ELECTRO-MECHANICAL COMPONENTS

2025

WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

CONNECTED.
NO MATTER
THE CONDITIONS.

CONTENT

1. CONNECTORS

2. SWITCHES

3. ASSEMBLY TECHNIQUE

4. REDCUBE TERMINALS

5. DESIGN KITS

The IP67 & IP68 Protected Industrial Connection
Discover high-quality circular connectors designed for demanding environments. With its ingress protection, our connectors ensure reliable connections for applications such as fieldbus, actuators/sensors, and robotics. With its PCB, cable, and solder variants, along with additional service options, our versatile M12 connectors allow you to tailor your connections to your exact requirements, enabling seamless integration and optimal performance.

Ready to Design-In? Take advantage of personal technical support and free samples ex-stock.
www.we-online.com/circular

#CircularConnectors

Highlights
- New M12 A-coding portfolio
- Adapted to work in demanding environments with IP67 & IP68 protection
- Male & female versions of all connectors
- Available in 4, 5 and 8 polarities

THE WÜRTH ELEKTRONIK
eiSos GROUP

THE WÜRTH ELEKTRONIK GROUP

Employees: 7,900*
Sales: 1.24 Bn. Euro*
*2023

WÜRTH ELEKTRONIK eiSos GROUP

PRINTED CIRCUIT BOARDS

INTELLIGENT POWER AND CONTROL SYSTEMS

Passive Components	Power Modules & Optoelectronics	Electromechanical Components	Automotive & eMobility	Wireless Connectivity & Sensors

GLOBALLY AVAILABLE. LOCALLY PRESENT.

13 Warehouses

15 Quality & Design Centers

16 Production plants

50 Countries

MORE THAN YOU EXPECT:
SUPPORT THROUGHOUT THE WHOLE PRODUCT LIFE CYCLE

CONCEPT

- Local support through our technical sales team and field application engineers in 50 countries
- Design-in support
- Reference designs with leading IC manufacturers
- Seminars, webinars, in-house seminars and videos-on-demand

DESIGN & DEVELOPMENT

- Technical consulting through our technical sales team and field application engineers
- Free samples within 24 – 48 h
- Online platform REDEXPERT
- Application notes
- Design kits with free refill
- Component libraries for CAD and CAE tools
- Application handbooks in hardcopy & e-book

PROTOTYPING & TESTING

- No MOQ
- EMC test lab racks
- Re-Reeling
- EMC lab search engine

PRODUCTION & AFTER SALES SERVICE

- All catalog products available ex stock
- Logistic concepts
- Longtime availability of components
- Smart PCN
- Customer API
- Customer platform MyWE

EASY AND FAST ACCESS
TO ALL INFORMATION

REDEXPERT

WEBSITE

APPLICATIONS & INDUSTRIES GUIDES

iOS APP

Download on the
App Store

**REFERENCE
GUIDES**

**EMC TEST
LAB RACKS**

Practical application & design notes:
www.we-online.com/appnotes

Product informations download:
www.we-online.com/produktinformationen

Application Guide
www.we-online.com/applicationguide

Download the **Catalogue App** of
Würth Elektronik to access all product
information on your mobile device:
www.we-online.com/app

REDEXPERT
www.we-online.com/redexpert

TRILOGY OF CONNECTORS

Basic principles and connector design explanations
4th extended and revised edition

View our full portfolio of Technical
Books and Reference Guides:
www.we-online.com/en/support/
knowledge/reference-guides

Characteristics

- The trilogy of connectors is now available in the 4th and completely revised edition. With the classical three chapters it is now easier to find your topic of interest.

- This reference Book covers now all latest developments and trends and provides practical information about different types of connectors like USB Type C or Power delivery. Another new section talks about connectors for shielded cables and their EMC considerations.

- Language: English

Content

- **Chapter 1**: Handles basic principles of connectors. It covers function, base materials and contact design as well as different possibilities of mounting to PCBs or cables.

- **Chapter 2**: Focuses on connector products, their characterization and technical parameters.

- **Chapter 3**: Provides insights in real applications to get ideas about different use cases for connectors.

TOTAL QUALITY MANAGEMENT

Our environment is important to us!

As one of the leading manufacturers of electronic components world-wide, we are fully conscious of our responsibility for the environment and its protection.

Directives

We are thus pleased to confirm that all homogenous subcomponents manufactured by Würth Elektronik eiSos GmbH & Co. KG are in full compliance with the following directives:

- 2011/65/EU and 2002/95/EU of the European Parliament regarding the restriction of the use of defined hazardous substances in electrical and electronic devices (RoHS Directive)
- 2010/571/EU, which supersedes the Annex to Directive 2002/95/EG
- article 33, paragraph 1 of the European REACh regulation No. 1907/2006. All components and homogeneous subcomponents are tested according to the current version of the "list of candidates" of the substances of very high concern (SVHC) "Halogen free" according to JEDEC 709B & IEC 61249-2-21

The components count as compliant when they conform to the definitions of Directive 2011/65/EU and China RoHS ACPEIP (Administrative Measure on the Control of Pollution Caused by Electronic Information Products).

No ozone-depleting substances

We also confirm that we do not use ozone-depleting substances with-out CFCs (chlorofluorocarbons) as per the Montreal Protocol in our products.

This concerns halogenated organic compounds such as
- PCBs (polychlorinated biphenyls)
- PBDEs (polybrominated diphenyl ethers)
- PBBs (polybrominated biphenyls)
- PCN (polychlorinated naphthalene)
- Deca-BDE (decabromodiphenyl ether)

State-of-the-art Equipment

Four Quality Centers
- Germany (Waldenburg)
- France (Lyon)
- China (Shenzhen)
- USA (Watertown)

Measurement Lab

- Network/Spectrum/Impedance Analyzers
- RF Impedance/Material Analyzer
- LCR Bridges with High Current Capability
- Precision LCRs
- Modular Impulse Generators
- Varistor Testers
- Winding Testers
- ESD Testers
- Dielectric and Insulation Resistance Testers
- 1000 W Power Supply
- 300 W Electronic Loads

Environmental Lab

- Shock and Vibration
- Temperature Cycling
- Thermal Shock
- Combined Shock and Vibration with Temperature Cycling
- Steam Aging

Analysis Lab

- Microscopic Analysis
- Cross Sectioning and Polishing
- Terminal Strength
- Packaging MSL Level Testing
- Wetting Balance
- RoHS Reflow Profile
- Computer Tomography
- Hot Air Reflow
- Vapor Phase
- Wave Soldering
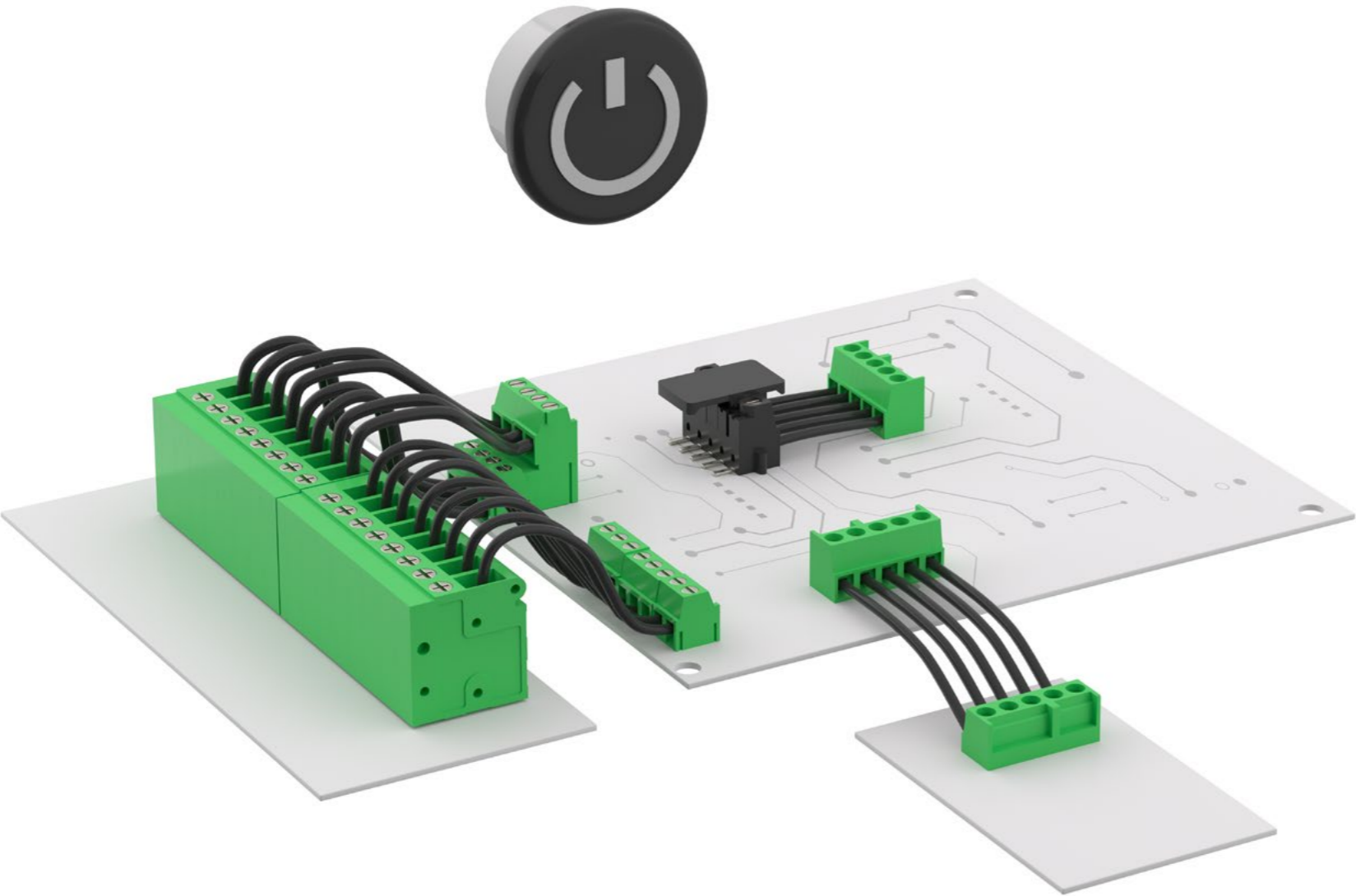- XRF X-Ray
- Automatic Pick & Place

