Spring force (g)	Dimension L1 (mm)
TOK 9753	P	01 05 08	200 300	30.2 33.3 33.8

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9753 - Receptacle 4,50 mm / 180 mil

This Test Probe Receptacle is available with one solder type.

Dimensions (mm)



Test Probe Receptacle

Technical data

Spacing (minimum)	4,50 mm / 180 mil

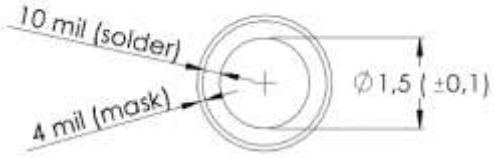
Materials

Receptacle	Bronze, gold plated

Drill hole sizes (mm)

Positioning board	Ø5 (±0,05)	for TOK 9753-P-01-200-33,8
	Ø4 (±0,05)	for TOK 9753-P-05-200-33,8
Spacer board	Ø2,7 (±0,05)	
Connector board	Ø1,5 (±0,1)	

Routing



Pad layout

How to order

TOK 9753 - R - 01 - 9.5 - 26.9

Series	Receptacle	End type	Dimension L2 (mm)	Dimension L3 (mm)
TOK 9753	R	01	9.5	26.9

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9755 – Test Probe 1,27 mm / 50 mil

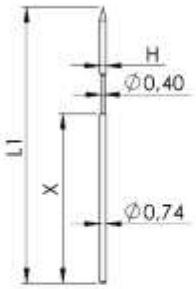
The TOK 9755 - Probes are generally used when high densities of test probes are required.

Test Probes are available with different head styles. Deviating head styles are available on special request.

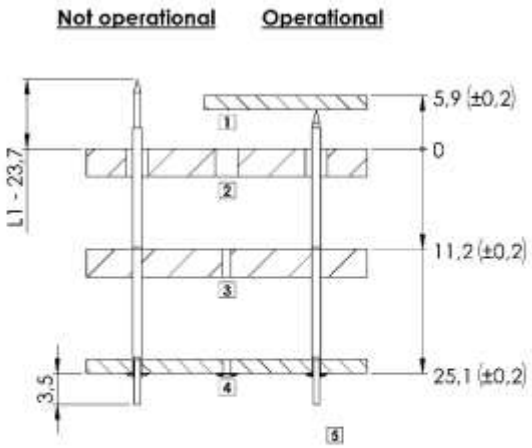
Deviating spring forces are also available on special request.

Please note:
When implementing more than 200N worth of test probes in a module, we strongly advise the use of one or more **TOK 9830 – Beam**s (see p 90).

Dimensions (mm)



Test Probe



Technical Data

Spacing	1,27 mm / 50 mil
Spring force at working level	100 / 200 g
Current rating	3,0 A
Typical contact resistance	20 mΩ
Full travel	4,35 mm
Recommended working travel	2,35 mm

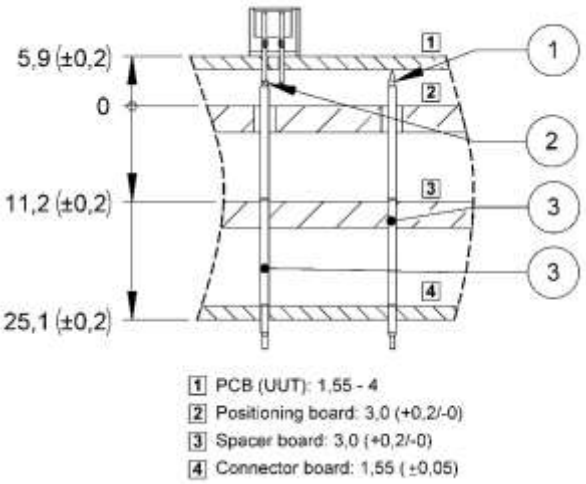
Materials

Pin barrel	Brass – gold plated
Pin spring	Music Wire, silver/gold plated
Pin plunger	Hardened beryllium copper

Lengths

For this probe, the length is appropriate for differing situations:

L1	X	Suitable for contacting of
29.7 mm	18.9 mm	through hole components on the UUT
30.8 mm	18.9 mm	the UUT itself as well as the pads of SMD components

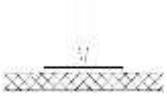
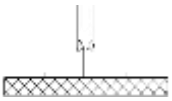


Legend

1. TOK 9755-P-04-100-30.8
2. TOK 9755-P-05-100-29.7
3. TOK 9755-R-03-9.5-30.9

TOK 9755 – Test Probe 1,27 mm / 50 mil

Head Styles

Type		Dim. ØH	Application		Length(s) *
04	 conic head 30°	0,74 mm		Cuts oxidation and contamination.	30.8 mm
05	 4 point crown	0,74 mm		Test pads, leads, solder points.	29.7 mm

* Other lengths can be produced on request

How to order

TOK 9755	-	P	-	01	-	100	-	29.7
Series		Probe		Head style		Spring force (g)		Dimension L1 (mm)
TOK 9755		P		04 05		100		30.8 29.7

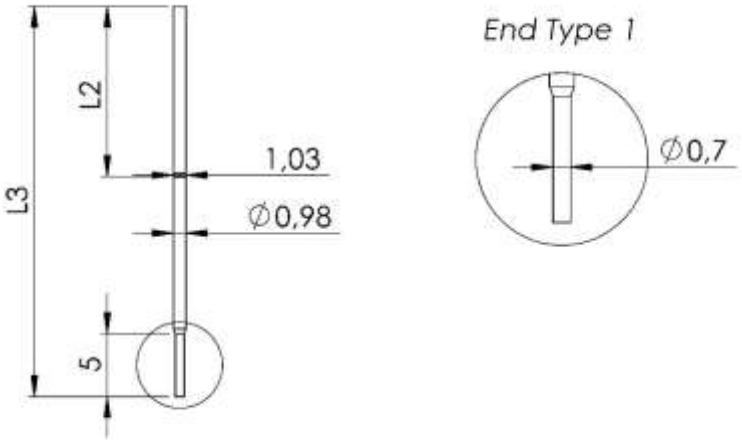
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9755 – Receptacle 1,27 mm / 50 mil

The Test Probe Receptacle is available with two solder end types.

The TOK 9755 - Receptacle facilitates high density of test probes with a pitch of 50 mils. An example of its use is the application of probing a metric connector with 3 or more rows of solder pins, with a pitch of 1,27 mm.

Dimensions (mm)



Test Probe Receptacle

Technical data

Spacing (minimum)	1,27 mm / 50 mil

Materials

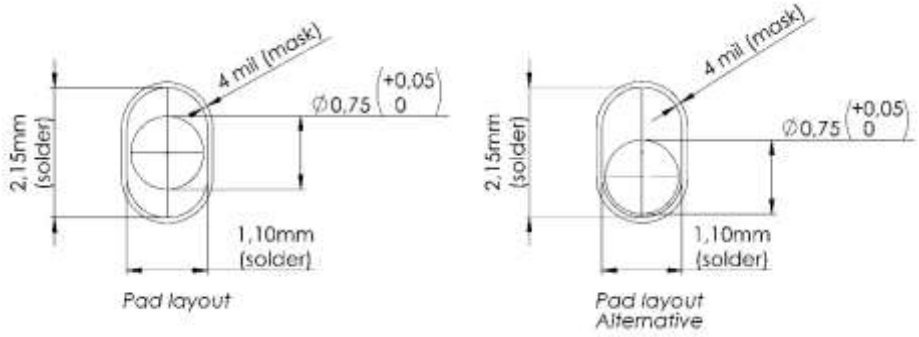
Receptacle	Bronze, gold plated

Hole sizes (mm)

Positioning board	Ø2,5 (±0,05)
Spacer board	Ø1,00 (±0,02)
Connector board	Ø0,75 (+0,05 / - 0.0) **(PLATED)**

Routing

Connector board holes need to be **Plated Through Holes**
The indicated dimensions are for the finished holes.



How to order

TOK 9755 - R - 01 - 13.5 - 30.9

Series	Receptacle	End type	Dimension L2 (mm)	Dimension L3 (mm)
TOK 9755	R	01	13.5	30.9

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Standard Module Items

The standard collection of module items includes everything necessary to fix module boards together, keep the UUT in its proper place, and align the modules correctly.

The FAST-LOCK system enables robust fixation of the UUT without necessitating a top module. The FAST-LOCK holds the UUT in place on the positioning board during testing, and automatically releases it when the test probes are retracted. This makes switching out the UUT completely hassle free.

Positioning Sliders are used when accurate placement of a top module is required, aligning all three modules with precision. They are often combined with the Module Adapter Board and Downholders (type 2). Module Spacers strengthen modules significantly by connecting the positioning and connector module boards to each other. Centre Pins are fixed to the bottom module, and ensure that the test probes and the UUT are aligned accurately. Peripheral pins are placed on the positioning board to correctly place the UUT.

The TEST-OK BEAM System is developed to minimize bending within the module system, even when implementing large numbers of test probes. It is advisable to include one or more BEAMs in a module system if the total test probe force exceeds 150N, and two or more BEAMs at 300N. The BEAM system consists of three types of aluminium profiles to be placed between the boards of the bottom and top module or onto the positioning module. This provides a very robust connection, significantly reducing the bending of the modules.

A BEAM can also be placed directly underneath a FAST-LOCK, so that the forces, when operating the FAST-LOCKs are transferred directly to the BEAM. This also minimizes bending of the module boards.

Standard Module Items

TOK 9710	FAST-LOCK		71
TOK 9720	Positioning Slider		74
TOK 9721	Module Spacer		76
TOK 9726	FAST-LOCK Pin and Ring		78
TOK 9740	Module Frame Set		80
TOK 9760	Centre Pin		81
TOK 9761	Centre Pin Narrow		82
TOK 9770	Peripheral Positioning Pin		83
TOK 9771	Peripheral Positioning Pin		84
TOK 9780	Peripheral Hook Pin		85
TOK 9822	Connector Board Cover		86
TOK 9830	BEAM		90

Standard Module Items

TOK 9836	BEAM - 3		91
TOK 9837	BEAM - 25		91
TOK 9831	BEAM-Strip		93
TOK 9832	BEAM-Nut		95
TOK 9835	Rubber Base		96

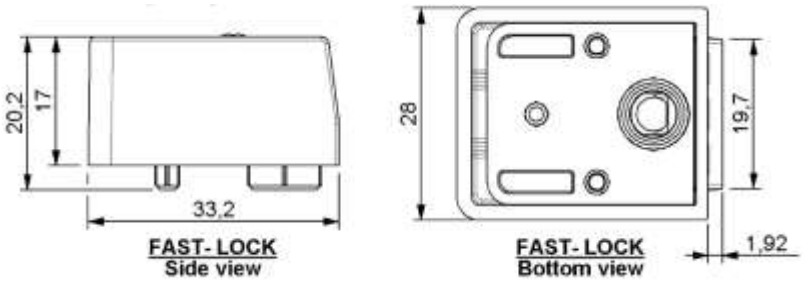
TOK 9710 – FAST-LOCK

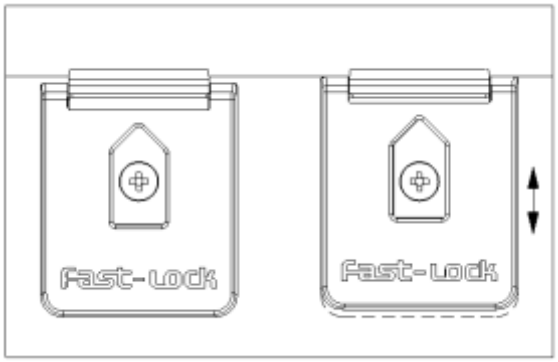
The *TOK 9710 - FAST-LOCK* is used to fixate the PCB during tests. FAST-LOCKs can be placed on all sides of the unit under test (UUT). It prevents tilting of the UUT by the force of the contacting probes. The screw on top of the FAST-LOCK allows for small adjustments of the FAST-LOCK's position on the positioning board. The pitch between each FAST-LOCK should be between 70 and 100mm.

The FAST-LOCK is available in two variations. The difference between the two is due to the use of different pins. The Type 01 includes a pin which is attached directly to the spacer board and connector board. The Type 02 has a pin that is fixed to the FAST-BEAM, which improves the bottom module's strength, minimizing deformation.

Please note that preferably FAST-LOCKs should not be used to centre a UUT. To do this, you should use one, or preferably two, *TOK 9760 - Centre Pins* or *TOK 9761 - Centre Pin Narrow*.

Dimensions (mm)

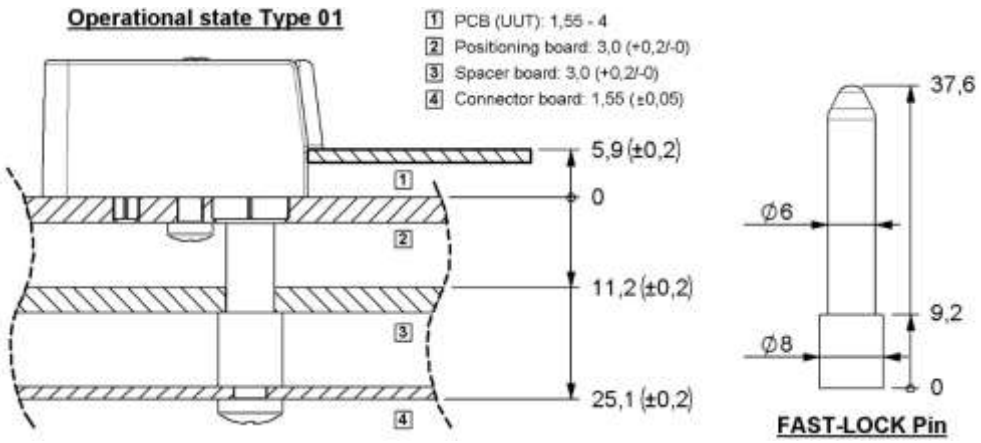




The FAST-LOCK can be adjusted horizontally after it has been placed on the module board. Loosen the screw on top of the FAST-LOCK to enable adjustment. The maximum adjustment is 0.2 mm forwards, and 0.3 mm backwards. Then fasten the screw to fix it in place. This is useful for ensuring a good fit with the UUT.

