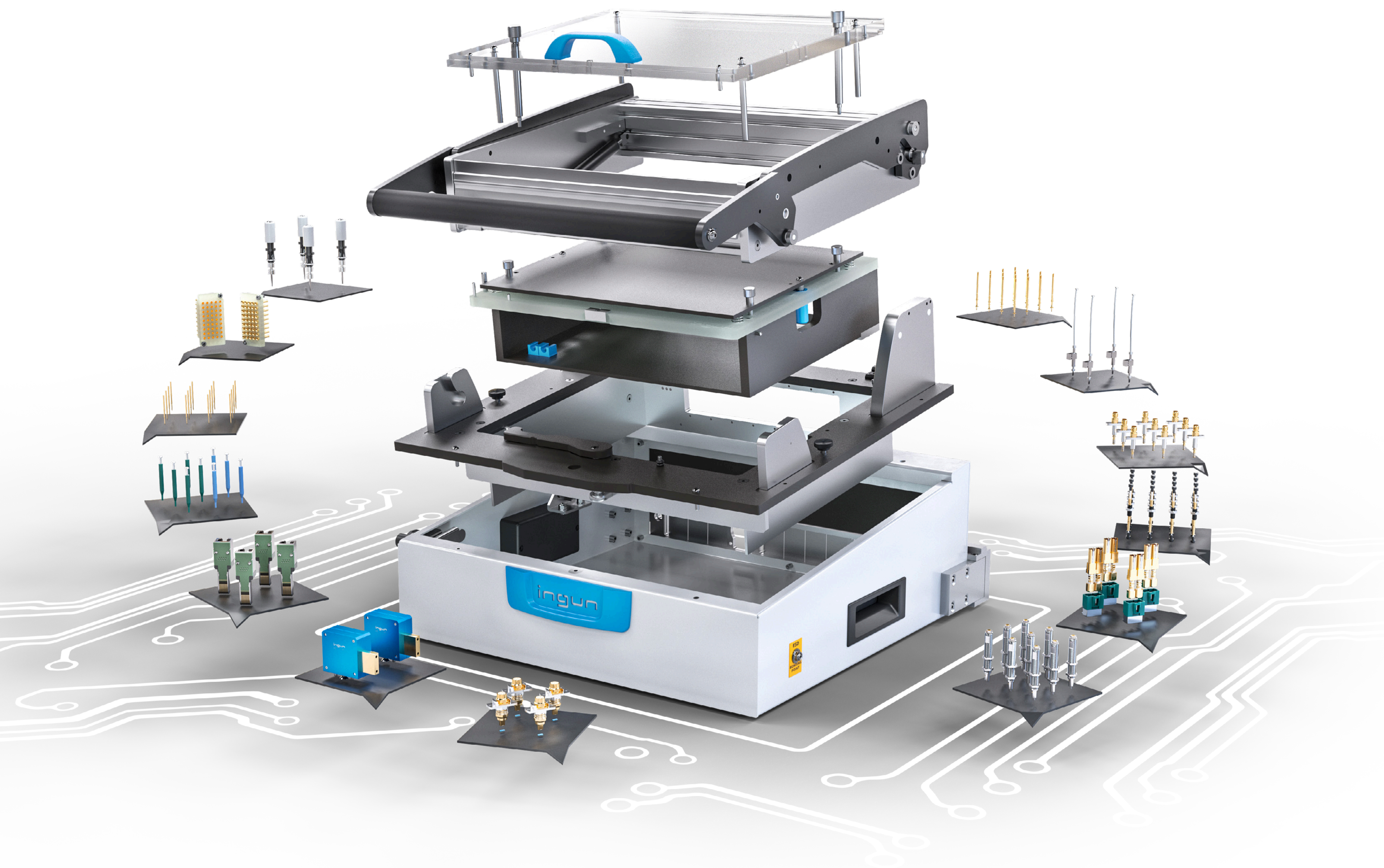