RoHS COMPLIANT **REACh** COMPLIANT **HALOGEN** FREE
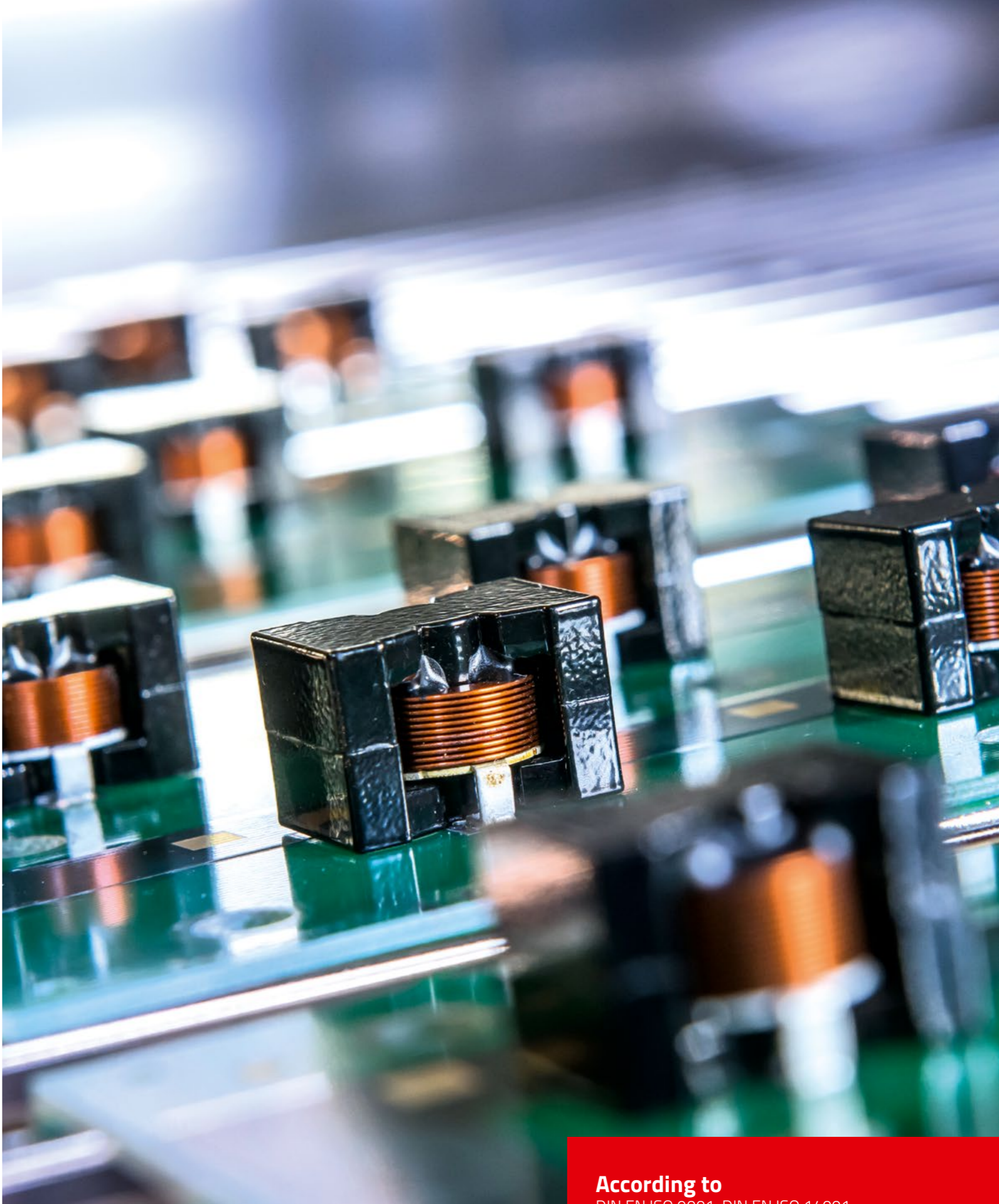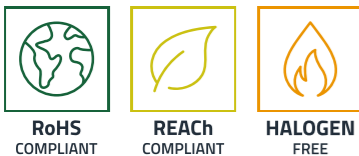
According to
DIN EN ISO 9001, DIN EN ISO 14001, DIN EN ISO 50001

CONNECTORS
TERMINAL BLOCKS – SCREW TYPES

WR-TBL

Types of Connection

Wire Protector

- Cost effective
- Compact in size

Rising Cage Clamp

- High retention force
- Robust and secure

Excenter Clamp

- Front screw and cable connection
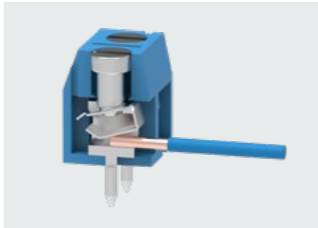- High quality contact

Features & Benefits
- Current rating up to 57 A
- Working voltage up to 750 VAC
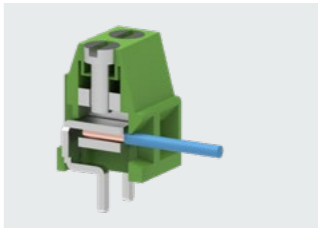- UL, cULus, VDE rated products

Available Products
- 2 up to 12 pins
- THT & SMT
- Double & triple level versions
- Modular systems available
- Pitches: 2.54 mm up to 10.16 mm
- Horizontal, vertical & 45° cable entry
- Adhesive markers (numeric)

CONNECTORS
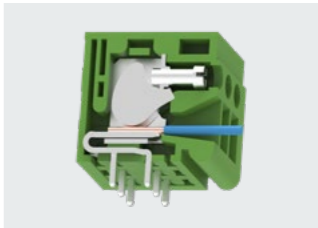## TERMINAL BLOCKS – SCREWLESS TYPES

WR-TBL

Types of Connection

Screwless Spring Clamp

Screwless Push In

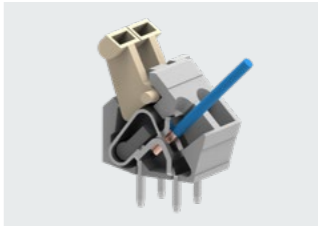- Direct insertion with solid and stranded wires

Features & Benefits
- Current rating up to 30 A
- Working voltage up to 750 VAC
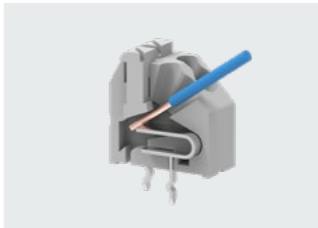- UL, cULus, VDE rated products
- Fast connection

Available Products
- 2 up to 24 pins
- Pitches: 2.50 mm up to 10.16 mm
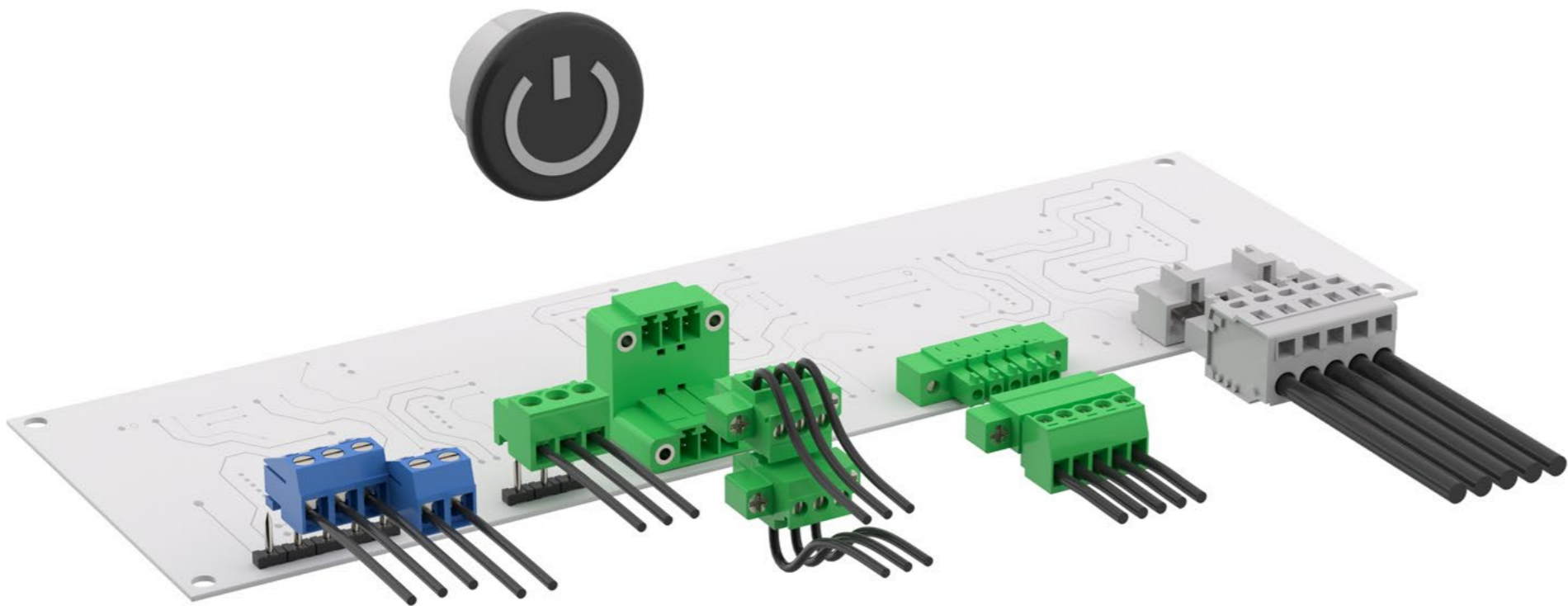- THT, SMT and THR
- Horizontal, vertical & 45° cable entry

Visit our online catalogue for detailed product selection:
www.we-online.com/TBL-SCREWLESS

CONNECTORS
TERMINAL BLOCKS – PLUGGABLE TYPES

WR-TBL

Types of Connection

Pluggable
- Every monoblock connection technologies available
- Reversed gender
- Coding option