TOK 9710 – FAST-LOCK

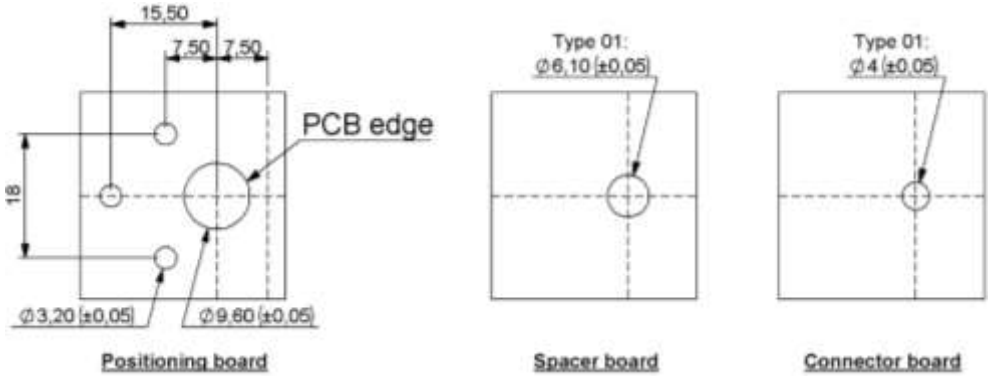
TOK 9710-01



Fasteners Type 01 (included)

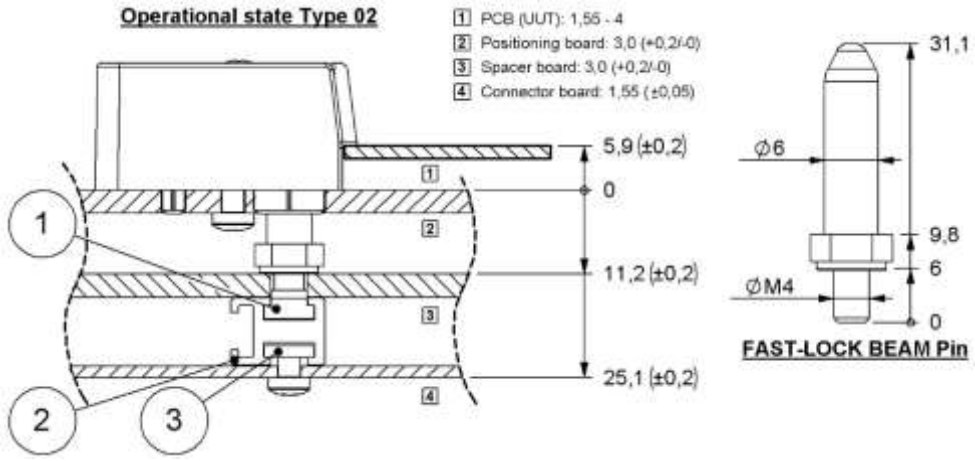
FAST-LOCK:	DIN 7500CE - M3 x 10 (2x)
FAST-LOCK Pin:	DIN 7985H - M4 x 8 (1x)

Type 01 drill hole pattern (mm)



TOK 9710 – FAST-LOCK

TOK 9710-02



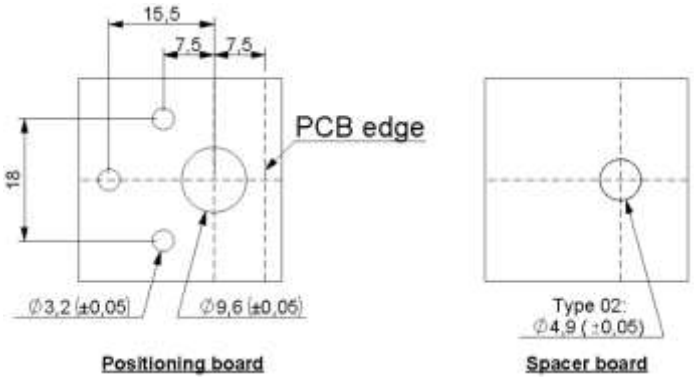
Legend

4. BEAM-Nut
5. BEAM
6. BEAM-Strip

Fasteners Type 02 (included)

FAST-LOCK:	DIN 7500CE - M3 x 10 (2x)
FAST-LOCK BEAM Pin:	BEAM Nut

Type 02 drill hole pattern (mm)



How to order

TOK 9710 - 01

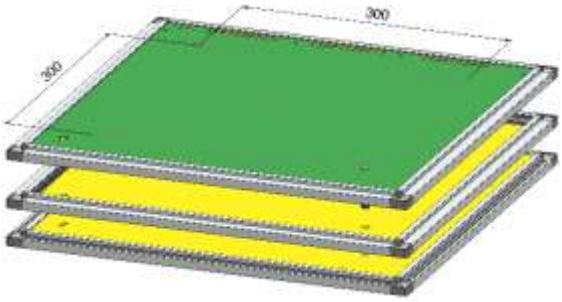
Series	Type
TOK 9710	01 02

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

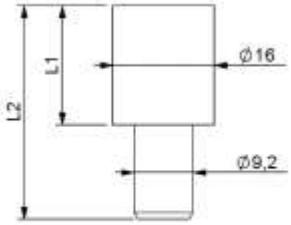
TOK 9720 – Positioning Slider

Description

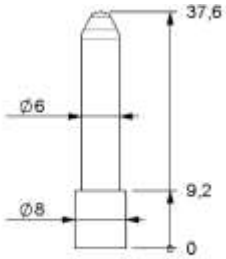
When using a top module in your test configuration, it's advisable to implement two of these positioning sliders in the module design. They will ensure proper alignment of all three modules.
Preferably space these two positioning sliders as in the picture on the right: on opposite corners of a 300 x 300 mm square.



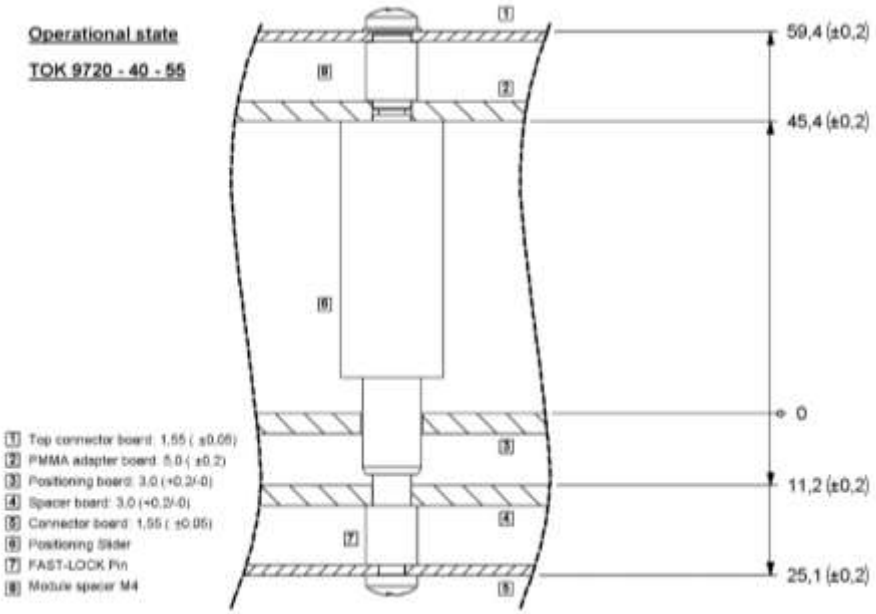
Dimensions (mm)



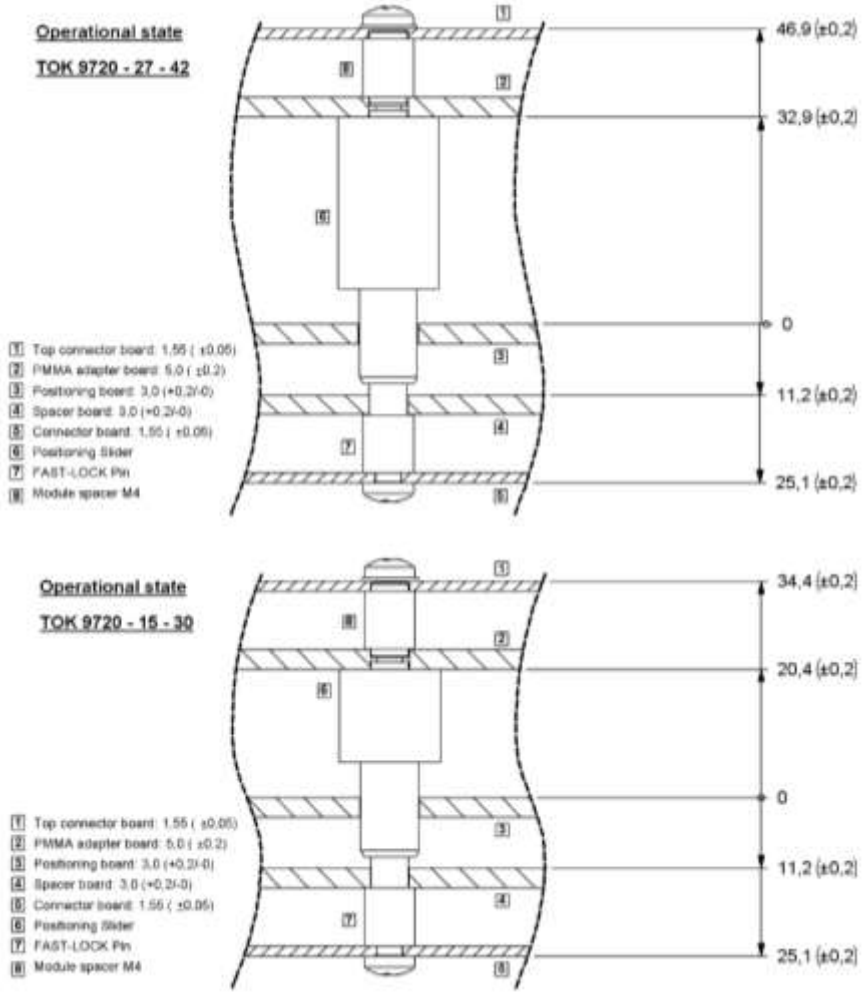
Positioning Slider



FAST- LOCK Pin



TOK 9720 – Positioning Slider



Drill hole sizes (mm)

Top connector board:	Ø6,2 (±0,05)
Top spacer board:	Ø6,2 (±0,05)
Positioning board:	Ø9,5 (±0,05)
Spacer board:	Ø6,1 (±0,05)
Connector board:	Ø4,0 (±0,05)

Fasteners (included)

Positioning Slider:	DIN 7985H - M4 x 20 (1x)
Positioning Slider:	Self-locking washer M4 (1x)
Positioning Slider:	TOK 9721 - 01 - 9.2 - M4 - module spacer (1x)
FAST-LOCK Pin:	DIN 7985H - M4 x 8 (1x)

How to order

TOK 9720 - 15 - 30 - 01

Series	Dim. L1	Dim. L2	Type
TOK 9720	15 27 40	30 42 55	01

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

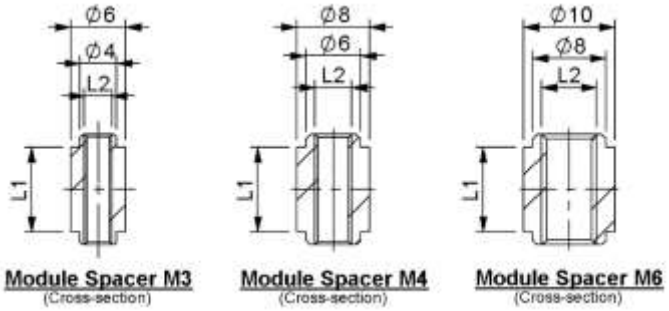
TOK 9721 – Module Spacer

M3 module spacers are normally used to strengthen the connector board and prevent bending of the module.

M4 module spacers are normally used in combination with *TOK 9720 - 14 - 29 - Positioning Slider*. (Refer to the datasheet for *TOK 9720 Series - Positioning Slider* for more information on this application.)

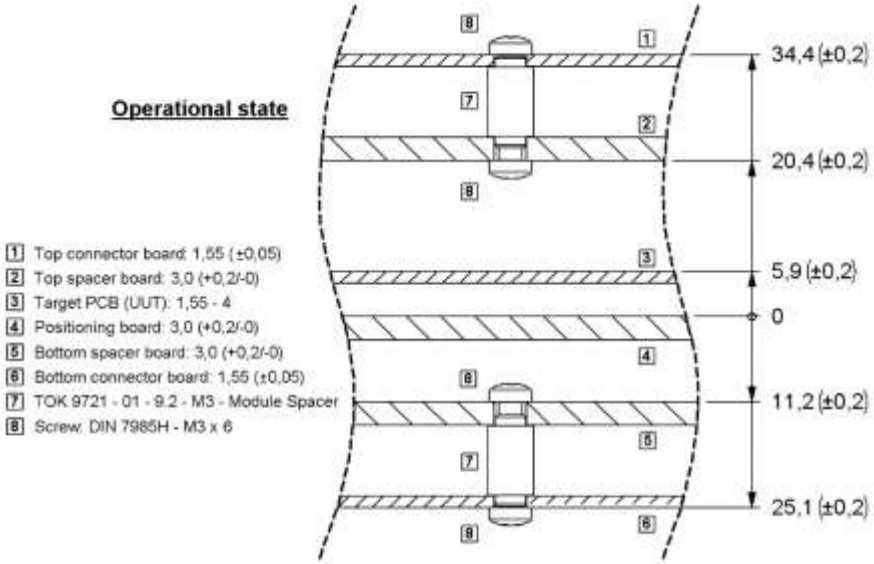
The M6 module spacer is normally used in combination with *TOK 9730 - Downholder*. (Refer to the datasheet for *TOK 9730 Series - Downholder* for more information on this application.)

Dimensions (mm)



TOK 9721 - 01 - 9.2 - M3

TOK 9721 - 01 - 9.2 - M3 is normally used to strengthen the connector board and prevent bending of the module.