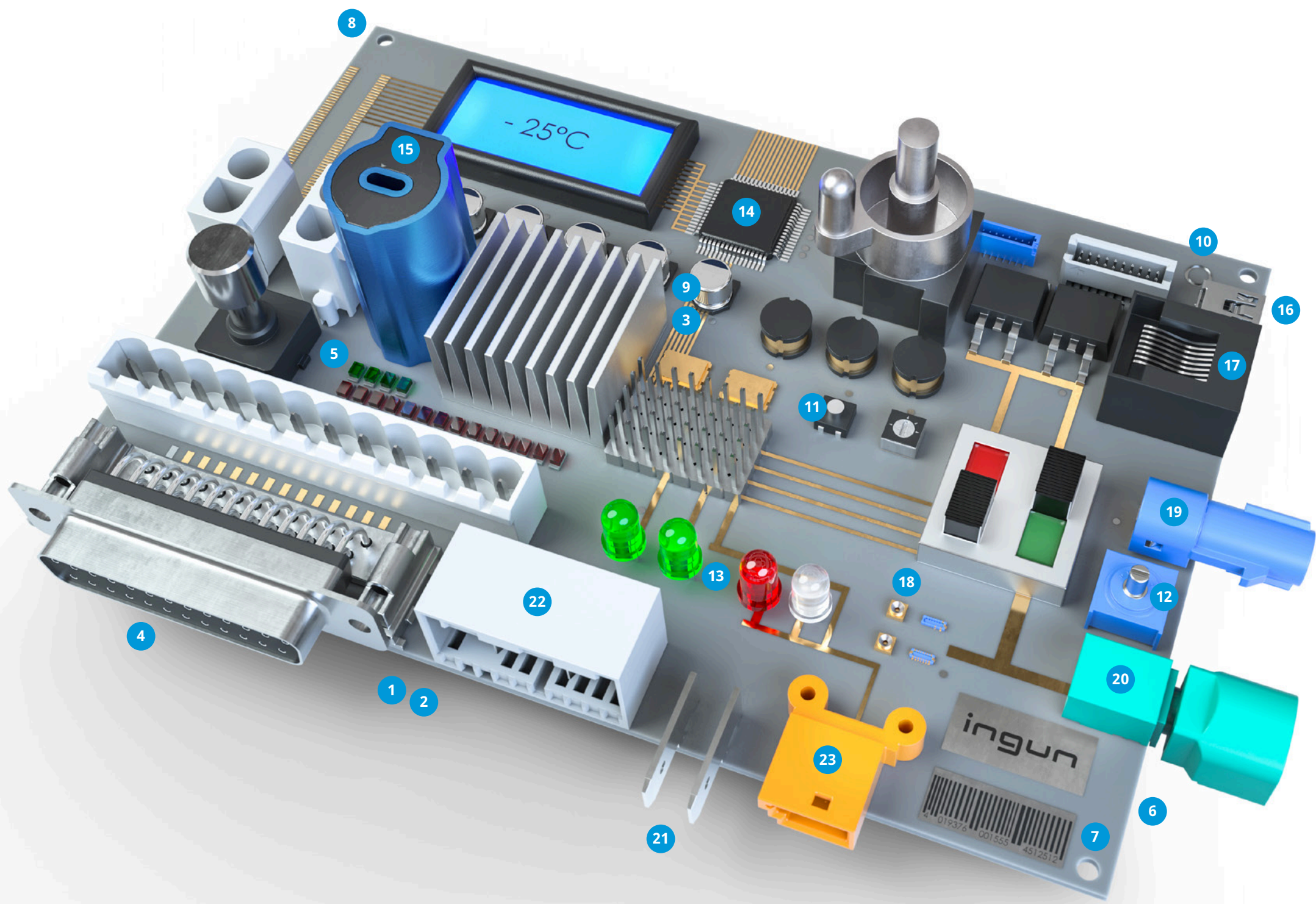