IDC Clamp
- Fast connection
- No cable stripping

Accessories

Coding keys, adhesive markers and removal key for dedicated series
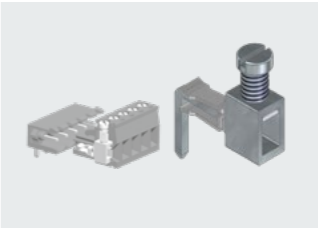
Features & Benefits
- Current rating up to 41 A
- Working voltage up to 750 V_{AC}
- UL, cULus, VDE rated products
- Fast connection

Available Products
- 2 up to 24 pins
- THT & THR
- Double level versions
- Reversed gender available (Wire-to-Board and Wire-to-Wire connections possible)
- Pitches: 2.50 mm up to 7.62 mm
- Horizontal, vertical and 45° cable entry
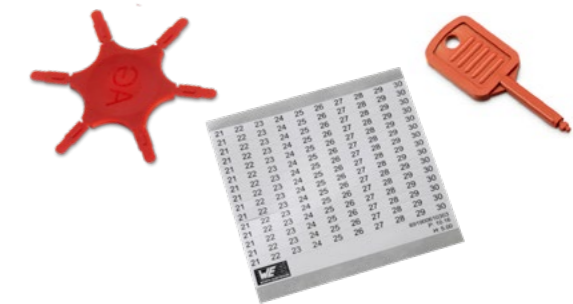- Open and closed PCB header

Visit our online catalogue for detailed product selection:
www.we-online.com/TBL-PLUGGABLE

CONNECTORS
FAST CONNECTION

WR-FAST

MOUNTING TABS

WA-MTAB

Product Examples

WR-FAST: 6.3 / 2.8 – 6.3 mm

WA-MTAB: 4.8 / 6.35 mm
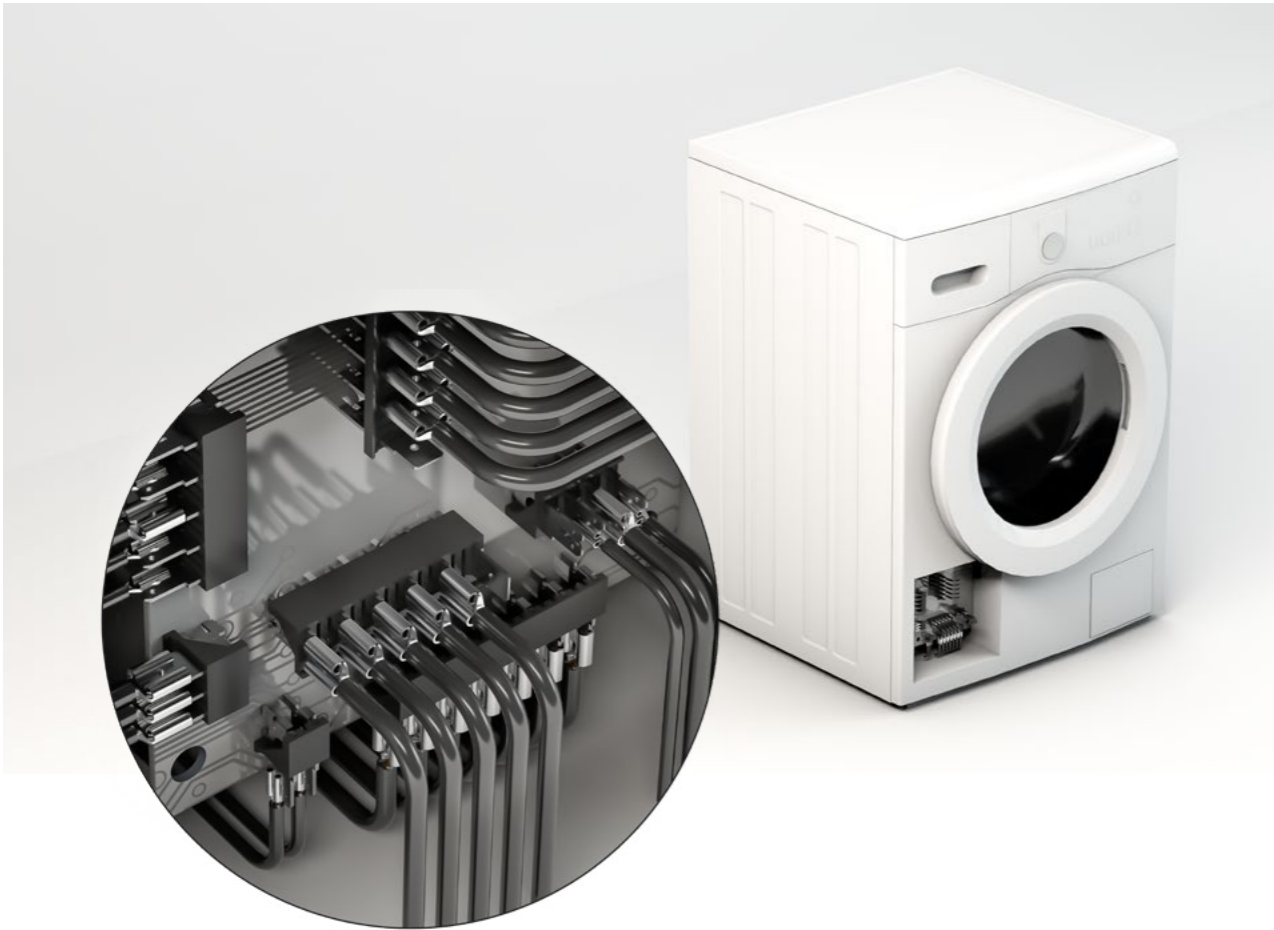
Features & Benefits
- 5.08 & 7.62 mm pitch
- Current rating up to 16 A
- Working voltage up to 300 V_{AC}
- Glow wire compliant according to IEC 60335-1
- cULus listed

Available Products
- Pin counts from 2 to 8 (WR-FAST)
- Single blades (WA-MTAB)
- THT mounted
- Straight & right angled
- Different blade designs following common market standards:
  - WR-FAST: 6.3 / 2.8 - 6.3 mm
  - WA-MTAB: 4.8 & 6.35 mm

Visit our online catalogue for detailed product selection:
www.we-online.com/FAST

Visit our online catalogue for detailed product selection:
www.we-online.com/MTAB

CONNECTORS
MEGA POWER CONNECTORS 5.7 MM

WR-MPC5

Variant Examples
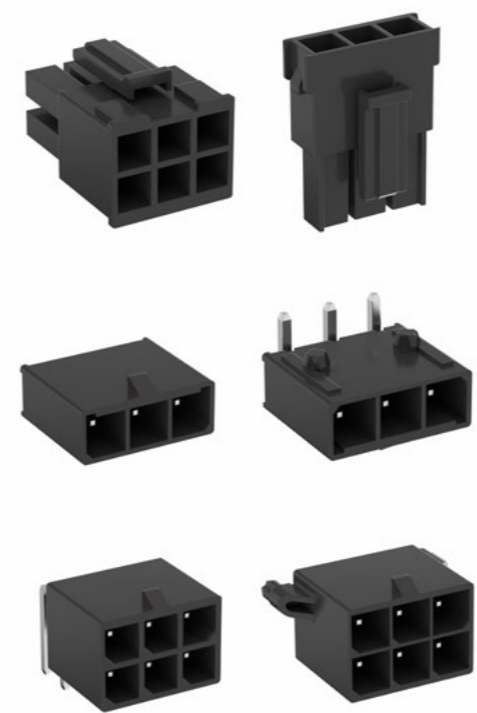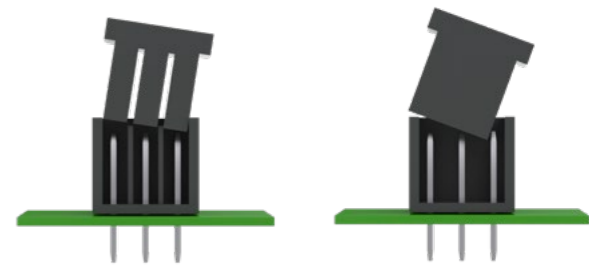
Special Features

Scoop proof design

Accessories / Tooling

Pre-crimped cable, handtool and applicator for semi-automatic tools

Features & Benefits
- 5.7 mm pitch
- Current rating up to 26 A
- Working voltage up to 600 VAC
- Coded system to prevent mismatching
- Highly secure positive locking system
- Glow wire according IEC60335-1

Available Products
- PCB and cable connectors
- 1 or 2 rows
- Vertical & horizontal
- PCB fixations: snap-in pegs
- Polarity from 2 to 12
- THT, SMT and Crimp types (AWG16 to AWG12)

Visit our online catalogue for detailed product selection:
www.we-online.com/MPC5

CONNECTORS
MINI POWER CONNECTOR 4.2 MM

WR-MPC4

Variant Examples

Special Features

Active locking system

Coding system to prevent mismatching

Scoop proof design

Accessories / Tooling

Pre-crimped cable, handtool and applicator for semi-automatic tools

Features & Benefits
- 4.20 mm pitch
- Current rating up to 9 A
- Working voltage up to 600 VAC
- Wire-to-Wire possible
- Coded system to prevent mismatching
- Highly secure positive locking system
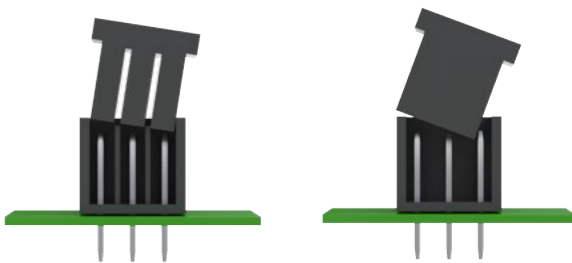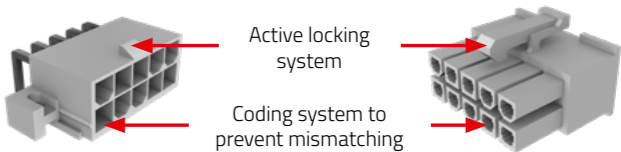- Glow wire options according to IEC60335-1

Available Products
- PCB and cable connectors
- 1 or 2 rows
- Vertical & horizontal
- PCB fixations: snap-in pegs, mounting flanges
- Polarity from 2 to 24
- THT and crimp types (AWG28 to AWG16)
- Glow wire compliant versions
- Panel mount ears

CONNECTORS
MICRO POWER CONNECTOR 3.0 MM

WR-MPC3

Variant Examples

Special Features

Low Force Crimp Contact available!