Drill hole sizes (mm)

Top connector board:	Ø4,2 (±0,05)
Top spacer board:	Ø4,2 (±0,05)
Bottom spacer board:	Ø4,2 (±0,05)
Bottom connector board:	Ø4,2 (±0,05)

Fasteners (included)

TOK 9721 - 01 - 9.2 - M3:	DIN 7985H - M3 x 6 (2x)

TOK 9721 – Module Spacer

TOK 9721 - 01 - 9.2 - M4

TOK 9721 - 01 - 9.2 – M4 has the same construction as the M3 spacer but please pay attention to the dimensions required in the spacer and connector board

Drill hole sizes (mm)

Top connector board:	Ø6,2 (±0,05)
Top spacer board:	Ø6,2 (±0,05)
Bottom spacer board:	Ø6,2 (±0,05)
Bottom connector board:	Ø6,2 (±0,05)

Fasteners (included)

TOK 9721 - 01 - 9.2 - M4:	DIN 7985H – M4 x 6 (2x)

TOK 9721 - 01 - 9.2 - M6

TOK 9721 - 01 - 9.2 – M6 has the same construction as the M3 spacer but please pay attention to the dimensions required in the spacer and connector board

Drill hole sizes (mm)

Top connector board:	Ø8,2 (±0,05)
Top spacer board:	Ø8,2 (±0,05)
Bottom spacer board:	Ø8,2 (±0,05)
Bottom connector board:	Ø8,2 (±0,05)

Fasteners (included)

TOK 9721 - 01 - 9.2 - M6:	DIN 7985H – M6 x 6 (2x)

How to order

TOK 9721 - 01 - 9.2 - M3

Series	Type	Dim. L1	Dim. L2
TOK 9721	01	9.2	M3 M4 M6

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9726 – FAST-LOCK Pin and Ring

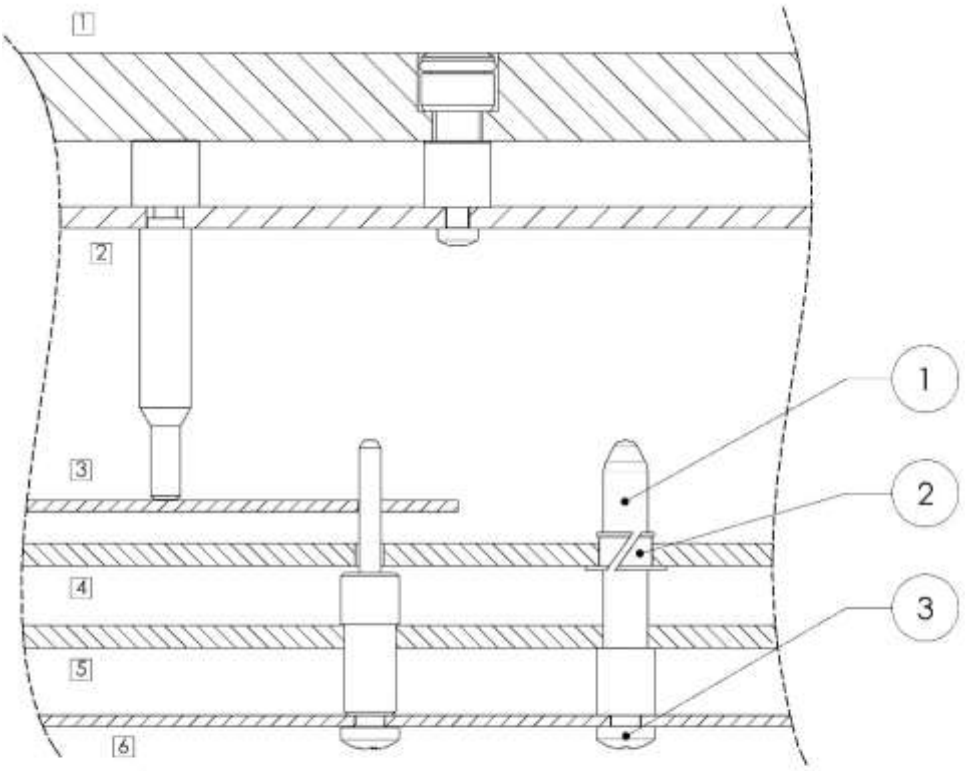
The TOK 9726 is used to align the bottom and position module when no FAST-LOCKs are being used.

We advise to use two TOK 9726 in the far corners to guarantee a good alignment of the modules.

For this setup, the use of a downholder system is required, otherwise there is nothing holding the UUT against the probes.

Also use two centre pins, either TOK 9760 or 9761, to guarantee the position of the UUT on the module.

Dimensions (mm)



1 TOK 9725 - TEST-OK 4000-B Downholder Cover :12,0 (±0,2) or
TOK 9708 - Downholder Adapter Board: 12,0 (+0,2) or
2 TOK 9709 - Downholder Sub-board
3 Target PCB (UUT) 1,55 - 4
4 Positioning board: 3,0 (+0,2/-0)
5 Spacer board: 3,0 (+0,2/-0)
6 Connector board: 1,55 (±0,05)

Legend

1. FAST-LOCK Pin
2. Plastic Bearing
3. DIN 7985 H – M4x8

Drill hole sizes (mm)

Positioning board:	Ø7,4 (±0,05)
Spacer board:	Ø6,1 (±0,05)
Connector board:	Ø4,0 (±0,05)

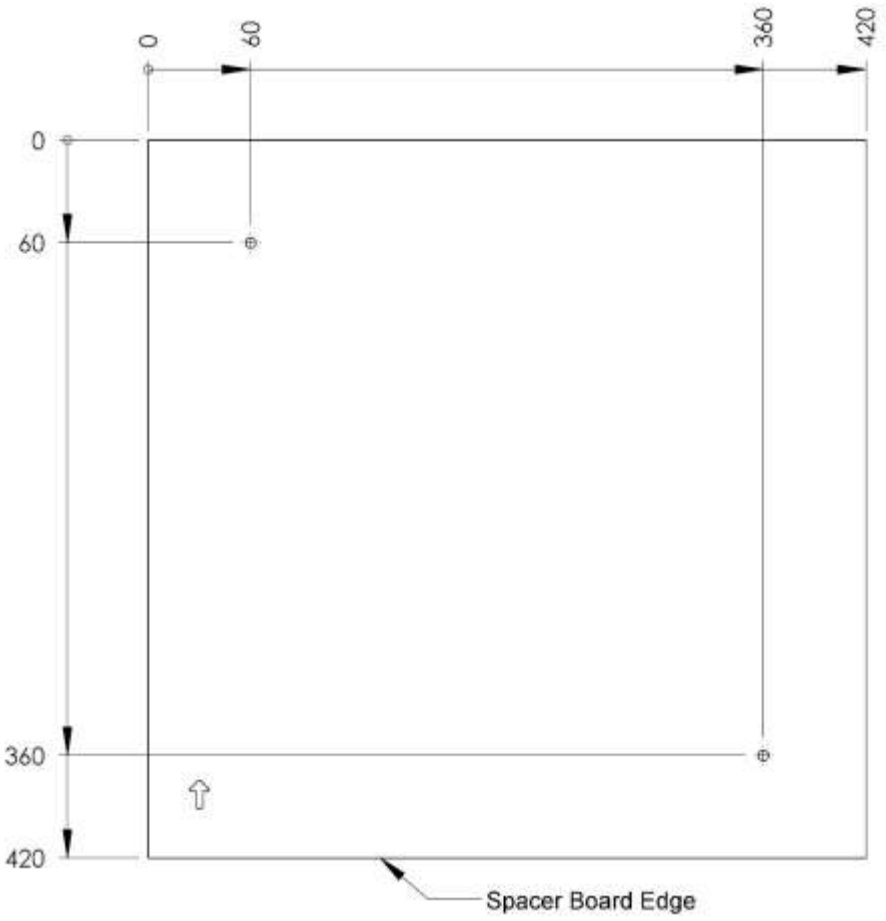
Fasteners (included)

TOK 9726:	DIN 7985H - M4 x 8 (1x)

TOK 9726 – FAST-LOCK Pin and Ring

Hole Positions

The image below indicates the location of the holes that we advise for the use of TOK 9726 – FAST-LOCK Pin and Ring.

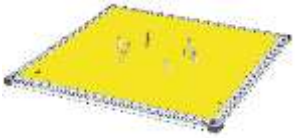


How to order

TOK 9726

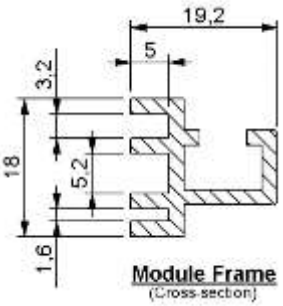
Series
TOK 9726

TOK 9740 – Module Frame Set



The module frame set contains all the parts necessary to build one module frame. A standard TEST-OK setup consists of a bottom module and middle module. A top module is optional.
The standard module frame set will allow for a 410 x 410 mm space on the boards placed inside the frame.
With the optional half-size module frame set, this is reduced to 410 x 210 mm.

Dimensions (mm)



Legend

1. Module frame profile 410mm.
2. Module frame profile 210mm.
3. Corner piece.

For detailed information on design and assembly of TEST-OK modules, please refer to the Module Design Manual.

Parts (included)

Module frame set (standard size):	Module frame profile 410mm (4x)
Module frame set (standard size):	Corner piece (4x)
Module frame set (half size):	Module frame profile 410mm (2x)
Module frame set (half size):	Module frame profile 210mm (2x)
Module frame set (half size):	Corner piece (4x)

How to order

TOK 9740 - F

Series	Size
TOK 9740	F = full size H = half size

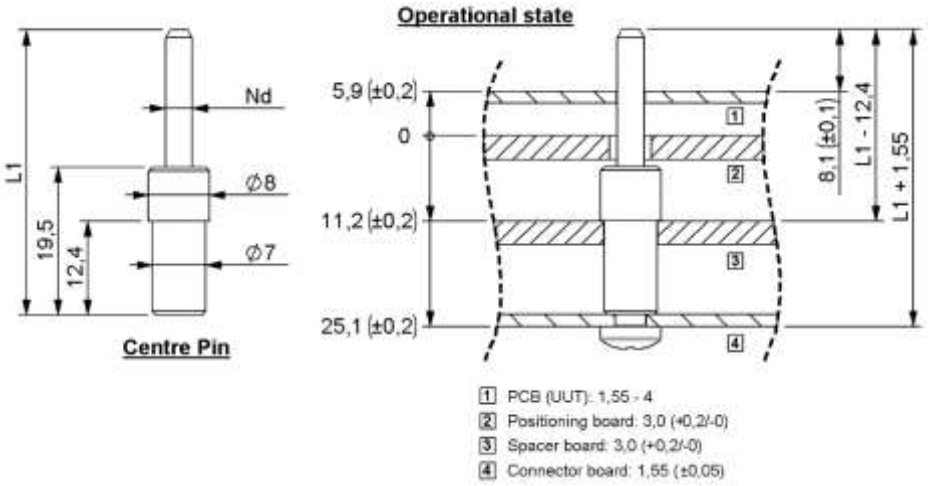
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9760 – Centre Pin

Stainless steel centring pin, used for positioning the unit under test (UUT) before the contacting of the test probes. Available in eight different diameters.

Deviating diameters are available on special request.

Dimensions (mm)



Drill hole sizes (mm)

PCB (UUT):	Nd + 0,2 (±0,1)
Positioning board:	Nd + 1,0 (±0,05)
Spacer board:	Ø7,1 (±0,05)
Connector board:	Ø4,0 (±0,05)

Component clearance (mm)

PCB (UUT):	Nd + 1,0
Connector board:	Ø9,0

Fasteners (included)

Centre Pin:	DIN 7985H - M4 x 8 (1x)

How to order

TOK 9760 - 2.5 - 37.6

Series	Dim. Nd	Dim. L1
TOK 9760	1.5 to 5.0 (Increment: 0.5)	37.6

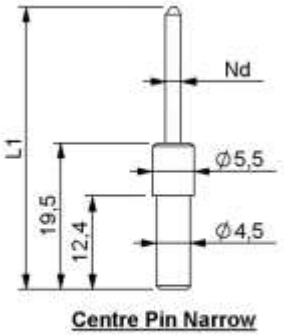
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

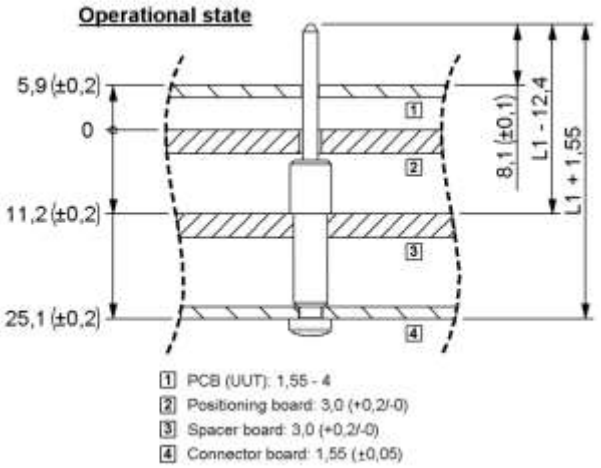
TOK 9761 – Centre Pin Narrow

Stainless steel centring pin, used for positioning the unit under test (UUT) before the contacting of the test probes. Available in eight different diameters.

Deviating diameters are available on special request.

Dimensions (mm)





Drill hole sizes (mm)

PCB (UUT):	Nd + 0,2 (±0,1)
Positioning board:	Nd + 1,0 (±0,05)
Spacer board:	Ø4,6 (±0,05)
Connector board:	Ø3,0 (±0,05)

Component clearance (mm)

PCB (UUT):	Nd + 1,0
Connector board:	Ø7,0

Fasteners (included)

Centre Pin:	DIN 7985H - M3 x 8 (1x)

How to order

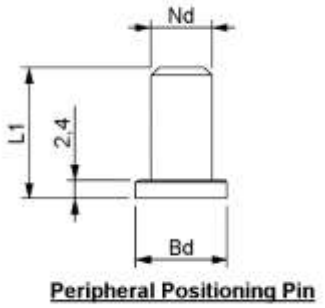
TOK 9761 - 2.5 - 37.6

Series	Dim. Nd	Dim. L1
TOK 9761	1.5 to 4.5 (Increment: 0.5)	37.6

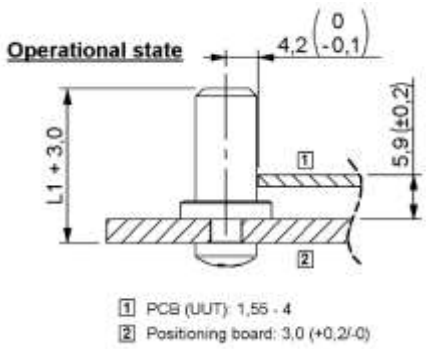
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9770 – Peripheral Positioning Pin

Dimensions (mm)



Peripheral Positioning Pin



Peripheral positioning pins can be placed around the edges of the unit under test (UUT) to position the UUT on the positioning board. They are mainly used when insufficient space is available for a FAST-LOCK unit.

There are three versions available: the standard version with a flange at the bottom (TOK 9770 - 8.0 - 12.0 - 17.2), a version without flange, (TOK 9770 - 8.0 - 8.0 - 17.2) and a short thinner version. (TOK 9770 - 5.0 - 5.0 - 12.6).