modular | reliable | versatile



PROVEN, STANDARDISED SOLUTIONS FOR EVERY TESTING TASK



- | | |
|------------------------------------|-------------------------------|
| 1. Single-stage contacting, bottom | 18. RF switch contacting |
| 2. Dual-stage contacting, bottom | 19. Fakra contacting |
| 3. Single-stage contacting, top | 20. HSD contacting |
| 4. Lateral contacting | 21. Flat connector contacting |
| 5. Pushrods | 22. High voltage contacting |
| 6. PCB support pins | 23. High current contacting |
| 7. Tooling pins | |
| 8. Pre-centring pins | |
| 9. Transfer fields | |
| 10. Tested as "good" marking | |
| 11. Button activator | |
| 12. Adjustment of screw-in devices | |
| 13. LED check | |
| 14. Open Test check | |
| 15. Component detection | |
| 16. USB contacting | |
| 17. RJ45 contacting | |

	MA	VA	PA	WS
Single-stage contacting bottom	✓	✓	✓	✓
Single-stage contacting top	✓	✓	✓	✓
Dual-stage contacting bottom	✓	✓	✓	✓
Lateral contacting	✓	✓	✓	✓
Radio frequency contacting	✓	✓	✓	✓
Radio frequency shielding	✓			
High current contacting	✓	✓	✓	✓
Fine pitch contacting	✓	✓		
Tandem unit	✓	✓		
ESD materials	✓	✓	✓	✓
Upgrade kits to expand function	✓			

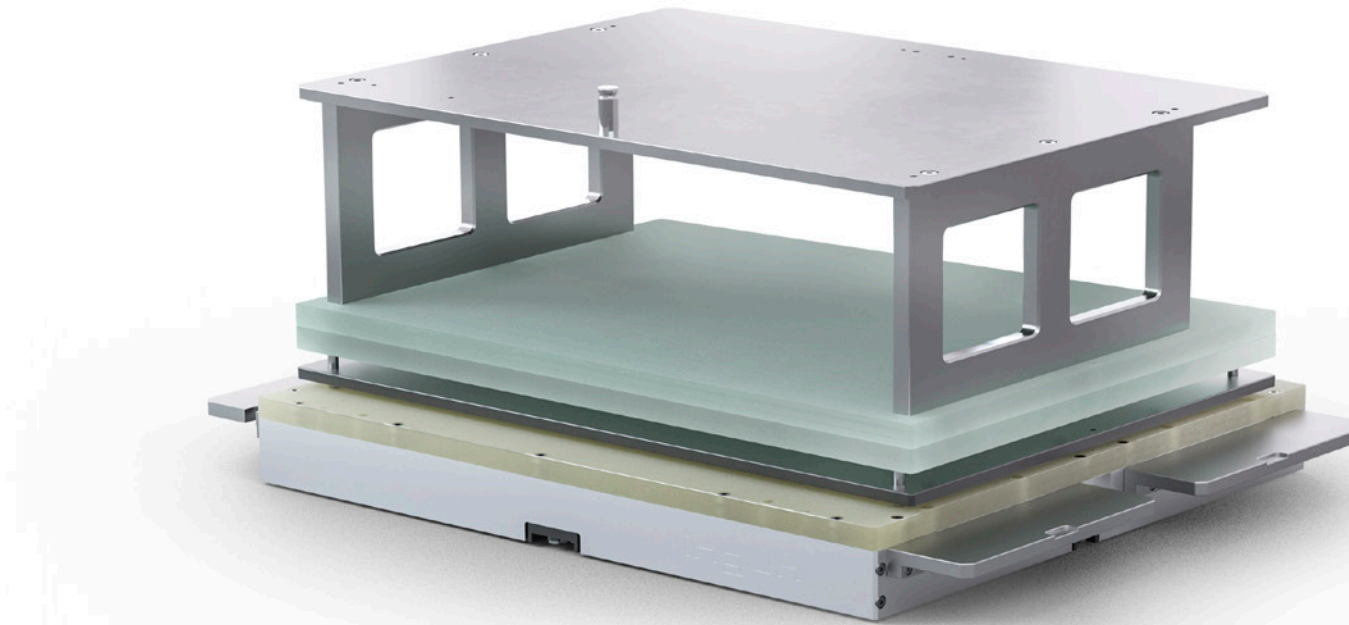
RANGE TEST FIXTURE KITS

MA Manual test fixtures



- Contacting stroke is generated manually
- Exchangeable kit with internal interface and stand-alone test fixture
- Various sizes and series available
- Exchangeable kits in standard, ESD, and RF versions
- Can be modularly expanded with functional units
- Contact force up to 2 kN
- Suitable for all common test systems

ws Inline interchangeable kits



- Contacting stroke generated by the inline test system
- Various sizes and series available
- Modular design consisting of bottom part (WSU) and top part (WSO)
- Low wear, as there are few moving mechanical parts
- Quick, easy installation which does not require tools
- Suitable for all common test systems