Reduces insertion and disconnecting force especially for higher polarity.
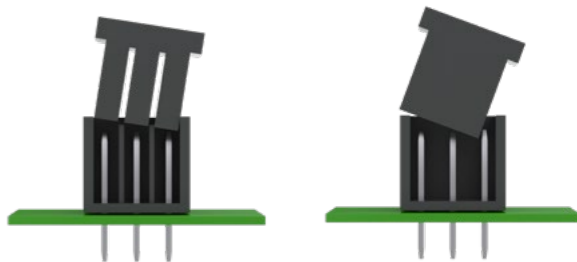
Scoop proof design

Accessories / Tooling

Pre-crimped cable, handtool and applicator for semi-automatic tools

Features & Benefits
- 3.00 mm pitch
- Current rating up to 5 A
- Working voltage up to 250 VAC
- Wire-to-Wire possible
- Coded system to prevent mismatching
- Highly secure positive locking system
- Glow wire options according to IEC60335-1

Available Products
- PCB and cable connectors
- 1 or 2 rows
- Vertical & horizontal
- PCB fixations: snap-in pegs, mounting flanges, solder tabs, metal retention clips
- Polarity from 2 to 24
- THT, SMT and Crimp types (AWG30 to AWG20)
- Low force contacts available
- Panel mount ears
- Gold plated contacts

CONNECTORS
LED CONNECTORS

WR-LECO

CONNECTORS
FUSE HOLDERS

WR-FSH
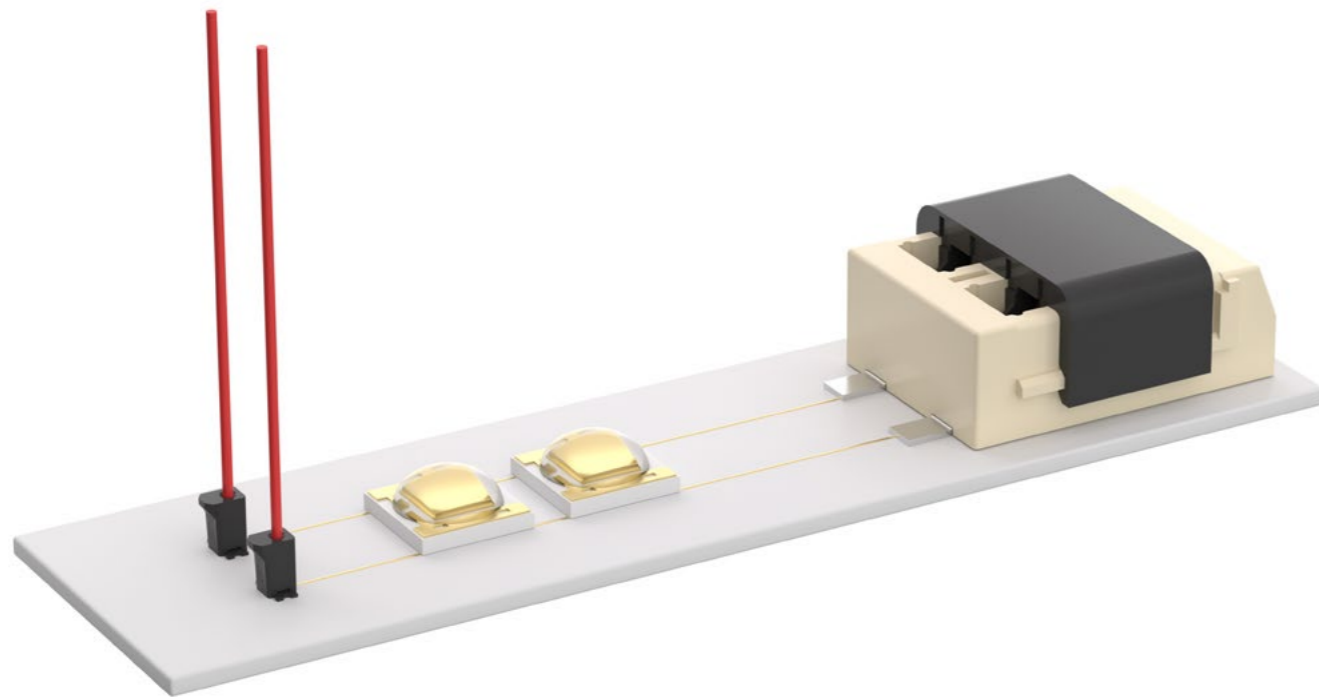
Features & Benefits
- Space saving low profile design
- Lead-free and RoHS compatible
- White color preventing shading
- Current rating: up to 9 A

Available Products
- Polarities: 1 and 2
- Pitch: 4.0 mmFeatures
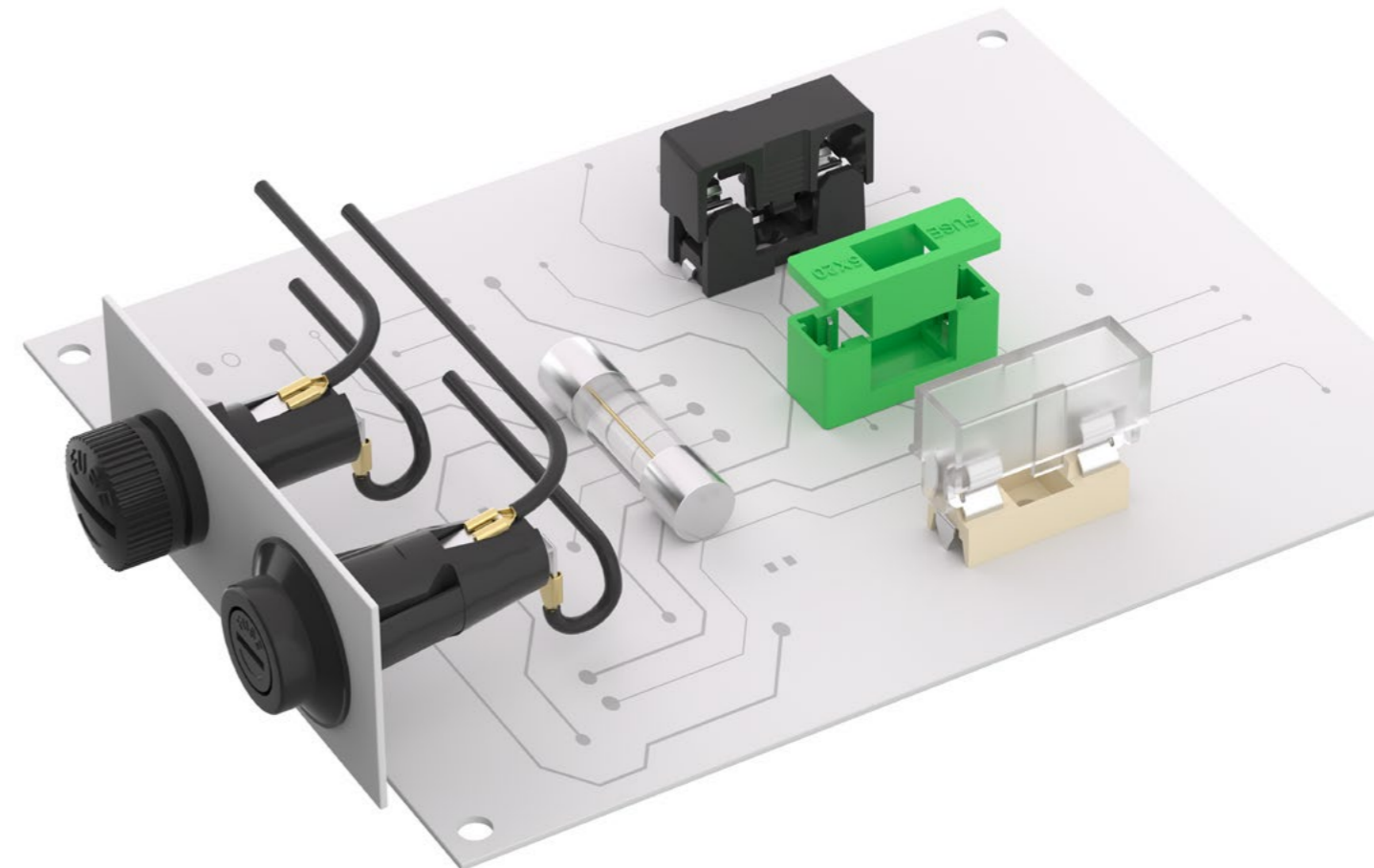
Features & Benefits
- In accordance with IEC 60127-6
- Some products Glow Wire tested according to IEC 60335-1 for home appliance applications
- Fitting 5 x 20 mm fuses

Available Products
- THT, SMT, THR & panel mount
- Clip covers
- Shock safe types

Visit our online catalogue for detailed product selection:
www.we-online.com/LECO

CONNECTORS
BATTERY HOLDERS

WA–BCPH & WA–BCMC

ø 20 mm

Example: CR2032

Lithium Cell
CR2032
3V

3.2 mm

+
CR2032
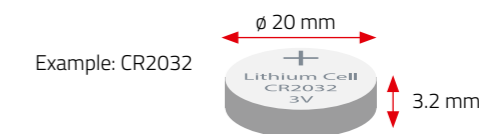
Features & Benefits
- SMT, THT
- Horizontal and vertical PCB mounting
- Metal or plastic body

Visit our online catalogue for detailed product selection:
www.we-online.com/BATTERY

CONNECTORS
DC POWER JACKS

WR–DC
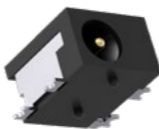
Specification of Diameters

Opening diameter
Center pin
Shunt terminal

Outer diameter (OD)
Inner diameter (ID)
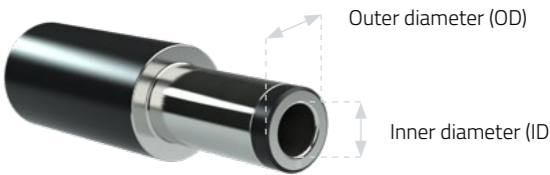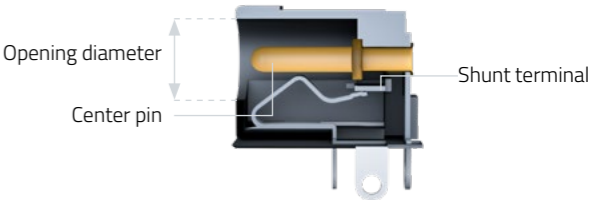
Features & Benefits