Drill hole sizes (mm)

Positioning board TOK 9770-8.0-8.0-17.2	Ø4,0 (±0,05)
Positioning board TOK 9770-8.0-12.0-17.2	Ø4,0 (±0,05)
Positioning board TOK 9770-5.0-5.0-12.6	Ø3,0 (±0,05)

Fasteners (included)

TOK 9770-8.0-8.0-17.2	DIN 7985H - M4 x 8 (1x)
TOK 9770-8.0-12.0-17.2	DIN 7985H - M4 x 8 (1x)
TOK 9770-5.0-5.0-12.6	DIN 7985H - M3 x 8 (1x)

How to order

TOK 9770 - 8.0 - 12.0 - 17.2

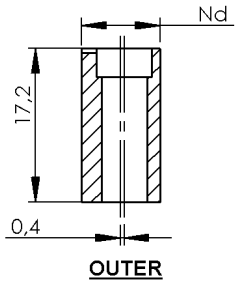
Series	Dim. Nd	Dim. Bd	Dim. L1
TOK 9770	8.0 5.0	8.0 12.0 5.0	17.2 12.6

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

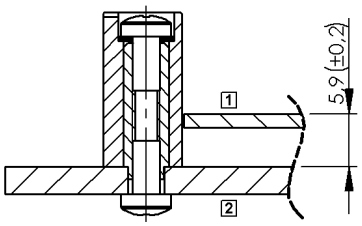
TOK 9771 – Adjustable Peripheral Positioning Pin

Adjustable peripheral positioning pins are adjustable (to a maximum of 0.8 mm per pin), allowing fine positioning of the UUT, after installation. There are two types available: the TOK 9771 - 8.8 (M3) and TOK 97 71 – 6 (M2).

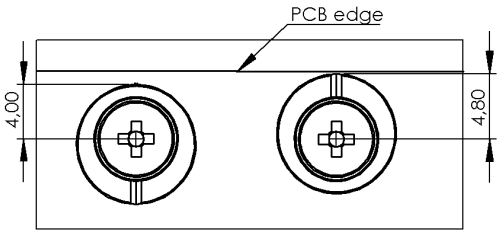
Dimensions (mm)



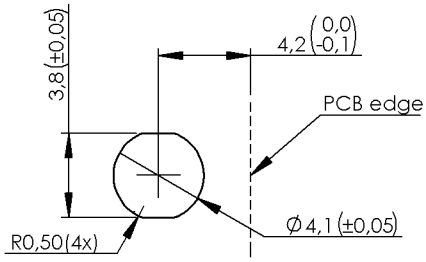
Operational state



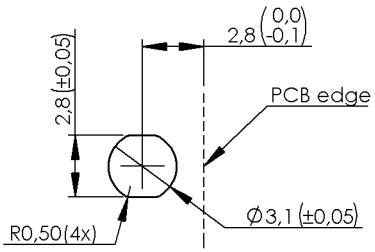
1 PCB (UUT): 1,55 - 4
2 Positioning board: 3,2 (-0,1)



Milling pattern (mm)



Positioning board
TOK 9771-8.8



Positioning board
TOK 9771-6

Fasteners (included)

TOK9771-8.8	DIN 7985H - M3 x 6 (2x)
TOK9771-8.8	3.2x6x0,5 Washer (1x)
TOK9771-6	DIN 7985H – M2 x 6 (2x)
TOK9771-6	2.1x4x0,5 Washer (1x)

How to order

TOK 9771 - 8.8

Series	Dim. Nd
TOK 9771	8.8 6

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

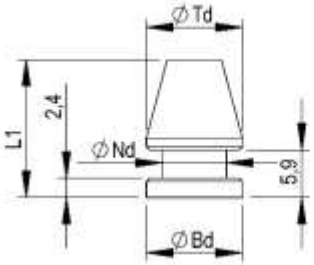
TOK 9780 – Peripheral Hook Pin

Peripheral positioning pins can be placed around the edges of the unit under test (UUT) to position the UUT on the positioning board. They are mainly used when insufficient space is available for a FAST-LOCK unit.

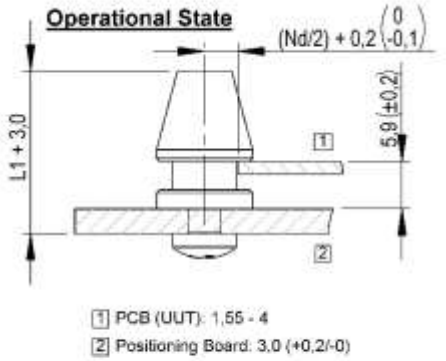
This “Hook Pin” is a variation of the TOK 9770 - Peripheral Positioning Pin. Its main dimensions are identical, but its mushroom-shape prevents the UUT from being pushed upwards by the force of the test probes.

IMPORTANT!
Please note that these pins may not be placed on opposite sides of the UUT, as this will make it impossible to position the UUT.

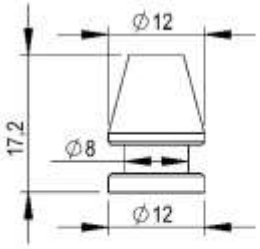
Dimensions (mm)



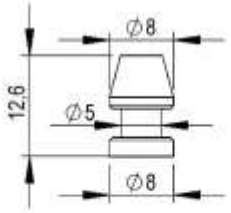
Peripheral Hook Pin



1 PCB (UUT): 1,55 - 4
2 Positioning Board: 3,0 (+0,2/-0)



TOK 9780-8.0-12.0-12.0-17.2



TOK 9780-5.0-8.0-8.0-12.6

Drill hole sizes (mm)

Positioning board TOK9780-8.0-12.0-12.0-17.2	Ø4,0 (±0,05)
Positioning board TOK9780-5.0-8.0-8.0-12.6	Ø3,0 (±0,05)

Fasteners (included)

TOK9780-8.0-12.0-12.0-17.2	DIN 7985H - M4 x 8 (1x)
TOK9780-5.0-8.0-8.0-12.6	DIN 7985H - M3 x 8 (1x)

How to order

TOK 9780 - 8.0 - 12.0 - 12.0 - 17.2

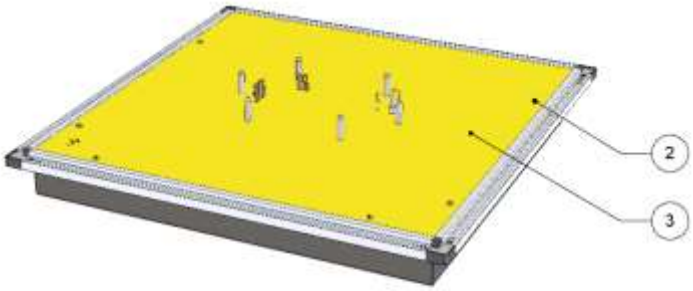
Series	Dim. Nd	Dim. Td	Dim. Bd	Dim. L1
TOK 9770	8.0 5.0	12.0 8.0	12.0 8.0	17.2 12.6

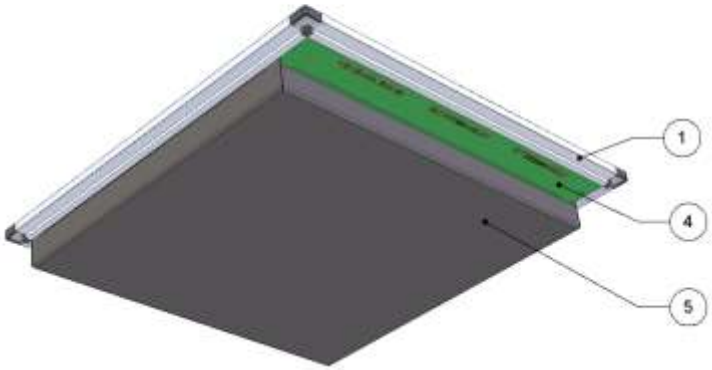
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

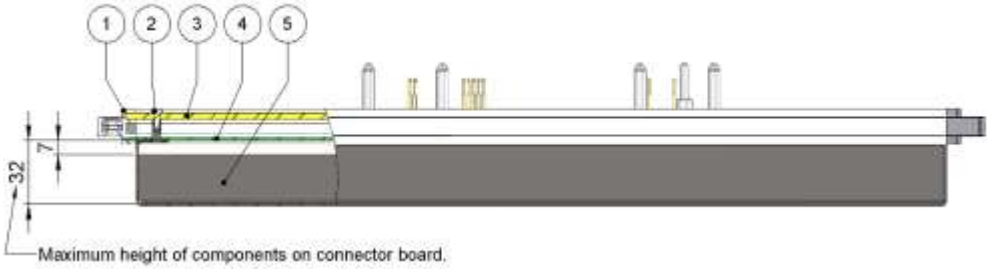
TOK 9822 – Connector Board Cover

Description

The connector board cover can be used to protect components on the bottom of the connector board.







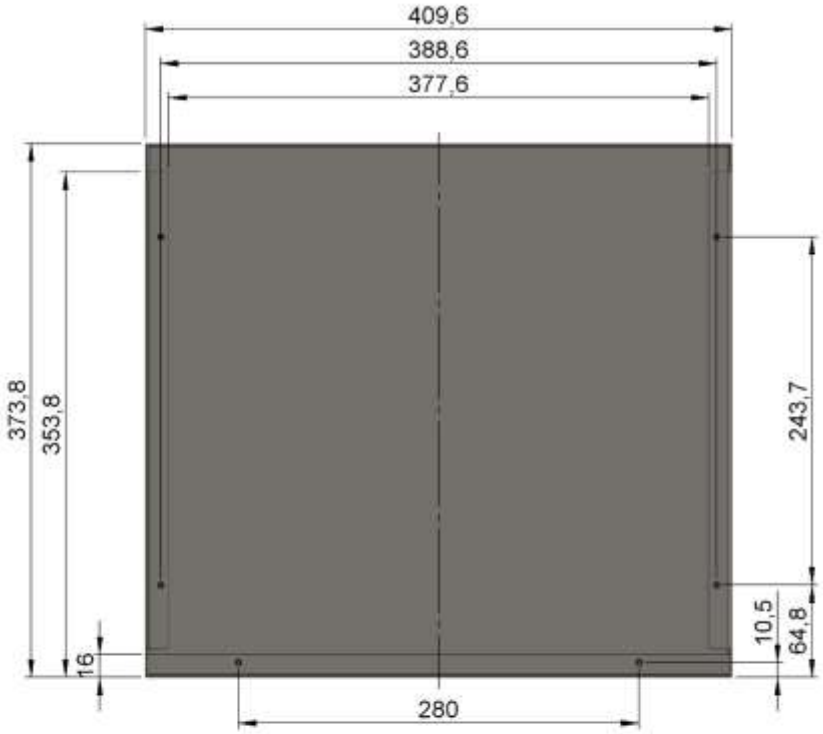
Legend

1.	**TOK 9740 – F**	Module frame set
2.	**DIN 7985H - M3 x 8**	Screw
3.	**TOK 9705**	Spacer board
4.	**TOK 9700 - AQ - B - 0**	Connector board
5.	**TOK 9822**	Connector board cover

TOK 9822 – Connector Board Cover

Dimensions (mm)

3D View

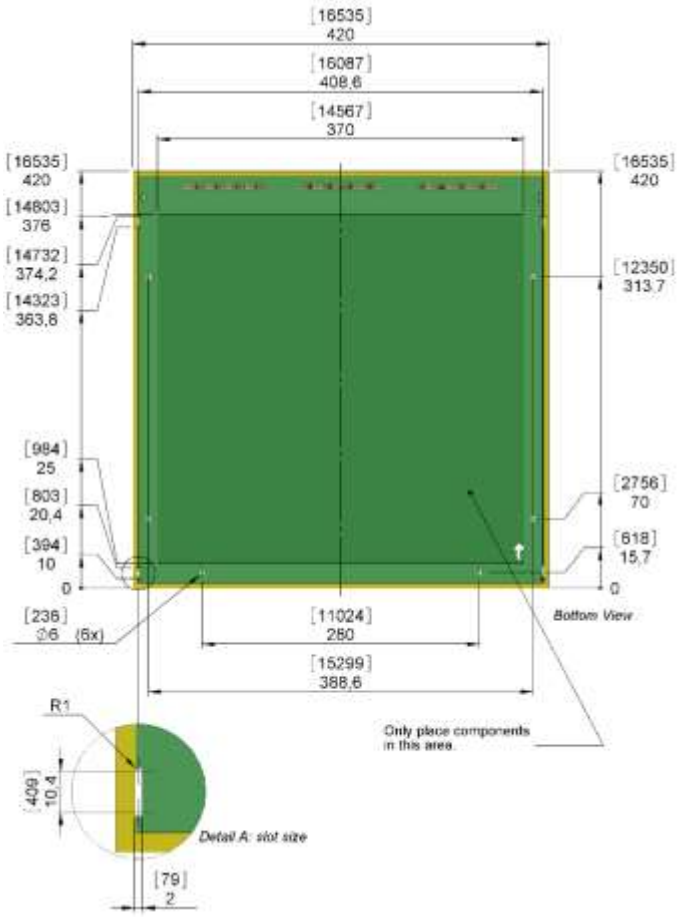


Top View

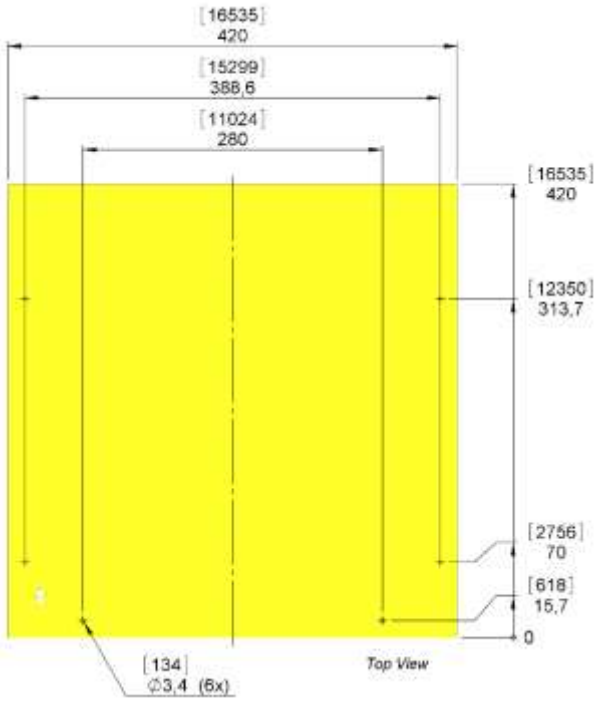
Front View

TOK 9822 – Connector Board Cover

Hole pattern connector board



Hole pattern spacer board



TOK 9822 – Connector Board Cover

Materials

Connector board cover:	Aluminium, powder coated

Drill hole sizes (mm)

Connector board:	Ø6,0 (±0,05) (6x), slots: 12,4 x 2 (4x)
Spacer board:	Ø3,4 (±0,05) (6x)

Fasteners (included)

Screws	DIN 7985H - M3 x 8 (6x)

How to order

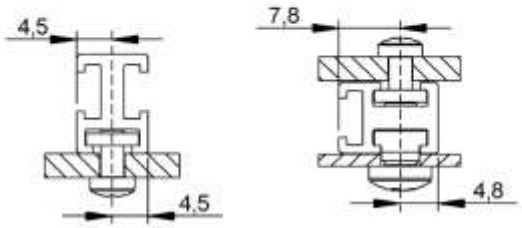
TOK 9822

Series
TOK 9822

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9830 – BEAM – Strengthening BEAM

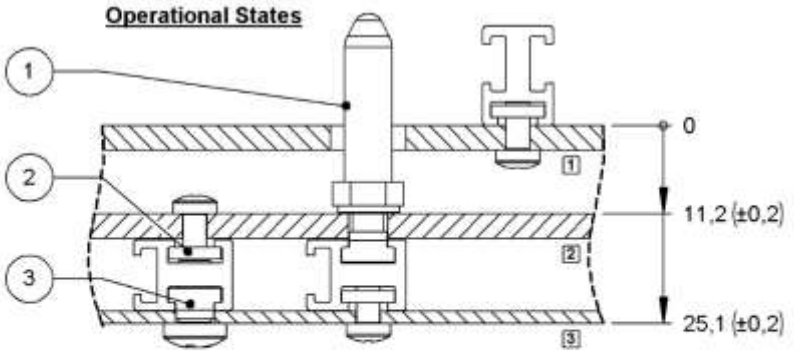
Dimensions (mm)



This BEAM is used to strengthen modules. It can be used in both the bottom module as well as the positioning module.