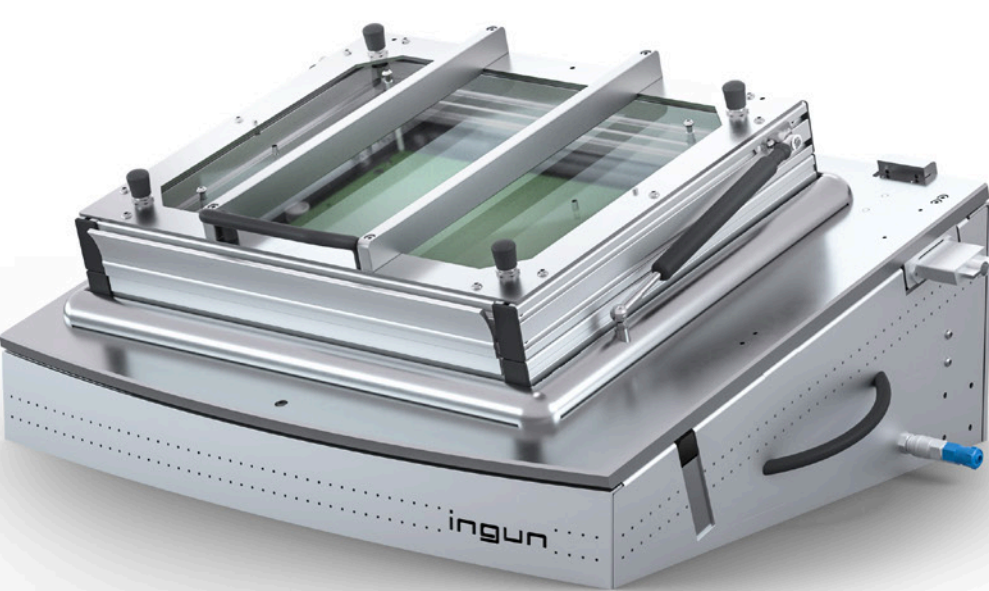
RANGE ACCESSORIES

FB Functional units



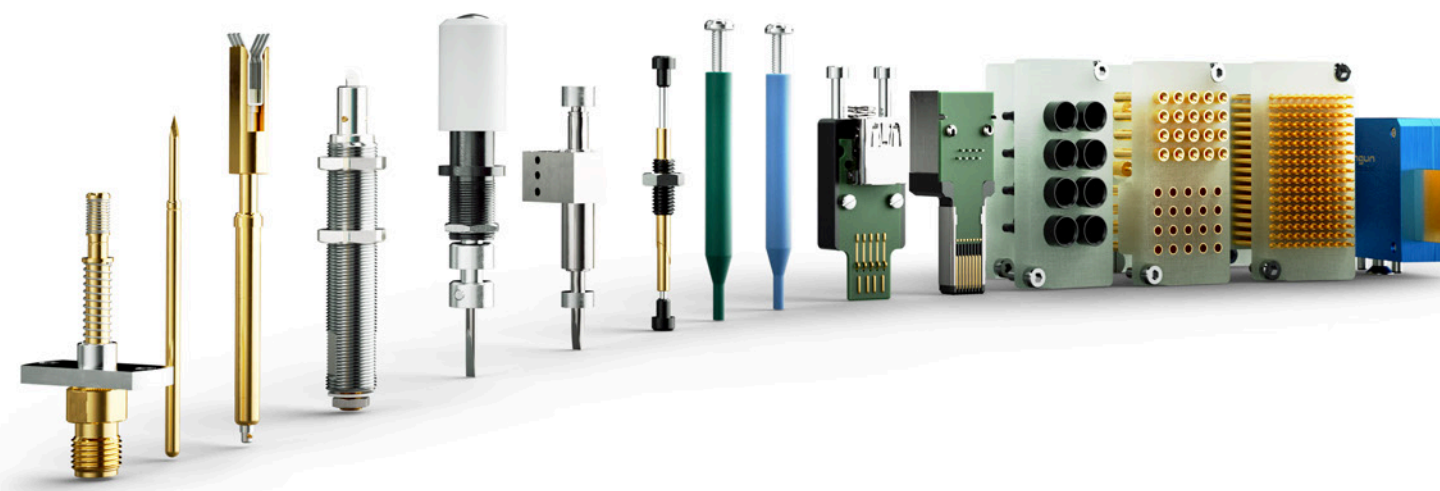
- Using functional units, test fixtures and exchangeable kits can be expanded to meet individual testing need as required. Numerous units are available for manual fixtures and exchangeable kits to realise:
- Increased ease of use, e.g. self-opening units
 - Increased testing safety, e.g. locking units
 - Reduced handling times, e.g. lifting units