- Gold plated center pin
  – Berylium-Copper contact spring for fatique-free, durable clamping
  – Low contact resistance
  – 5000 mating cycles guaranteed
- Low profile options
  – Space saving on PCB
- High temperature plastics
  – UL94-V0 rating overall

Available Products

- SMT, THT
- Straight, right angled & offset types
- Various diameters to fit common market standards
- Shielded version available

CONNECTORS
WIRE-TO-BOARD CONNECTORS

WR-WTB

Special Features

Small reels for prototyping using serial (semi-)automatic tool

Accessories / Tooling

Pre-crimped cable, handtool and applicator for semi-automatic tools
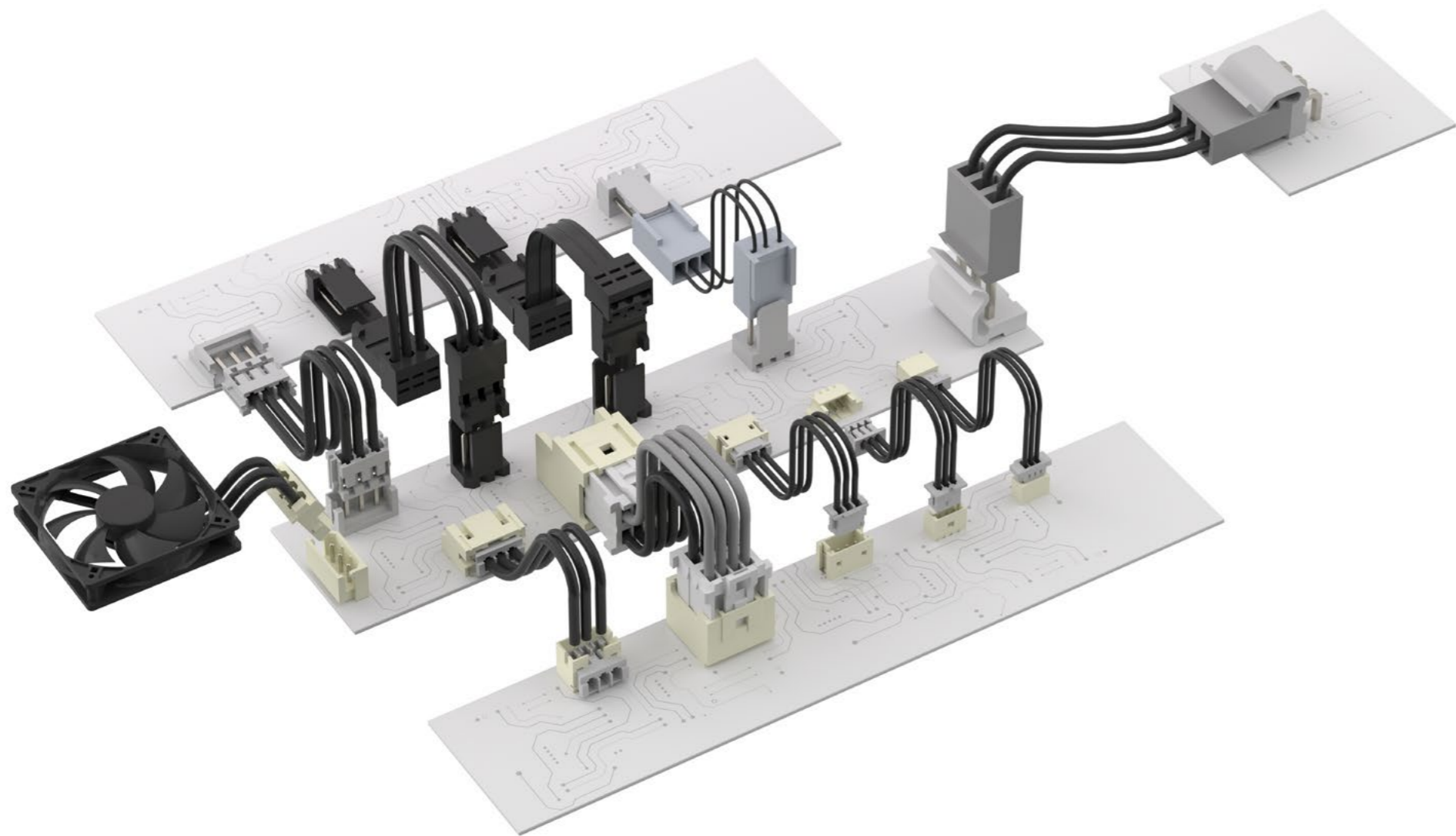
Features & Benefits
- Broad standard range of crimp type Wire-to-Board connectors
- Tin-plated design: lead-free and RoHS compliant
- Secure connection due to different locking features
- Reliable solution for Wire-to-Board applications

Available Products
- 3.96 mm down to 1.00 mm pitch
- Current rating up to 7 A
- Working voltage up to 250 VAC
- Pin counts from 2 to 10 for most series up to 40 for dedicated series
- SMT, THT, IDC & crimp (AWG32 to AWG18 – depending on connector size)
- Straight & right angled

Visit our online catalogue for detailed product selection:
www.we-online.com/WTB

WR-BHD
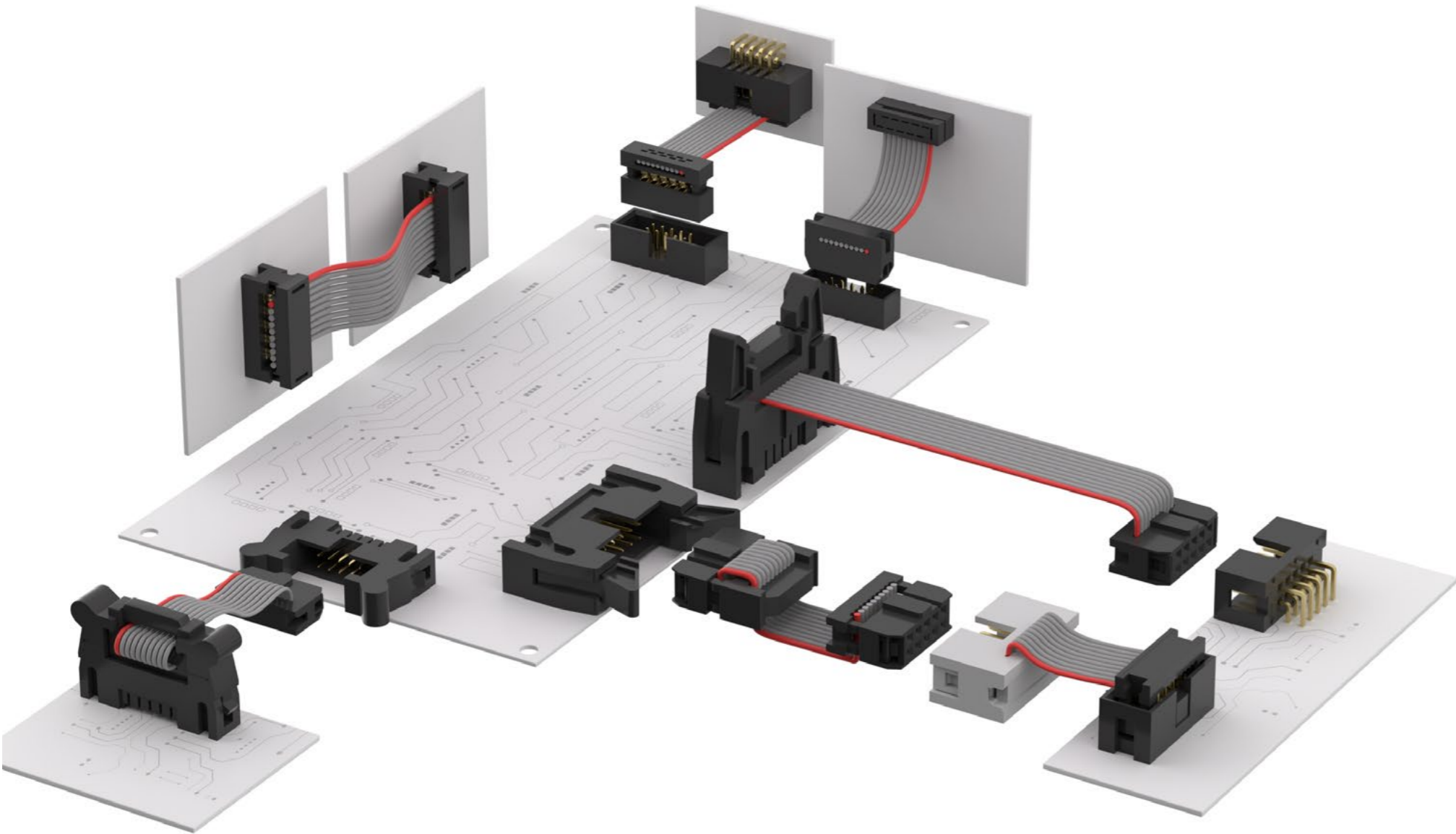
Special Features
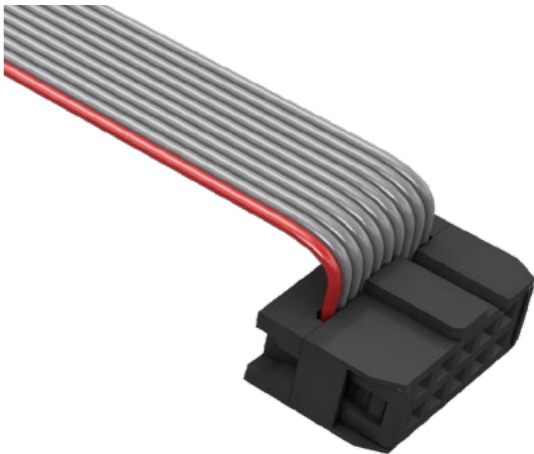
Flat ribbon cable in 0.635, 1.00 & 1.27 mm pitch available in various pin counts on reel.

For prototyping 1 meter precuts available.