The BEAM is attached to the boards with either the BEAM-Strip, or using BEAM-Nuts. Additionally, special FAST-LOCK pins can be placed directly onto the beam.

Note: The BEAM is anodized and therefore isolated.



Legend

1. TOK 9728 - FAST-LOCK BEAM Pin
2. TOK 9831 - BEAM-Strip
3. TOK 9832 - M4 - BEAM-Nut

[1] Positioning board: 3,0 (+0,2/-0)
[2] Spacer board: 3,0 (+0,2/-0)
[3] Connector board: 1,55 (±0,05)

For examples of the usage possibilities of the BEAM, please refer to the 'BEAM Examples' document.

Material

Aluminium (anodized)

How to order

TOK 9830

Series
TOK 9830

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9836 – BEAM – 3 – Small Strengthening Beam

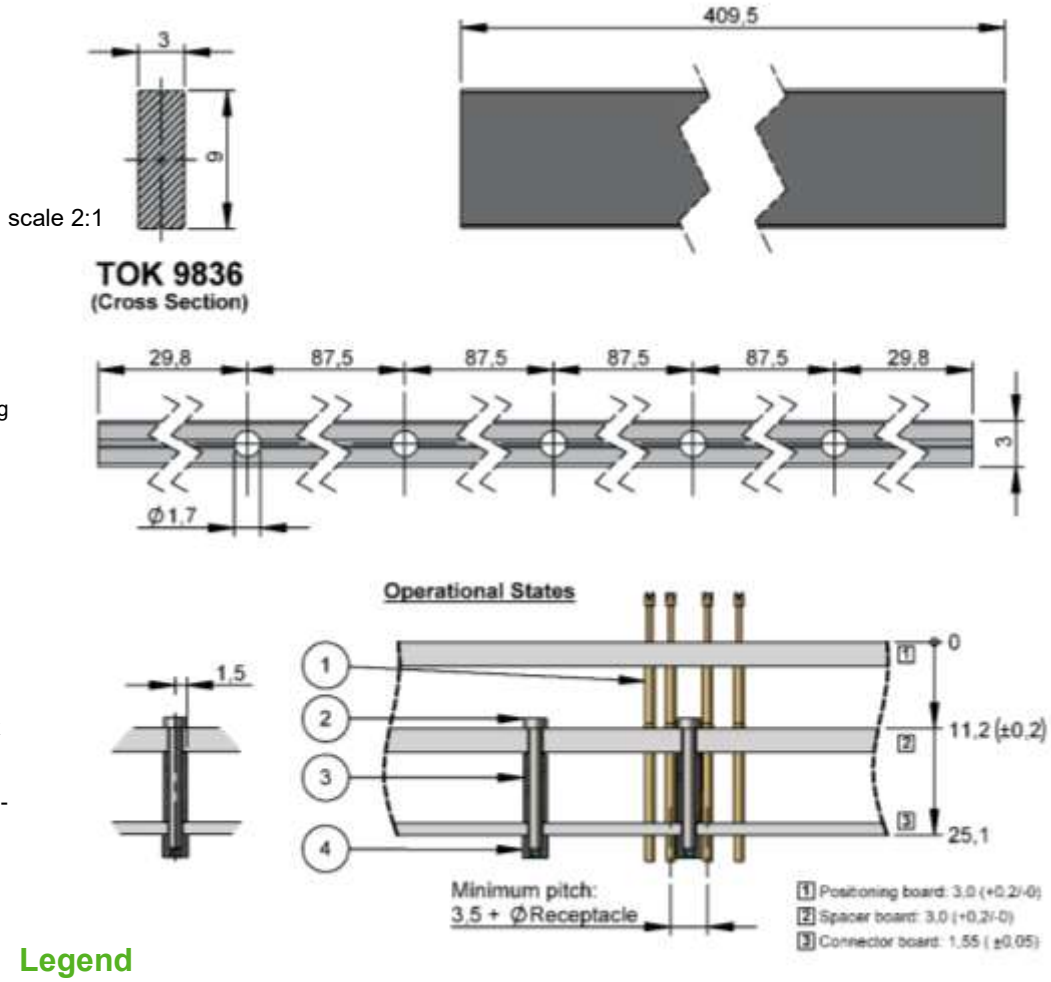
BEAM - 3 is used to strengthen modules where a high amount of probes is being used. It can be used in both the bottom module as well as the positioning module.

BEAM – 3 is used for PCB's with a high amount of test probes or for panel testing which increase the number of probes being used in the module.

BEAM – 3 is connected to the board with a 5 screws (M1.6 x 16) and Soldering Nuts. The Soldering Nut is soldered to the connector board in the top- and bottom module.

Note: BEAM - 3 is anodized and therefore isolated.

Dimensions (mm)



Legend

1. TOK 975X – test Probe & Receptacle
2. M1.6 x 16
3. TOK 9836 – BEAM - 3
4. Soldering Nut – M1.6 x 3.3 (ØD) x 3 (L) mm/ art. 9774030633

For examples of the usage possibilities of the BEAM, please refer to the 'BEAM Examples' document.

Material

Aluminium (anodized)

Fasteners (included)

TOK 9836 -BEAM -3	DIN 7985H - M1,6 x 16 (5 x)
	Soldering Nut with internal Thread M1.6 (5x)

How to order

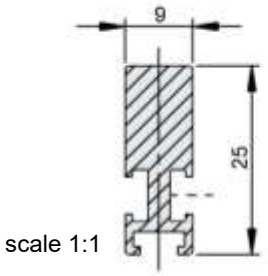
TOK 9836

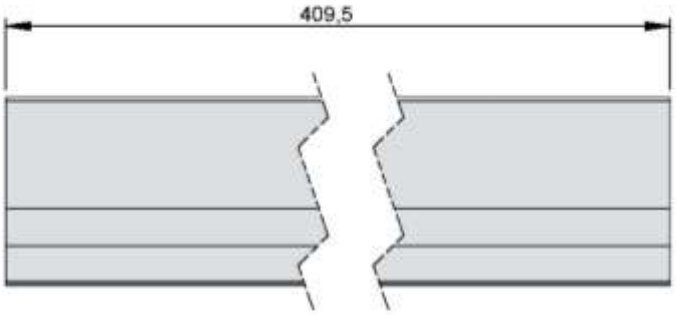
Series
TOK 9836

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

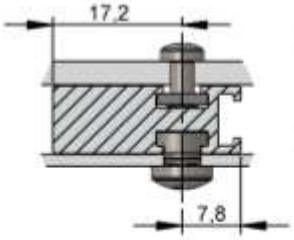
TOK 9837 – BEAM – 25 – Large Strengthening Beam

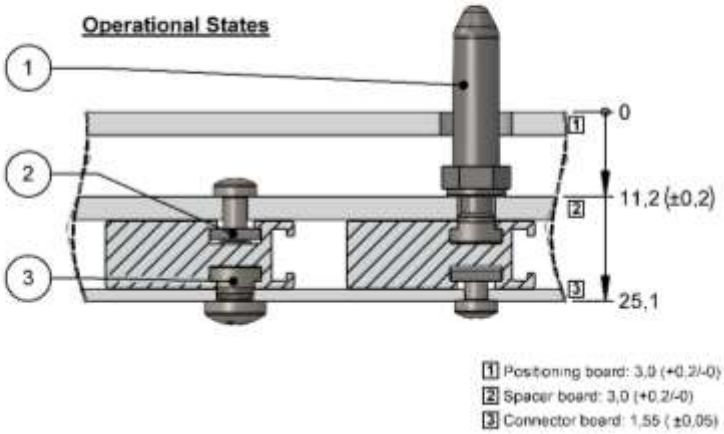
Dimensions (mm)





TOK 9837
(Cross Section)





BEAM - 25 is suitable to strengthen modules with large numbers of probes. It can be used in the bottom module as well as in the positioning module.

BEAM-25 is attached to the boards with the BEAM-Strip or with BEAM-Nuts. In addition, special FAST-LOCK pins can be placed directly on this BEAM.

Note: The BEAM - 25 is anodised and therefore insulated.

Legend

1. TOK 9728 – FAST LOCK BEAM Pin
2. TOK 9831 – BEAM - Strip
3. TOK 9832 – M4 – BEAM-Nut

For examples of the usage possibilities of the BEAM, please refer to the 'BEAM Examples' document.

Material

Aluminium (anodized)

How to order

TOK 9837

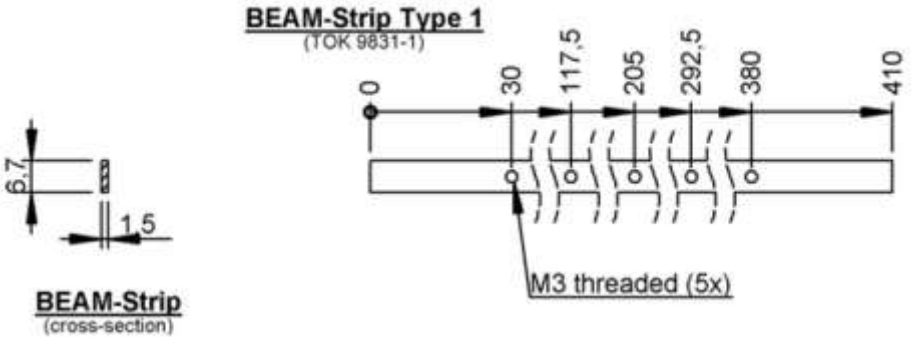
Series
TOK 9837

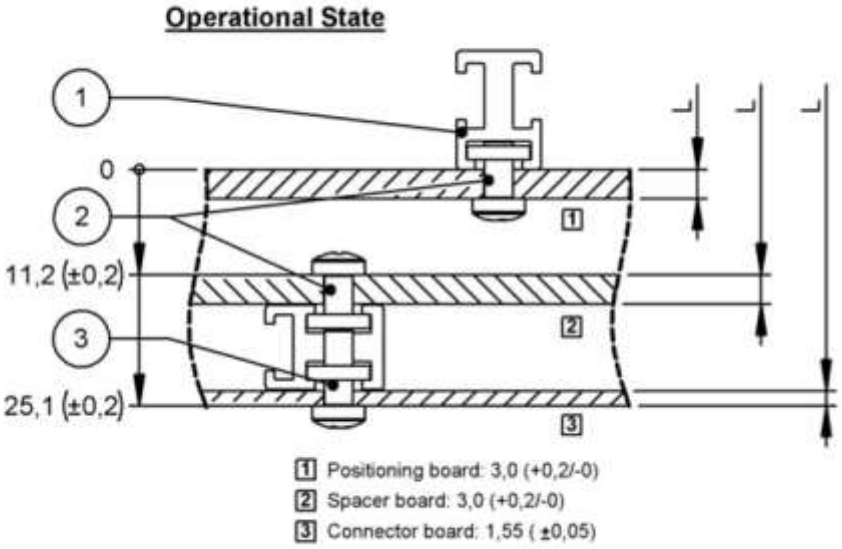
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9831 – BEAM Strip

The BEAM-Strip is used to fasten BEAMs to the module boards. It has the same length as the BEAM and includes M3 threaded holes. It is placed in one of the BEAMs grooves, and fixed in place with screws. The specific screw length depends on of the board type (see figure).
'

Dimensions (mm)





Legend

1. TOK 9830 – BEAM
2. DIN 7985 – M3 x 6
3. DIN 7985 – M3 x 4

For examples of the usage possibilities of the BEAM, please refer to the 'BEAM Examples' document.

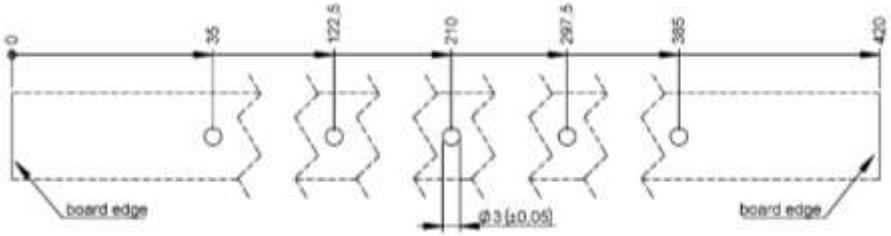
TOK 9831 – BEAM Strip

,

PCB Drill hole pattern TOK 9831-1 (mm)

This BEAM-Strip should be used whenever possible, as the M3 threaded holes are placed in optimal positions.