PA Pneumatic test fixtures



- Contacting stroke is generated pneumatically
- Exchangeable test fixture with internal interface
- Various sizes and series available
- Exchangeable kits in standard and ESD versions
- Contact force up to 2.5 kN
- Includes stiffener bars and circumferential finger guard

ZUB Customising accessories



- Comprehensive range for DUT-specific customisation, suitable for every application, e.g.:
- Tooling pins
 - PCB support pins
 - Pre-centring pins
 - Pushrods
 - Interface blocks
 - Board marker probes
 - Side-approach mechanism
 - Screwing units
 - Button activators
 - Spring-loaded test probes

Overview

TEST FIXTURE KITS AND ACCESSORIES



modular | robust | dependable

MA MANUAL TEST FIXTURES, EXCHANGEABLE KITS, AND DRIVE UNITS

For manually-operated test stations which require a moderate amount of test points to be tested.

VA VACUUM TEST FIXTURES

For vacuum-operated test systems which require a large amount of test points to be tested

PA PNEUMATIC TEST FIXTURES AND EXCHANGEABLE KITS

For test stations without any vacuum facilities which require automatic stroke activation

WS INLINE INTERCHANGEABLE KITS

For fully automated inline test systems which require a large amount of test points to be tested

ZUB CUSTOMISING ACCESSORIES FOR ALL COMMON TEST FIXTURES

For standard and project-specific on-site customisation of all common test fixtures and exchangeable kits

ETK SPARE PART KITS FOR ALL COMMON INGUN TEST FIXTURES

For preventive maintenance and/or to replace worn components

MA xxx SERIES

Features:

- For low PCB volumes
- Exchangeable kit system
- Fixtures w/o test system interface
- Exchangeable kits w/o internal interface
- Standard and ESD exchangeable kits

Technical specification:
Contact force: up to 300 N
Parallel stroke: up to 20 mm
Usable area: up to 160 x 100 mm
Load cycles: 300,000 (lab conditions)

Basic units	Exchangeable kits	Test fixtures
MA 160	ATS Mxxx	
MA 260	ATS Mxxx/ESD	MA 2011
MA 350		MA 2012
MA 360		MA 2013
		MA 2013T
		MA 2014

MA 20xx SERIES

Features:

- For mixed PCB volumes
- Stand-alone system
- Fixtures w/ integrated exchangeable kits
- Exchangeable kits w/o internal interface
- Standard, ESD, and RF versions

Technical specification:
Contact force: up to 2000 N
Parallel stroke: up to 15 mm
Usable area: up to 540 x 310 mm
Load cycles: 500,000 (lab conditions)

Basic units	Exchangeable kits	Test fixtures
MA 2109	ATS Mxxx/S-x	
MA 2111	ATS Mxxx	MA 2111
MA 2112	ATS Mxxx/ESD	MA 2112
MA 2113	ATS Mxxx/ESD	MA 2113
MA 2113T	ATS Mxxx/S-x/HF/ESD	MA 2113T
MA 2114	ATS Mxxx/HF/ESD	MA 2114