Features & Benefits
- Wide range of standad products
- Cost effective solution used in nearly all elecronic equipment
- IDC Wire-to-Wire solution possible
- Flat ribbon cable available on reel for serial production and 1 meter precuts for prototyping

Available Products
- Pitches: 1.27, 2.00 & 2.54 mm
- Straight & right angled types
- Boxheaders with & without levers
- THT, SMT, IDC socket & IDC transition
- Strain relief at IDC connectors

CONNECTORS
REDFIT IDC SKEDD

WR-WST

Easy system extension
Using a simple layout enables easy adaption of additional feature-boards

Debugging

Both sides assembly
Enables low Board-to-Board distance
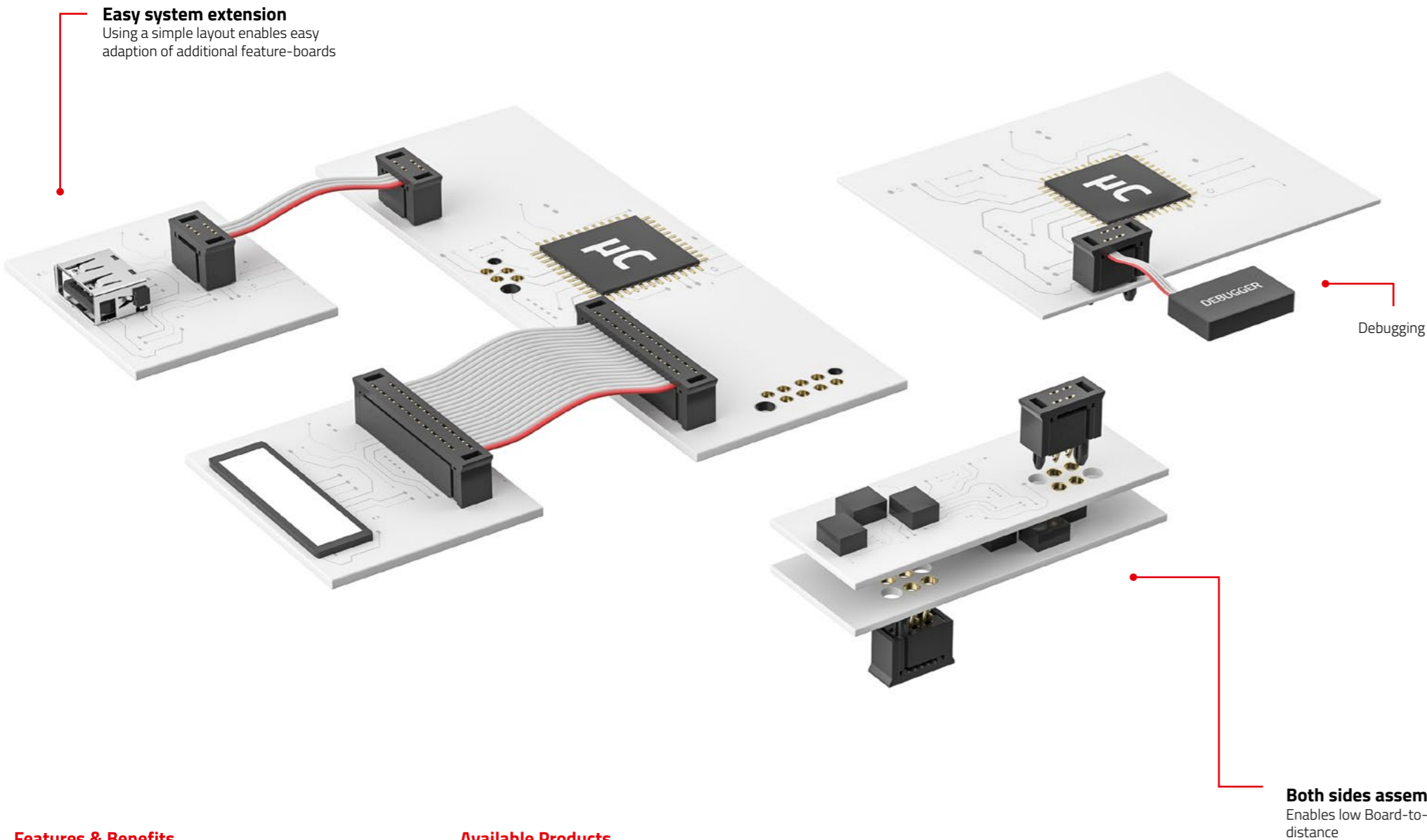
Features & Benefits
- Solderless direct plug technology no mating part needed
- Rated current: up to 1 A
- Low contact resistance of 10 mΩ max.
- 2.54 mm pitch suitable for 1.27 mm flat-ribbon-cable
- UL94 V-0 material
- Working temperature: -25 °C to +105 °C
- Vibration resistant up to 10 g
- Two layouts available for:
  - permanent connection
  - debugging

Available Products
- 4 to 20 pins
- Pre-pressed cables
- IDC handtool & press available
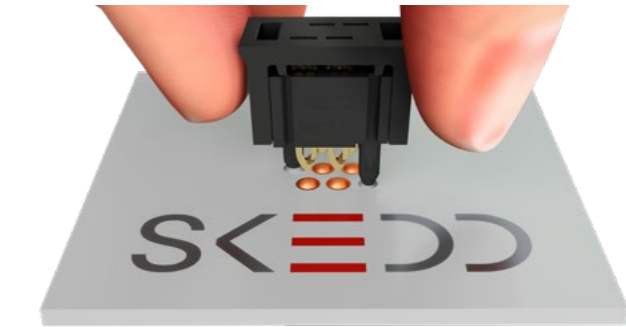
Visit our online catalogue for detailed product selection:
www.we-online.com/REDFIT-IDC

CONNECTORS
PIN AND SOCKET HEADERS

WR-PHD
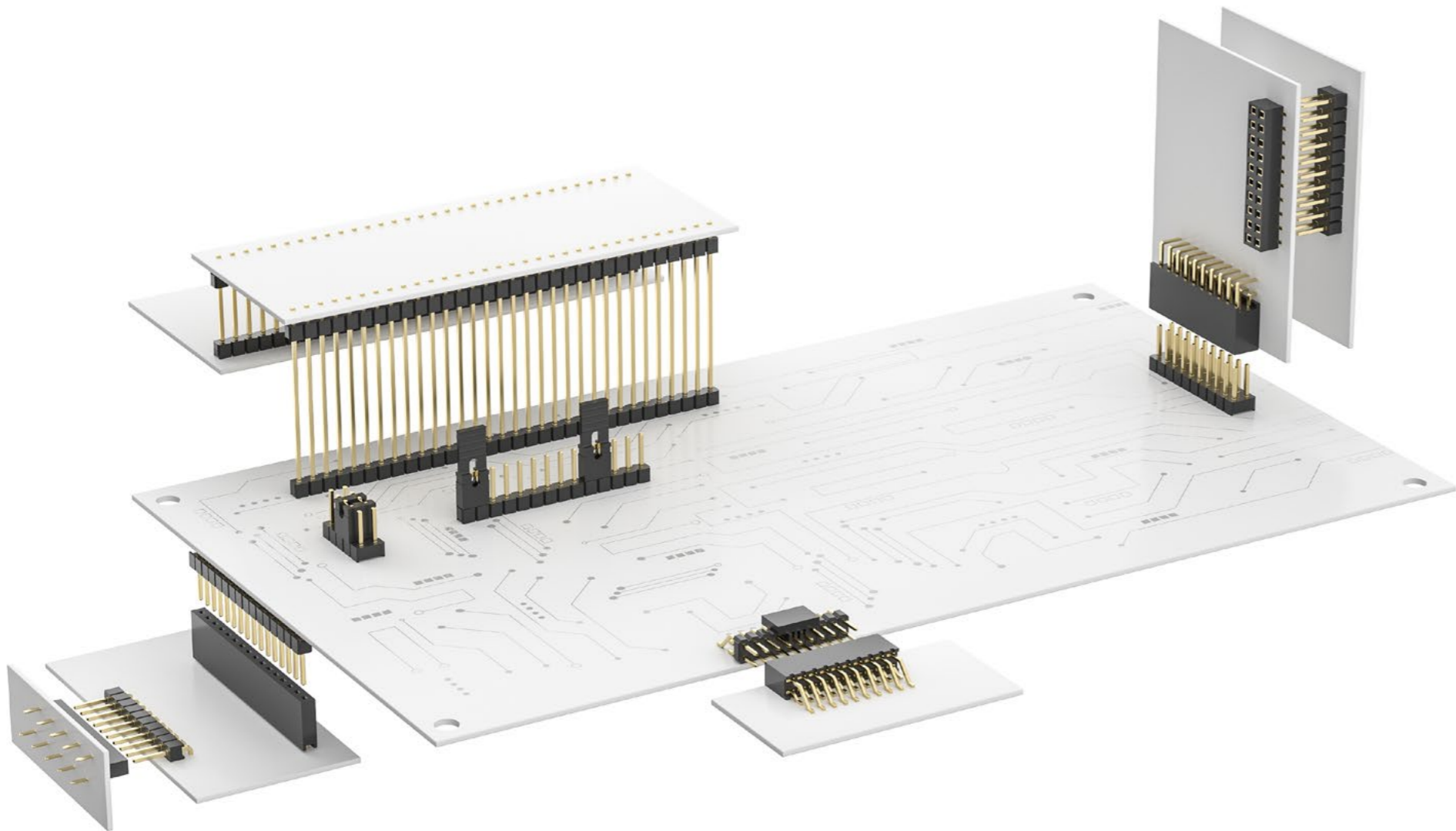
Special Features
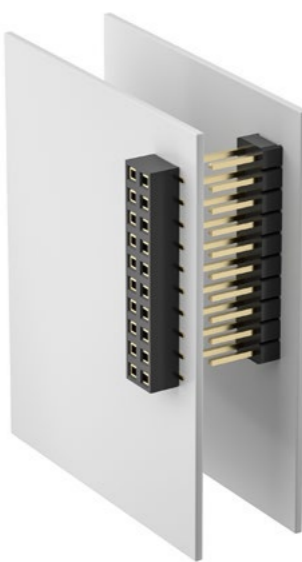
Bottom Entry SMT type for very small Board-to-Board distances