For all applicable module boards:



Fasteners (included)

TOK 9831 - x - 1,55:	DIN 7985 - M3 x 4 (5x)
TOK 9831 - x - 3,0:	DIN 7985 - M3 x 6 (5x)

How to order

TOK 9831 - 1 - 1,55

Series	Type	L
TOK 9831	1	1,55 3,0

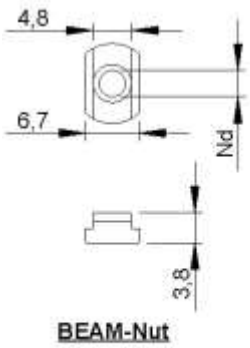
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

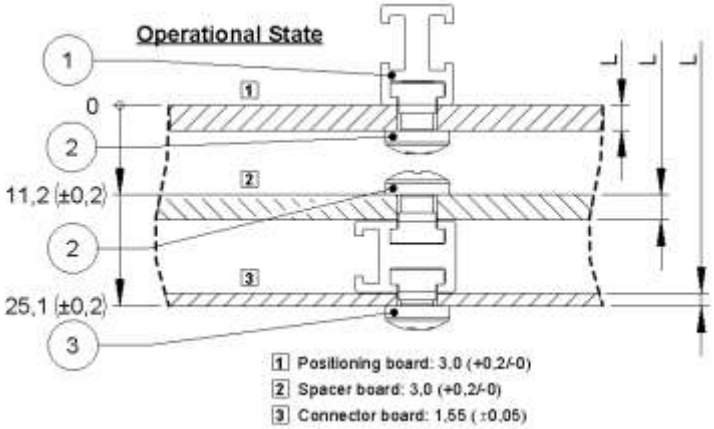
TOK 9832 – BEAM Nut

BEAM-Nuts are used to fix a BEAM to a module board in cases when using a BEAM-Strip is undesirable. This is usually due to specific placement requirements regarding the fastening screws.

BEAM-Nuts are also used in FAST-LOCK BEAM Pins, which are attached directly to a BEAM.

Dimensions (mm)





Legend

1. TOK 9830 - BEAM
2. DIN 7985 - M4 x 6
3. DIN 7985 - M4 x 4

Material

Stainless Steel	

Drill hole sizes (mm)

All boards:	Ø4,9 (±0,05)

Fasteners (included)

TOK 9832 – x - 1,55:	DIN 7985 - M4 x 4 (1x)
TOK 9832 – x - 3,0:	DIN 7985 - M4 x 6 (1x)

How to order

TOK 9832 - M4 - 1,55

Series	Nd	L
TOK 9832	M4	1,55 3,0

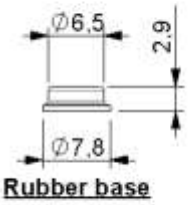
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

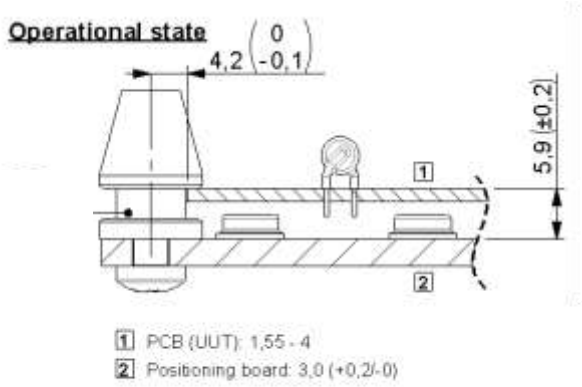
TOK 9835 – Rubber Base

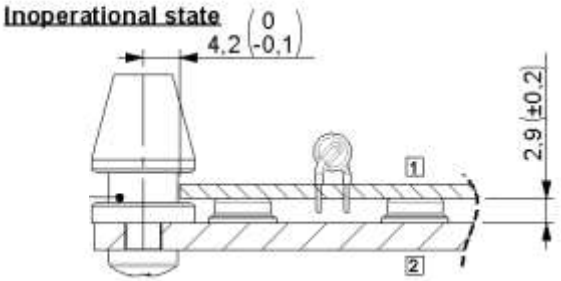
Rubber Bases can be used when building almost all modules. Their purpose is to ensure that the unit under test (UUT) remains in a horizontal position at all times. This is important to ensure that all test probes accurately make contact with the corresponding test points.

When a UUT has an irregular bottom due to components, solder points, or through-hole pins, the UUT may not lie flat on a horizontal surface. By placing Rubber Bases at certain points, you can ensure that the UUT is completely flat, guaranteeing proper contact between test probes and test points.

Dimensions (mm)







Material

Polyurethane (Black)

How to order

TOK 9835

Series
TOK 9835

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Magnetic Downholder System

The Magnetic Downholder system is a flexible method for placing downholders on your unit under test (UUT). These downholders minimize bending of said UUT when pressure is applied by test-probes from below.

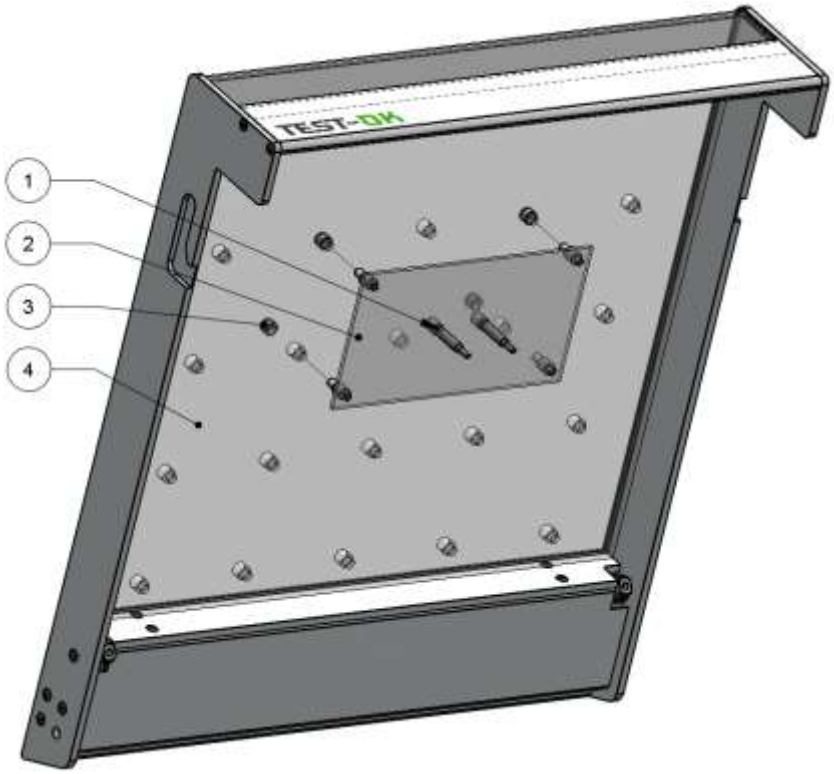
The system consists of a transparent 12mm board with a fixed array of holes, and a detachable, 3mm board onto which downholders are placed.

This detachable board has four small magnets on the corners, and is fixed to the 12mm board by clicking these magnets onto four magnet holders on the other side of the 12mm board. In this manner, 3mm boards of any size can be fixed to the 12mm board, as long as holes are correctly drilled for placement of the magnets. The downholders can be placed on the 3mm board in the desired configuration.

Due to the array of holes in the 12mm board, it can be used for the testing of multiple UUT's. The only change required between different UUT's is swapping out the respective 3mm board.

(For more information regarding the specific parts comprising the Magnetic Downholder System, consult the respective datasheets.)

Magnetic Downholder System for TEST-OK 4000-B



Legend

1. TOK 9735-37.1 - Downholder Type 2
2. TOK 9709 - Downholder Sub-board
3. TOK 9744 - Magnet Cap
4. TOK 9725 – TEST-OK 4000-B Downholder Cover

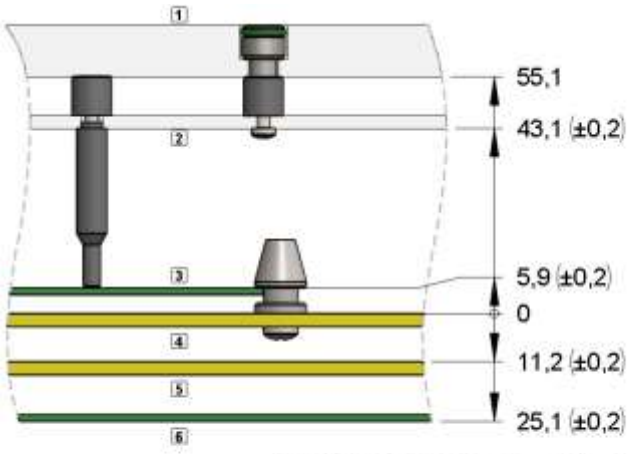
Magnetic Downholder System

Magnetic Downholder System for TEST-OK 4000-AQ & -BPL

Legend

1. TOK 9744 - Magnet Cap
2. TOK 9708 - Downholder Adapter Board
3. TOK 9740 - Module Frame Set
4. TOK 9709 - Downholder Sub-board
5. TOK 9735-37.1 - Downholder Type 2

Dimensions



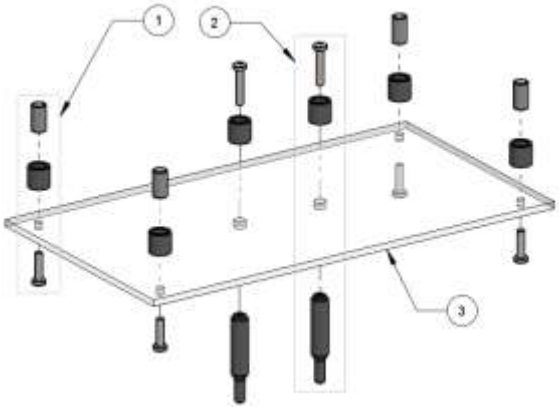
1 TOK 9725 - TOK 4000-B Downholder Cover 12,0 (±0,2) or TOK 9708 - Downholder Adapter Board 12,0 (±0,2)
2 TOK 9709 - Downholder Sub-board
3 Target PCB (UUT): 1,55 (±0,05)
4 Positioning board: 3,0 (+0,2/-0)
5 Bottom spacer board: 3,0 (+0,2/-0)
6 Bottom connector board: 1,55 (±0,05)

Magnetic Downholder System

Example

Below is an example of a Magnetic Downholder System.

Each downholder sub-board (3) requires at least four downholder magnets (1) and magnet caps, one of each for every corner. In this case there are two downholders type 2 (2). This system can be implemented in all TEST-OK fixtures.



Item List (for TOK 4000-B)

- TOK 9709-200-110 - Downholder Sub-board 1x
- TOK 9735-37.1 - Downholder Type 2 2x
- TOK 9743 - Downholder Magnet 4x
- TOK 9744 - Magnet Cap 4x

Item List (for TOK 4000-AQ or 4000-BPL)

- TOK 9708 - Downholder Adapter Board 1x
- TOK 9709-200-110 - Downholder Sub-board 1x
- TOK 9735-37.1 - Downholder Type 2 2x
- TOK 9743 - Downholder Magnet 4x
- TOK 9744 - Magnet Cap 4x

Magnetic Downholder System

TOK 9708	Downholder Adapter Board		101
TOK 9709	Downholder Sub-board		102
TOK 9735	Downholder Type 2		104
TOK 9743	Downholder Magnet		105
TOK 9744	Magnet Cap		106

TOK 9708 – Downholder Adapter Board

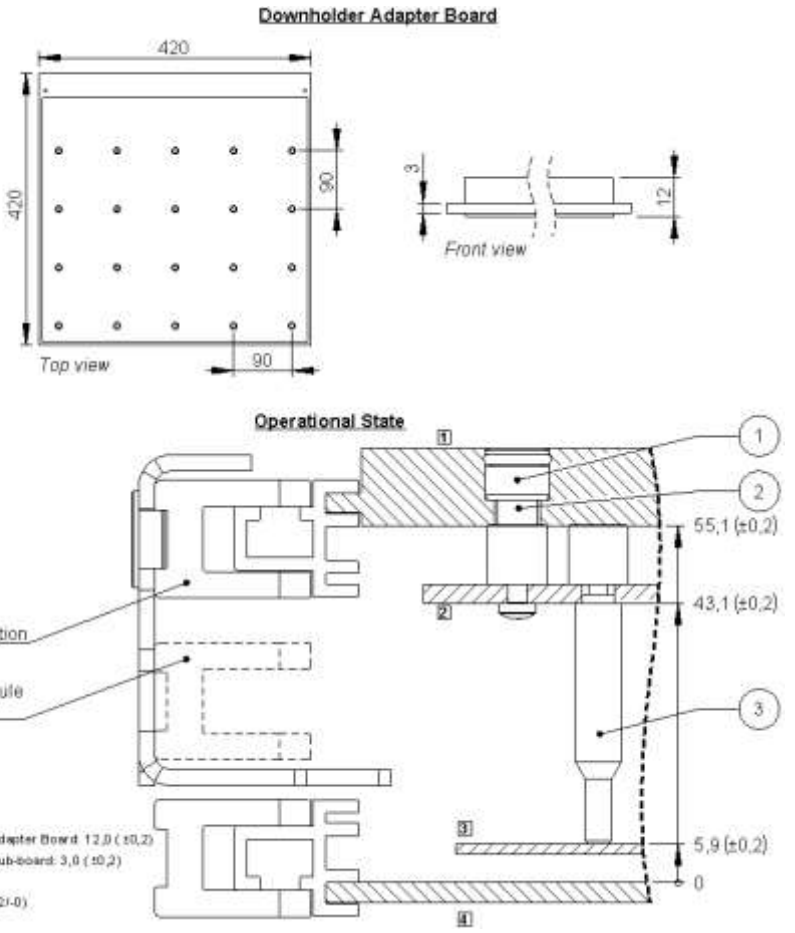
The *TOK 9708 –Downholder Adapter Board* is part of a flexible system used to minimize bending of the unit under test (UUT). This board is used when downholders from above the UUT are desirable, but no electrical connections from that side are necessary.

The Downholder Adapter Board is suspended in the *TOK 9740 – Module Frame Set* and is placed in the top module holder of the TEST-OK fixture.

Due to the fixed array of holes in the board, any *TOK 9709 – Downholder Sub-board* can be fixed in place. This means that the same board can be implemented for many different UUTs.

(For more information regarding the use of the Downholder Adapter Board, consult the *Magnetic Downholder System Manual*.)

Dimensions (mm)



Legend

1. TOK 9744 - Magnet Cap
2. TOK 9743 - Downholder Magnet
3. TOK 9735-37.1 – Downholder Type 2

Material

TOK 9708:	PMMA 12mm (transparent)

How to order

TOK 9708

Series
TOK 9708

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9709 – Downholder Sub-board

The *TOK 9709 – Downholder Sub-board* is part of a modular system used to minimize bending of the unit under test (UUT).This board is used when downholders from above the UUT are desirable, but no electrical connections from that side are necessary.