MA 21xx SERIES

Features:

- For mixed PCB volumes
- Exchangeable kit system
- Fixtures w/ and w/o test system interface
- Exchangeable kits w/ and w/o internal interface
- Standard, ESD, and RF exchangeable kits

Technical specification:
Contact force: up to 2000 N
Parallel stroke: up to 15 mm
Usable area: up to 540 x 310 mm
Load cycles: 500,000 (lab conditions)

Basic units	Exchangeable kits	Test fixtures
MA 2109	ATS Mxxx/S-x	
MA 2111	ATS Mxxx	MA 2111
MA 2112	ATS Mxxx/ESD	MA 2112
MA 2113	ATS Mxxx/ESD	MA 2113
MA 2113T	ATS Mxxx/S-x/HF/ESD	MA 2113T
MA 2114	ATS Mxxx/HF/ESD	MA 2114

MA 32xx SERIES

Features:

- For high PCB volumes
- Exchangeable kit system
- Fixtures w/o test system interface
- Exchangeable kits w/ and w/o internal interface
- Standard, ESD, and RF exchangeable kits

Technical specification:
Contact force: up to 2000 N
Parallel stroke: up to 22 mm
Usable area: up to 540 x 310 mm
Load cycles: 2,000,000 (lab conditions)

Basic units	Exchangeable kits	Test fixtures
MA 3211	ATS Mxxx/S-x	
MA 3212	ATS Mxxx	MA 3212
MA 3213	ATS Mxxx/S-x/ESD	MA 3213
MA 3213T	ATS Mxxx/ESD	MA 3213T
MA 3214	ATS Mxxx/S-x/HF/ESD	MA 3214
MA 3214T	ATS Mxxx/HF/ESD	MA 3214T

MA DRIVE UNIT SERIES

Features:

- Drive units ATE w/ mounting plate
- Drive mechanisms ATM w/o mounting plate
- Available as MA xxx and MA xxxx versions
- Quick, easy installation
- Compatible with standard and high housing

Technical specification ATE MA3xxx:
Contact force: up to 2,000 N
Parallel stroke: up to 22 mm
Opening angle: approx. 75°
Clamping force: approx. 70 N (at full load)

Basic units	Exchangeable kits	ATE MAxxx	ATE MAxxxx
MA 3211	ATS Mxxx/S-x	ATE MA360	ATE MA3x09
MA 3212	ATS Mxxx	ATE MA350	ATE MA3x11
MA 3213	ATS Mxxx/S-x/ESD	ATE MA360	ATE MA3x12
MA 3213T	ATS Mxxx/ESD	ATE MA360	ATE MA3x13
MA 3214	ATS Mxxx/S-x/HF/ESD	ATE MA360	ATE MA3x13T
MA 3214T	ATS Mxxx/HF/ESD	ATE MA360	ATE MA3x14

VA xxxx SERIES

Features:

- For high PCB volumes
- Stand-alone system
- Available w/ and w/o test system interface
- VA 270x for Keysight test systems
- VA 30xx for all other common test systems

Technical specification:
Contact force: up to 22,000 N
Parallel stroke: up to 13 mm
Usable area: up to 560 x 450 mm
Load cycles: > 2,000,000 (lab conditions)

Basic units	Exchangeable kits
VA 207x	VA 30xx
VA 2070S	VA 3030
VA 2070S-2e	VA 3040
VA 2070SR	VA 3060
VA 2070ST	
VA 2073L	
VA 2073L-2e	

PAZ xxx / PA xxxx SERIES

Features:

- For mixed PCB volumes
- Interchangeable kit system
- Fixtures w/o test system interface
- Exchangeable kits w/ and w/o internal interface
- Standard and ESD exchangeable kits

Technical specification:
Contact force: up to 2,500 N
Parallel stroke: up to 15 mm
Usable area: up to 500 x 180 mm
Load cycles: 1,000,000 (lab conditions)

Basic units	Exchangeable kits
PAZ 200	ATS PAZ200
PAZ 220	ATS PAZ220
PAZ 215	ATS PAZ215
PAZ 400	ATS PAZ400
PAZ 500	ATS PAZ500
PA 2130	ATS PA2130