Features & Benefits
- Wide range of standard products
- SMT types in reel package with pick and place feature available
- Bottom entry types available in THT and SMT

Available Products
- Pitches: 2.54, 2.00 & 1.27 mm
- Straight & right angled types
- 1 or 2 rows
- THT & SMT
- Board stacker and jumper available

Visit our online catalogue for detailed product selection:
www.we-online.com/PHD

CONNECTORS
MINI MODULE CONNECTORS

WR-MM

Wire-to-Board solution

Board-to-Board solution

Wire-to-Board permanent solution
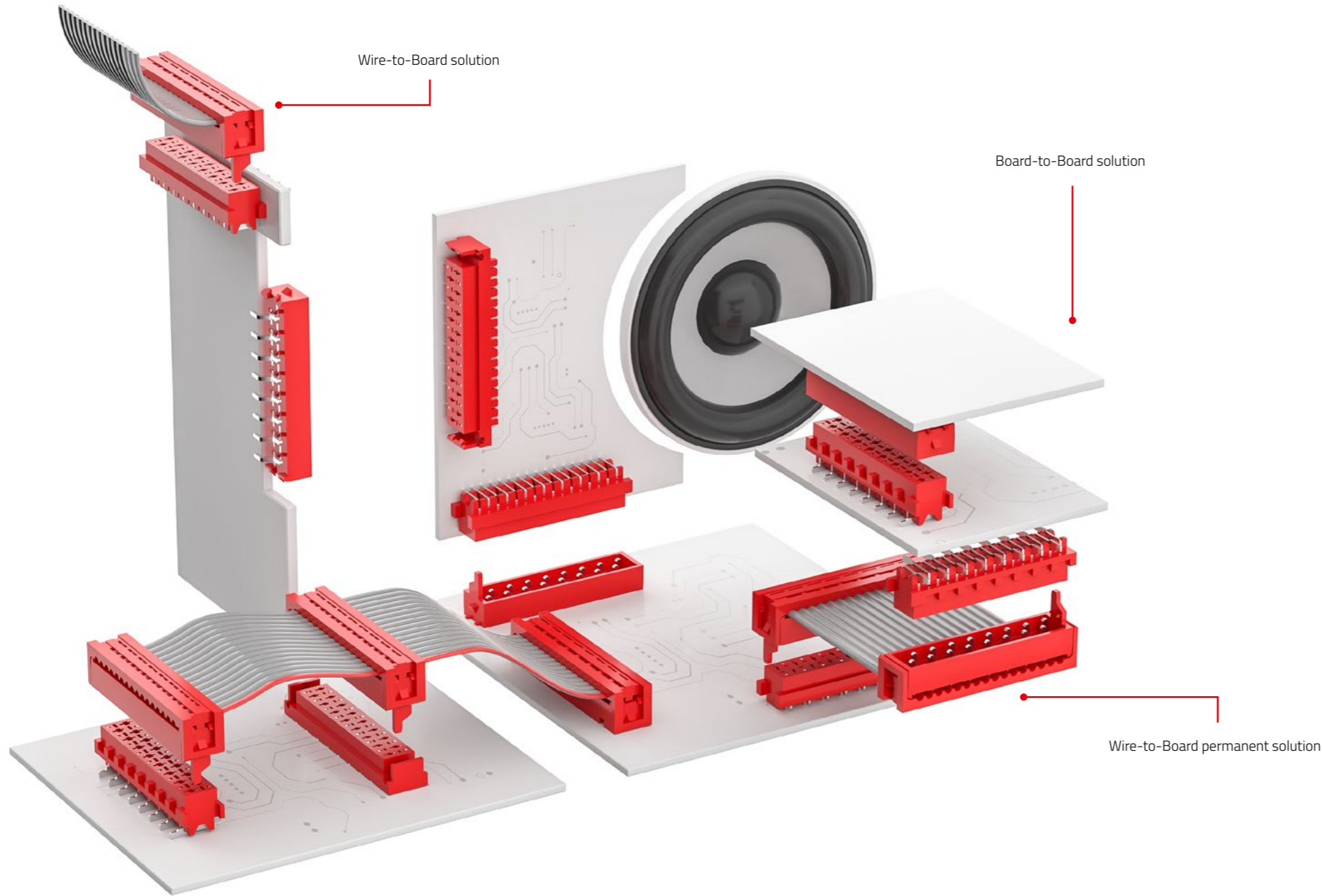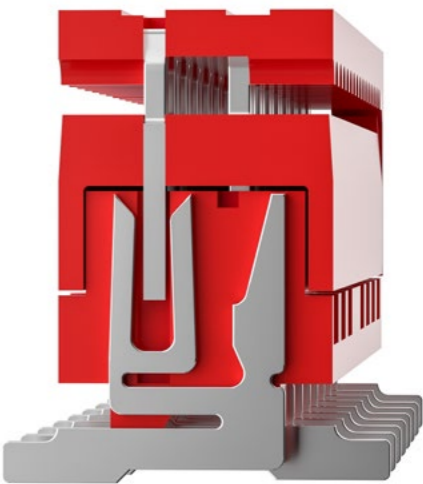
Special Features

The special fork design of the female socket absorbs relative movements caused by vibration. This prevents fretting corrosion and avoids micro-cuts.

With vibration-absorbing system

Features & Benefits

- Compact and low profile connectors: more compact than standard box headers
- Tin-plated design: lead-free and RoHS compliant
- Pitch: 2.54 mm / Pseudo-pitch: 1.27 mm
- For 1.27 mm flat-ribbon cable (AWG28)
- Reliable solution for Wire-to-Board and Board-to-Board applications
- IDC tools for easy cable assembling available

Available Products

- 4 to 26 pins
- SMT, THT, IDC
- Straight & right angled
- With or without coding
- With or without locking feature (for Wire-to-Board)

Visit our online catalogue for detailed product selection:
www.we-online.com/MM-BTB

Visit our online catalogue for detailed product selection:
www.we-online.com/MM-WTB

CONNECTORS
CIRCULAR CONNECTORS M12

WR-CIRCM12
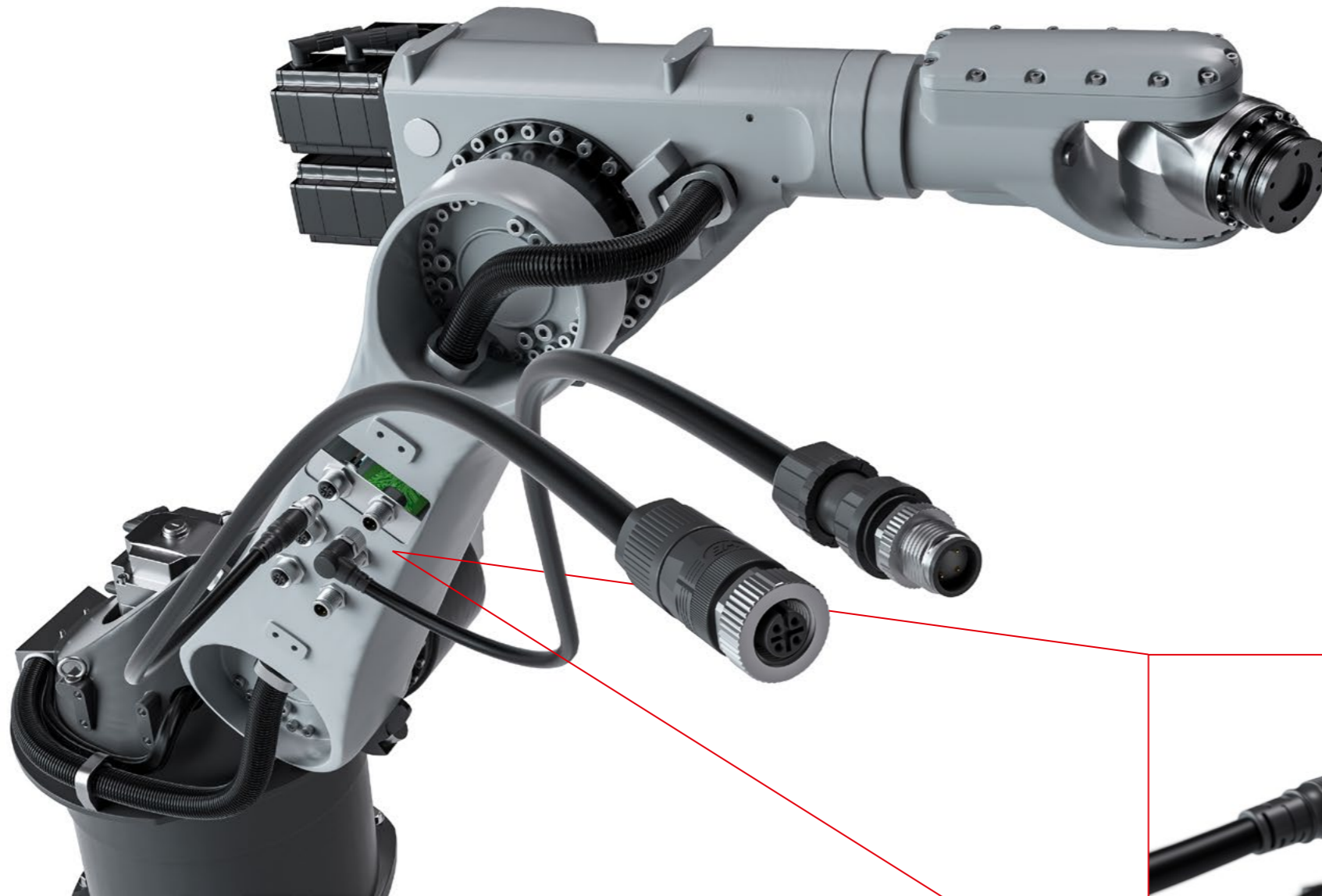
Special Features

IP67 or IP68 compliant (depending on product type)

Features & Benefits

- Adapted to work in harsh environments (moist, dust, vibration)
- Water & Dust Proof connectors: IP67 or IP68 rated
- Certified with UL 2238 (panel receptacles & field attachables)
  Indicated for industrial applications: fieldbuses, sensor/actuator technologies, automation, ...