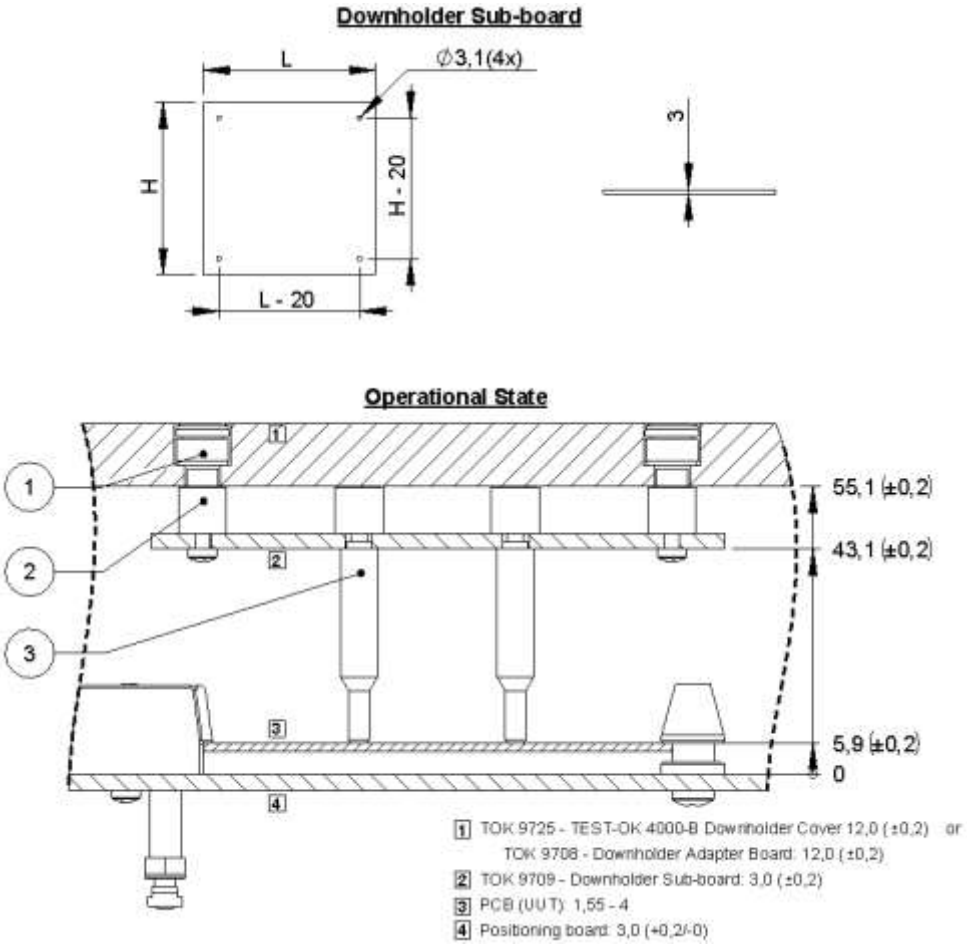
The Downholder Sub-board can be fixed to either the *TOK 4000-B Downholder Cover* or the *TOK 9708 – Downholder Adapter Board*. The Downholder Sub-board uses the fixed array of holes in these boards for positioning. The holes necessary for fixation to the aforementioned boards are provided. Customers are free to drill their own holes for the placement of downholders.

This product is made from transparent PMMA, improving visibility of the UUT.

Customers may prefer to design custom boards including their own specific downholder holes. Because the Downholder Sub-board is 3mm thick, custom versions can easily be produced in FR4 using standard PCB production techtniques.

(For more information regarding the use of the Downholder Sub-board, consult the *Magnetic Downholder System Manual*.)

Dimensions (mm)



Legend

1. TOK 9744 - Magnet Cap
2. TOK 9743 - Downholder Magnet
3. TOK 9735-37.1 - Downholder Type 2

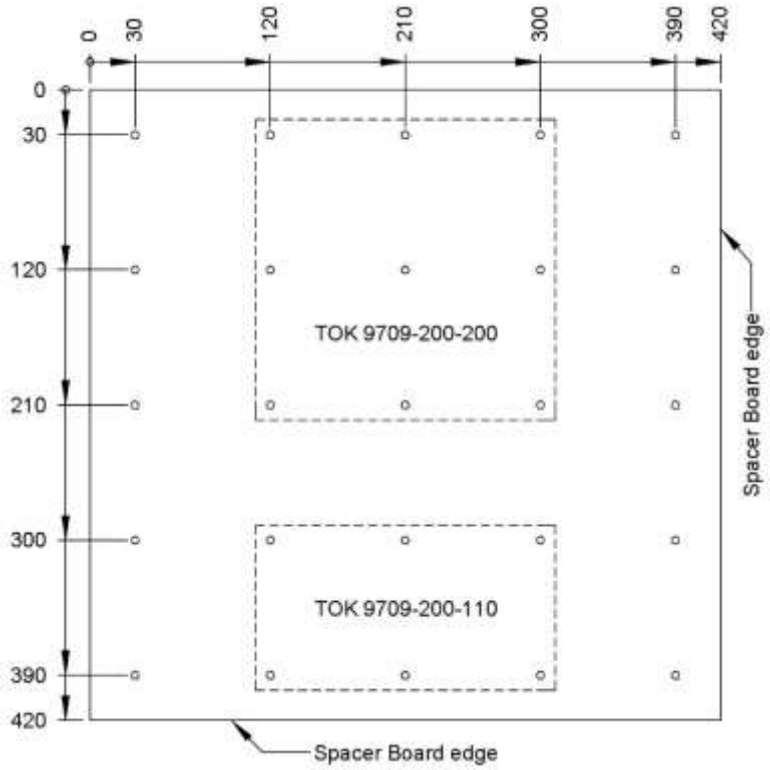
Material

TOK 9709:	PMMA 3mm (transparent)

TOK 9709 – Downholder Sub-board

Hole Positions (mm)

The image below indicates the location of the holes in the *TOK 4000-B Downholder Cover* and the *TOK 9708 – Downholder Adapter Board*. The dotted lines show examples of two possible sizes of the Downholder Sub-board.



How to order

TOK 9709	-	110	-	110
Series		L		H
TOK 9709		110 200 290 380		110 200 290 380

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

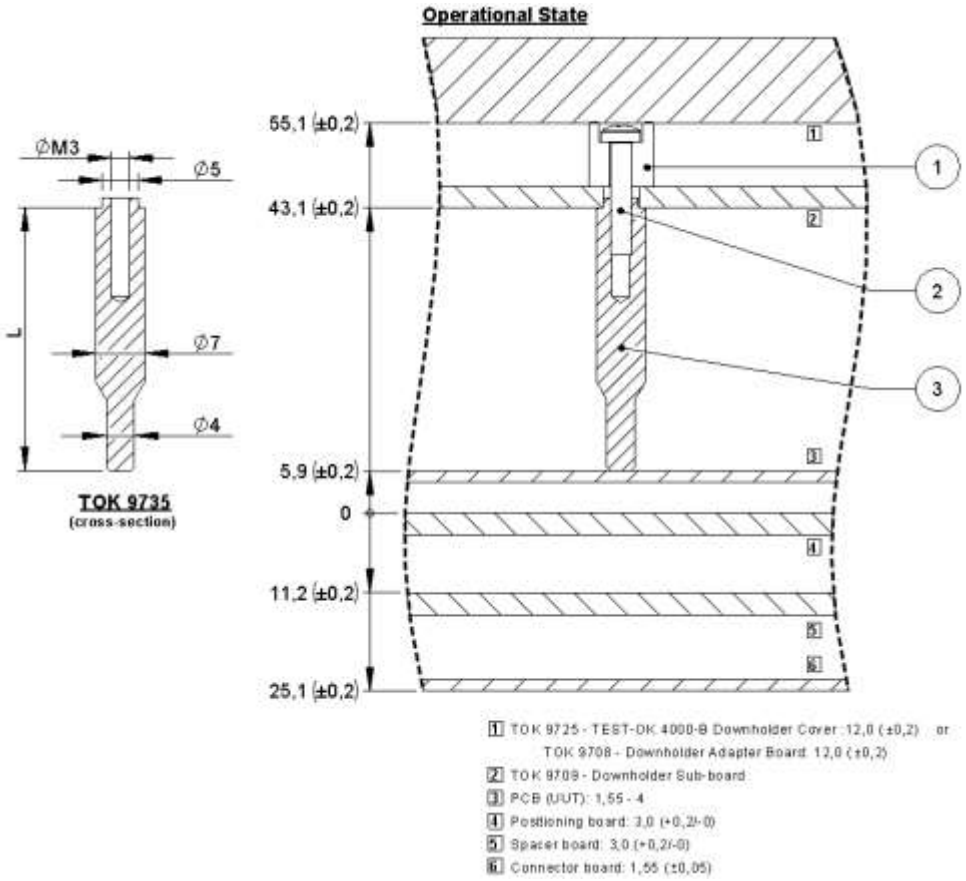
TOK 9735 – Downholder Type 2

Downholders (Type 2) are used in the Magnetic Downholder System to put pressure on the unit under test (UUT) from above.

The Downholder Type 2 can be used with both the TEST-OK 4000-B Downholder Cover as well as the TOK 9708 – Downholder Adapter Board. The downholders are fixed to the *TOK 9709 – Downholder Sub-board*, which is then magnetically clicked to its respective board.

(For more information regarding the use of the Downholder Type 2, consult the *Magnetic Downholder System Manual*.)

Dimensions (mm)



Legend

1. TOK 9742 - Downholder Spacer
2. DIN 7985 - M3 x 20
3. TOK 9735-37.1- Downholder Type 2

Drill hole sizes (mm)

TOK 9709 - Downholder Sub-board:	Ø5,2 (±0,05)

Fasteners (included)

Downholder Type 2:	TOK 9742 - Downholder Spacer
Downholder Type 2:	DIN 7985 - M3 x 20

Material

TOK 9735:	POM (Black)

How to order

TOK 9735 - 37.1

Series	L
TOK 9735	37.1

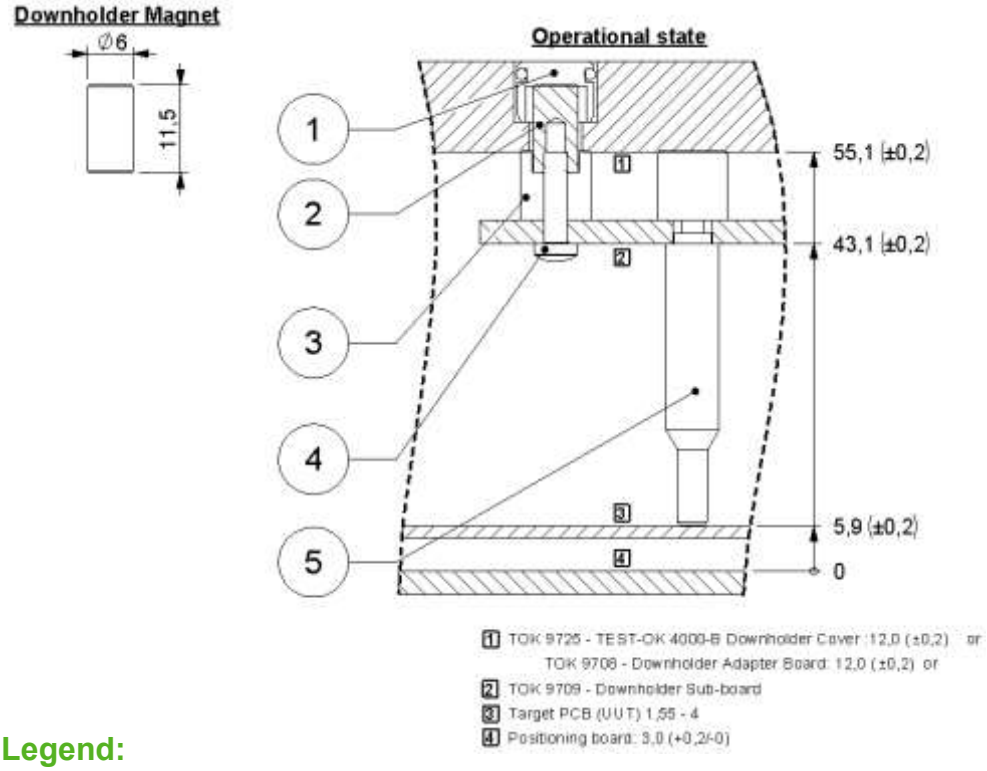
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9743 – Downholder Magnet

Downholder magnets are used in combination with *TOK 9744 - Magnet Caps* to fix the *TOK 9709 - Downholder Sub-board* in place above the unit under test (UUT).

(For more information regarding the use of the Downholder Magnet, consult the *Magnetic Downholder System Manual*.)

Dimensions (mm)



Legend:

1. TOK 9744 - Magnet Cap
2. TOK 9743 - Downholder Magnet
3. TOK 9742 - Downholder Spacer
4. DIN 7985H - M3 x 12
5. TOK 9735-37.1 – Downholder Type 2

Fasteners (included)

TOK 9743:	DIN 7985H - M3 x 12 (1x)
TOK 9743:	TOK 9742 – Downholder Spacer

How to order

TOK 9743

Series
TOK 9743

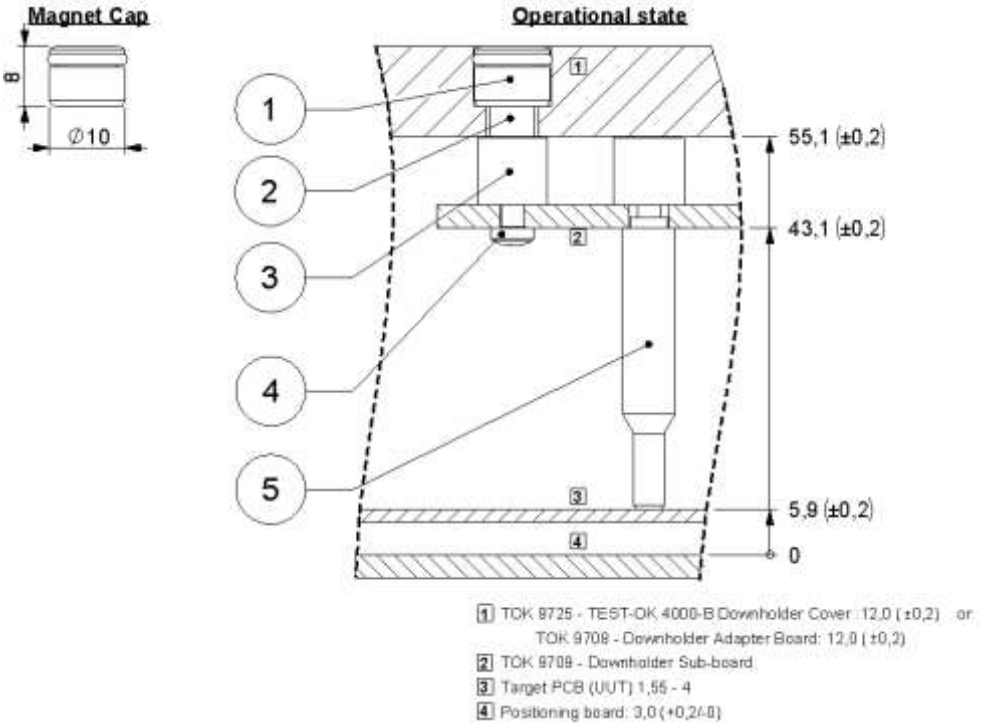
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TOK 9744 – Magnet Cap

Magnet Caps are used in combination with *TOK 9743 – Downholder Magnets* to fix the *TOK 9709 - Downholder Sub-board* in place above the unit under test (UUT).