WS SERIES FOR INLINE

Features:

- For high PCB volumes
- Available for most common inline test systems
- Modular design consisting of bottom unit (WSU) and top unit (WST)
- Quick installation, without the need for tools
- Reliable ICT and/or FCT contacting

Technical specification:
Contact force: acc. to inline test system
Parallel stroke: acc. to inline test system
Usable area: up to 670 x 380 mm
Load cycles: > 2,000,000 (lab conditions)

WS	Inline test system
WS KEYSIGHT	WS KEYSIGHT
WS TERADYNE	WS TERADYNE
WS SPEA	WS SPEA
WS ASYS	WS ASYS

ATS Mxxx FOR INLINE

Features:

- For high PCB volumes
- Available for most common inline test systems
- Ideal for independent, on-site customisation
- Installation documentation provided
- Suitable for all common test fixtures
- Suitable for all common exchangeable kits

Technical specification:
Contact force: acc. to inline system / MA fixture
Parallel stroke: acc. to inline system / MA fixture
Usable area: up to 540 x 310 mm
Load cycles: 500,000 (lab conditions)

ATS Mxxx	Inline test system
ATS Mxxx/CRS	ATS Mxxx/CRS
ATS Mxxx/KABTEC	ATS Mxxx/KABTEC
ATS Mxxx/KONRAD	ATS Mxxx/KONRAD

CUSTOMISING ACCESSORIES

Features:

- Extensive, high-quality range
- Individually configurable for specific projects
- Ideal for independent, on-site customisation
- Quick, reliable, easy maintenance
- High-precision individual components
- Components can be exchanged by operators themselves on site
- Ordering and storage of individual components not necessary

Accessories for customisation	Spare parts for maintenance
Start-up kits	Probe plates
Interface blocks	Moving plates
Board marker probes	Pressure frame plates
Side approach mechanisms	Gas pressure springs
Screwing units	MA GDF mounting unit
Button activators	Bolt replacement set
Pushrods	Latches
Transfer fields	Side couplers
PCB support pins	Bearing sleeves
Tooling pins	Pin replacement set
Pre-centring pins	Front bearing blocks
Springs	Rear bearing blocks
Gas-pressure springs	Clamping lever, ATE
Multipoint connectors	Locking slide
Cleaning mats	RF wire-mesh seals
Guide bushes / pins	RF lamellae seals
Stroke limiting disks	RF seals, soft-shield
ESD kits	RF interface plates
Stroke sensors	Guide pillars
Snap-on fasteners	WS mounting parts
Stroke counters	
Fibre optic cables	
Compressed air hoses	
Test probes	

MA xxx SERIES UPGRADE KITS

Functional units

Ground plates	Ground plates
Rear panels	Adjustable feet
64-pole male connector	96-pole male connector

MA xxxx SERIES UPGRADE KITS

Functional units for increased ease of use, reduced handling times, and increased testing reliability

ESD customisation	Dual-stage contactings	Safety switch, NC/NO	Safety switch, solenoid	Safety switch, magnetic	Self-opener, pneumatic
Self-opener, electric	Closed fixture checks	Locked fixture checks	Lockings units, closed	Locking units, open	Open stop limit
Gas pressure springs	Metal handles	Pass/fail indication	Push button box	Anti-pinch protection	Extended latch
Dual-stage retrofit kit	Stiffener bars	Protective cover, VDC	Lifting unit	Actuator safety switch	Top contacting kit

Used to easily and reliably control the functional units available for the manual test fixtures

Control box

VA xxxx SERIES VACUUM ASSEMBLIES

	<ul style="list-style-type: none">• Vacuum-free zone• Test under standard atmosphere• Top contacting not possible• Manual closing
	<ul style="list-style-type: none">• Vacuum-free zone• Test under standard atmosphere• Top contacting possible• Manual closing
	<ul style="list-style-type: none">• Test under vacuum atmosphere• Top contacting not possible• ESD-compliant cover• Manual closing
	<ul style="list-style-type: none">• Test under vacuum atmosphere• Top contacting possible• Floating top probe plate• Manual closing