(For more information regarding the use of the Magnet Cap, consult the *Magnetic Downholder System Manual*.)

Dimensions (mm)



Legend:

1. TOK 9744 - Magnet Cap
2. TOK 9743 - Downholder Magnet
3. TOK 9742 - Downholder Spacer
4. DIN 7985H - M3 x 12
5. TOK 9735-37.1 - Downholder Type 2

Material

TOK 9744:	Stainless Steel 430

How to order

TOK 9744

Series
TOK 9744

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

Miscellaneous

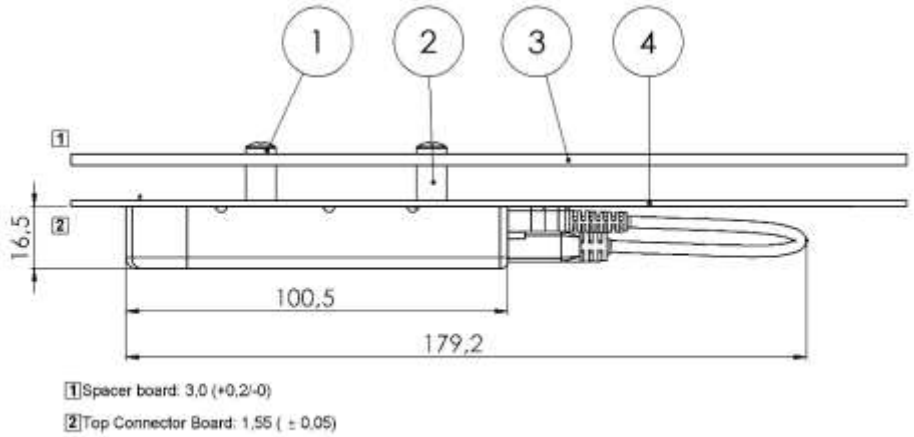
TOK 9840	Pickit Holder		108
TOK 9842	ST-LINK V2 Holder		110

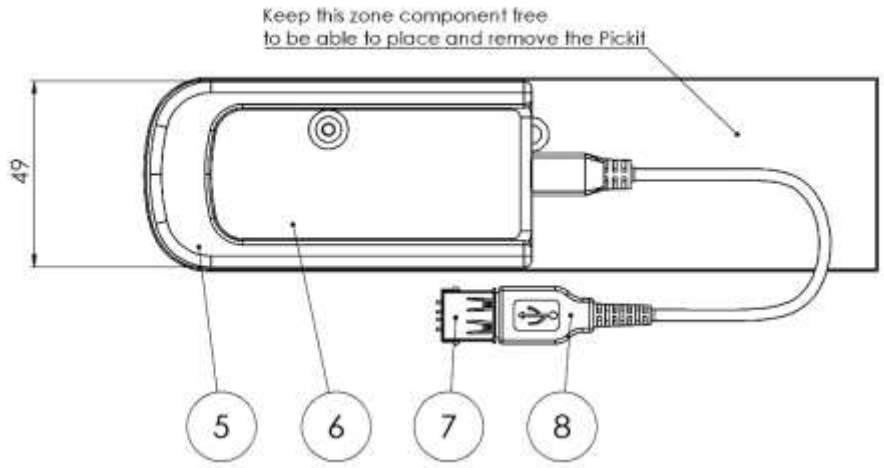
TOK 9840 - Pickit Holder

The Pickit Holder is used to secure the Pickit onto a module.

While building your module, please pay attention to the keep out area. The Pickit needs enough room to be inserted in the holder, if a component is too high, the Pickit will be blocked.

Dimensions (mm)





Legend:

1. DIN 7985H – M4 x 6
2. TOK 9721 – M4 Spacer
3. Spacer Board
4. Connector Board
5. TOK 9840 – Pickit Holder
6. Pickit
7. USB 2.0 port
8. USB A to USB mini cable (0.15m) *

* The cable is available in both 0,15m or 0,3m

Material

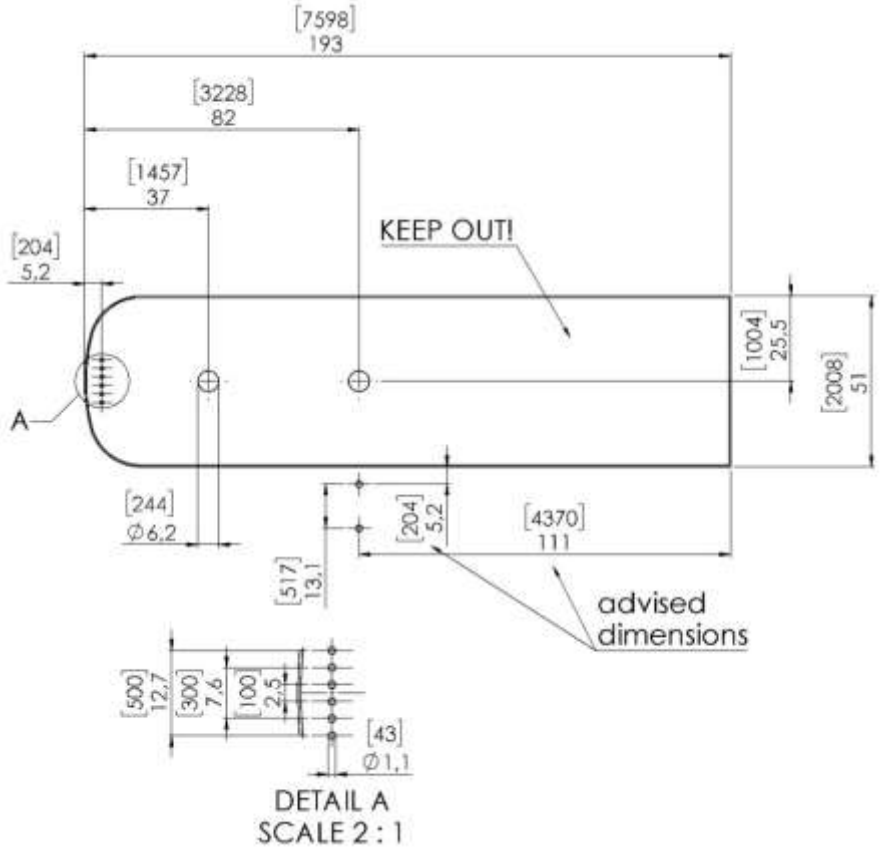
TOK 9840:	ABS
TOK 9721:	Stainless Steel

Fasteners

TOK 9840:	DIN 7984 LT – M4x6 (x2)
TOK 9721:	DIN 7985 H – M4x6 (x2)

TOK 9840 - Pickit Holder

Hole Pattern Connector Board

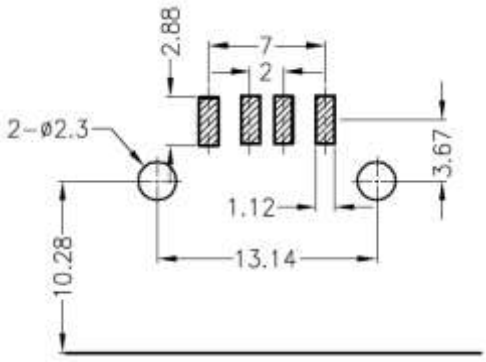


Hole Pattern Spacer Board

Two Ø6.2mm holes for the TOK9721 – M4 Spacer are required

Routing

This is the connector that we advise, for the full datasheet please check the Farnell website under the following article number: 62900416021.



How to order

TOK 9840	-	15
Series		Cable
TOK 9840		15 30

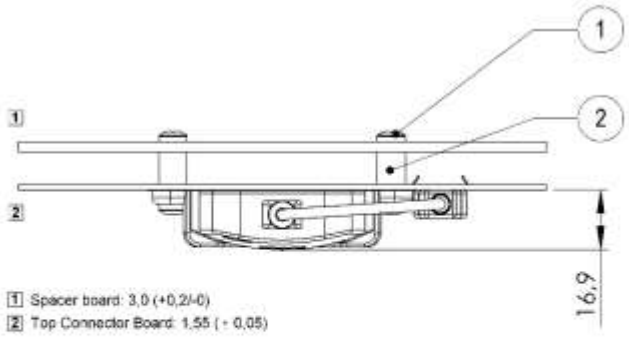
All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

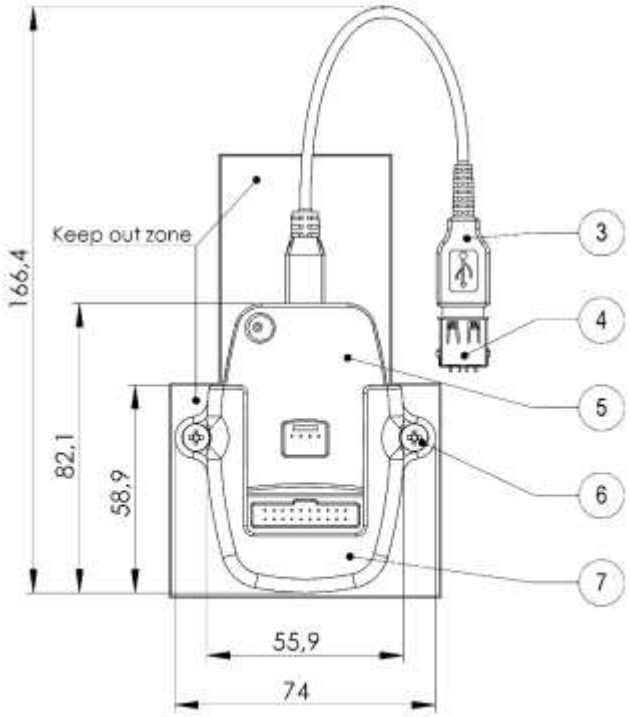
TOK 9842- ST-LINK V2 Holder

The ST-LINK V2 Holder is used to secure the ST-LINK V2 onto a module.

While building your module, please pay attention to the keep out area. The ST-LINK V2 needs enough room to be inserted in the holder, if a component is too high, the ST-LINK V2 will be blocked.

Dimensions (mm)





Legend:

1. DIN 7985H – M4 x 6
2. TOK 9721 – M4 Spacer
3. USB A to USB mini cable (0.15m) *
4. USB 2.0 port
5. ST-LINK V2
6. DIN 7985 H – M4x8
7. ST-LINK V2 Holder

* The cable is available in both 0,15m or 0,3m

Material

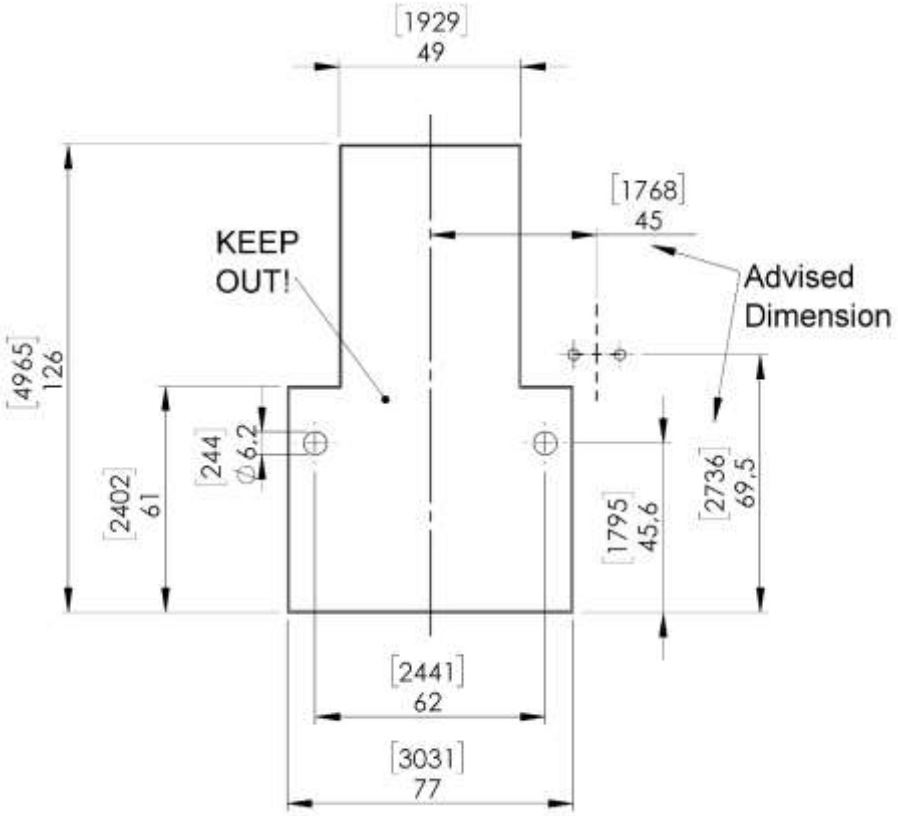
TOK 9842:	ABS
TOK 9721:	Stainless Steel

Fasteners

TOK 9842:	DIN 7985 H – M4x8 (x2)
TOK 9721:	DIN 7985 H – M4x6 (x2)

TOK 9842- ST-LINK V2 Holder

Hole Pattern Connector Board

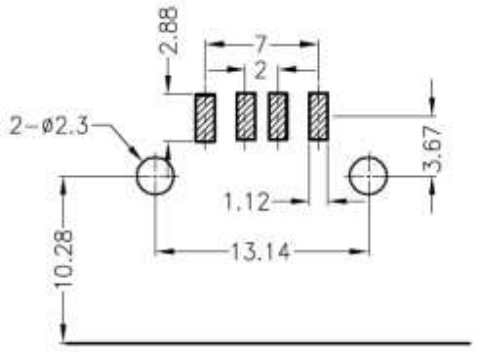


Hole Pattern Spacer Board

Two Ø6.2mm holes for the TOK9721 – M4 Spacer are required

Routing

This is the connector that we advise, for the full datasheet please check the Farnell website under the following article number: 62900416021.



How to order

TOK 9840	-	15
Series		Cable
TOK 9840		15 30

All specifications are subject to change without prior notice. Consult TEST-OK for latest specifications.

TEST-OK Systems

Hardware

Module Material

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