Available Products

- Circular connectors M12 Coding A Screw locking
- Polarities 4, 5 and 8
- Several typologies available : panel receptacles, field attachable & cable assemblies
- Male & female version for all connectors

Visit our online catalogue for detailed product selection:
www.we-online.com/CIRC

CONNECTORS
D-SUB CONNECTOR

WR-DSUB

Accessories

Hoods (metalized & plastic)

Protective plastic caps
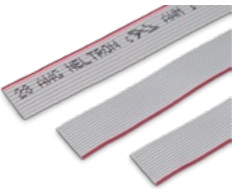
Flat ribbon cables for IDC types

UNC 4/40 & M3 Screws

PCB Connectors

Straight

Angled

High density

Cable Connectors

IDC

Solder bucket

Terminal housing

Crimp contact

Tooling

Crimp handtool

IDC press

Features & Benefits
- Well known standard since decades
- Secure connection with coded shell
- Fitting to industrial bus systems
- UL listed products

Available Products
- Polarities:
  - 9, 15, 25 and 37 pins for standard version
  - 15, 26, 44 and 62 pins for high density versions
- Male and female
- Straight & right angled
- PCB and cable connectors with and without hex-screws
- Crimp contacts loose or reel type
- UNC and M3 screws available
- EU & US Style PCB Layout

Visit our online catalogue for detailed product selection:
www.we-online.com/DSUB

CONNECTORS
USB CONNECTORS

WR-COM

Type	USB 2.0	USB 3.0	USB 3.1
Type A			
Type B			
Mini			
Micro			
Type C			

Retrocompatible with USB 2.0   Retrocompatible with USB 2.0 & 3.0

Type C-Range

Special Features

SMT spacer available to create USB 3.1 Type C locking feature (sideways or stacked locking)

Available Products
- USB 2.0 – Receptacle: Type A, B, C, Mini and Micro – Plug: Type A
- USB 3.0 – Receptacle: Type A, B and Micro – Plug: Type A
- USB 3.1 – Receptacle: Type A and Type C – Plug: Type C
- USB Power Delivery only - Receptacle: Type C
- Pre-assembled test cables available
- Mounting: SMT, THR & THT
- Types: short types, with offset, high current, upright, vertical, horizontal, high-rise

Accessories
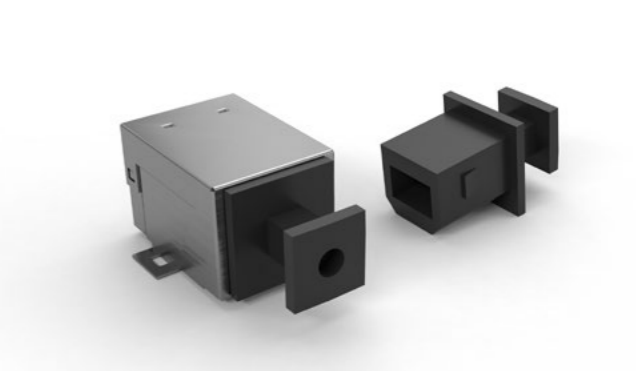
Various plastic caps for USB sockets (dust protection)

CONNECTORS
HDMI CONNECTORS

WR-HDMI

Available Products

Type A

Type A
with M3 screw latch

Type C (Mini)

Type D (Micro)

Plastic caps
for protection available

Type D (Micro)
hybrid mount

Features & Benefits
- Qualified and approved according to HDMI 1.4 version
- High data rate: up to 10.2 Gbps
- Different sizes in accordance with HDMI specification

Visit our online catalogue for detailed product selection:
www.we-online.com/HDMI

CONNECTORS
MODULAR JACKS

WR-MJ

Features & Benefits
- Discret Modular Jack design in accordance with FCC regulation. Mates with all FCC plugs. Available from 4p2c to 8p8c.
  - High flexibility in PCB design
  - Cheap
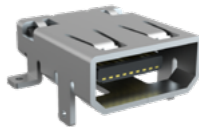 - Small footprint
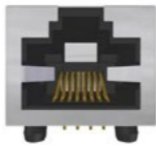
4P4C   6P6C   8P8C

Multiple Configurations
- Housing: Horizontal (tab up/down), vertical, angled
- Insulator available in 8 colours
- Shielding: half, EMI fingers, retention pins
- Various plating thickness available
- Various LED colours and poarities available
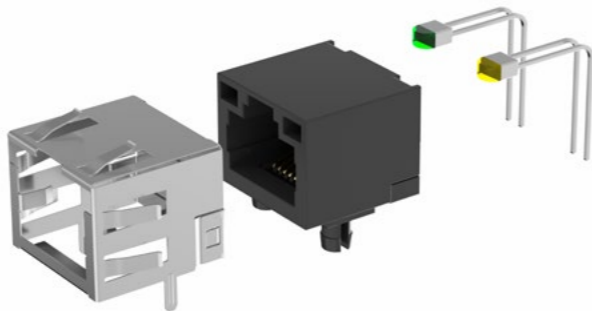
Multiport
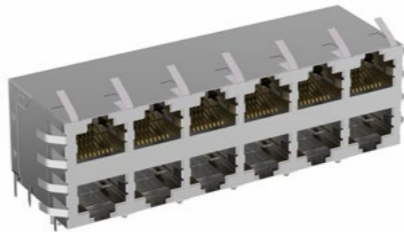
Up to 12 ports in one connector. Adjustable configuraion.

Soldering

THT   SMT   THR
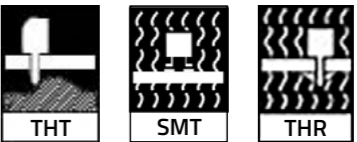
Available in THT, SMT and THR soldering

Ethernet Categories

RJ45 compatible with standards IEEE 802.3i to 802.3an (up to Cat 6A*).

Power-over-Ethernet

PoE compatible according to PoE++ Type 4* (IEEE 802.3af, 802.3at, 802.3bt)

Accessories

Plastic caps for protection available for RJ45 and RJ11 Modular Jacks

* Subject to adequate combination with LAN transformer and DC/DC converter. Refer to Würth Elektronik eiSos passive components.

CARD CONNECTORS

WR-CRD

Features & Benefits
- Different card entrance style
  - Header, hinge, push & pull, push & push
- Card detection
  - Card detection switch
  - Pull-down card detection compatible (standard AN10911)
- Temperature range from -40 °C up to +85 °C
  - Suitable for environmental applications (SIM)
- Ultra-High-Speed interface compatible
  - UHS-1 (SD) and UHS-2 (SD 4.0)

Card entrance
- Header push & pull
- Hinge (trapdoor)
- Push-push

9.38 ±0.25

10.89 ±0.25

19.7

CARD PUSH OUT　　**CARD WORKING**　　**CARD PUSH IN**

5.6　　2.5　　1.65

MicroSD Header　　MicroSD Hinge　　Micro SD Push-Push Series

SD Header Series　　SD Push-Push

SD 4.0 Push-Push

NanoSIM Header　　NanoSIM Push-Push　　NanoSIM Hinge

8,8 mm
12,3 mm

MicroSIM Header　　MicroSIM Hinge　　MicroSIM Push-Push

12 mm
15 mm

MiniSIM Series

CompactFlash Header Type I Series　　CompactFlash Header Type II
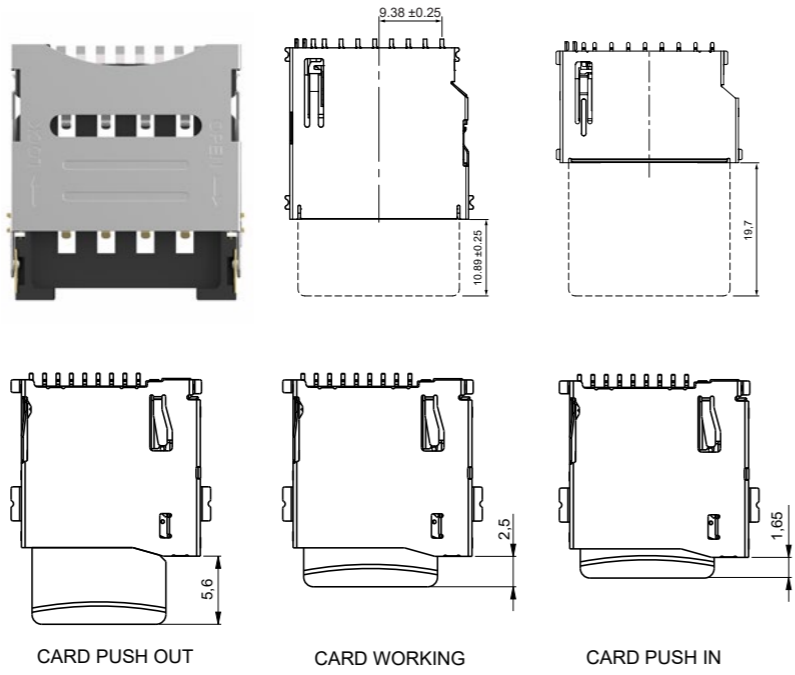
Visit our online catalogue for detailed product selection:
www.we-online.com/CRD

CONNECTORS
ZIF, LIF & FLEXIBLE CABLES

FFC Type 1

FFC Type 2

FFC Folded

Special Features

Locking types of FPC connectors

ZIF with slider

ZIF hinge type

ZIF with back locking
and dual contact

LIF connector
No locking – cable fixed
with dual contact

Features & Benefits
- Maximum cable retention even in small sizes
- Easy insertion system
- Optimized design offering good contact between mating parts
- Nickel under-plating preventing the tin-whisker phenomenon
- UL certified products
- Highly flexible FFCs – fold- and bendable
- Current rating of 0.5 A (0.5 mm pitch) and 1.0 A (1.0 mm pitch)

Available Products
- ZIF (Zero-Insertion-Force),
  LIF (Low-Insertion-Force) and
  FFC (Flat-Flexible-Cables)
- Straight, right angled & low profile
- Top, bottom, dual & back locking dual contact
- 0.5 and 1.0 mm pitch
- Pin counts: 4 to 30 (1 mm) & 6 to 50 (0.5 mm)
- FFC in 4 standard lenghts (50, 100, 152 & 200 mm)
  Folded FFC in 3 variable lengths
- (120 – 200 mm / 165 – 350 mm / 280 – 500 mm)
- Custom length FFC on request (MOQ 5.000)

Visit our online catalogue for detailed
product selection:
www.we-online.com/FPC-FFC
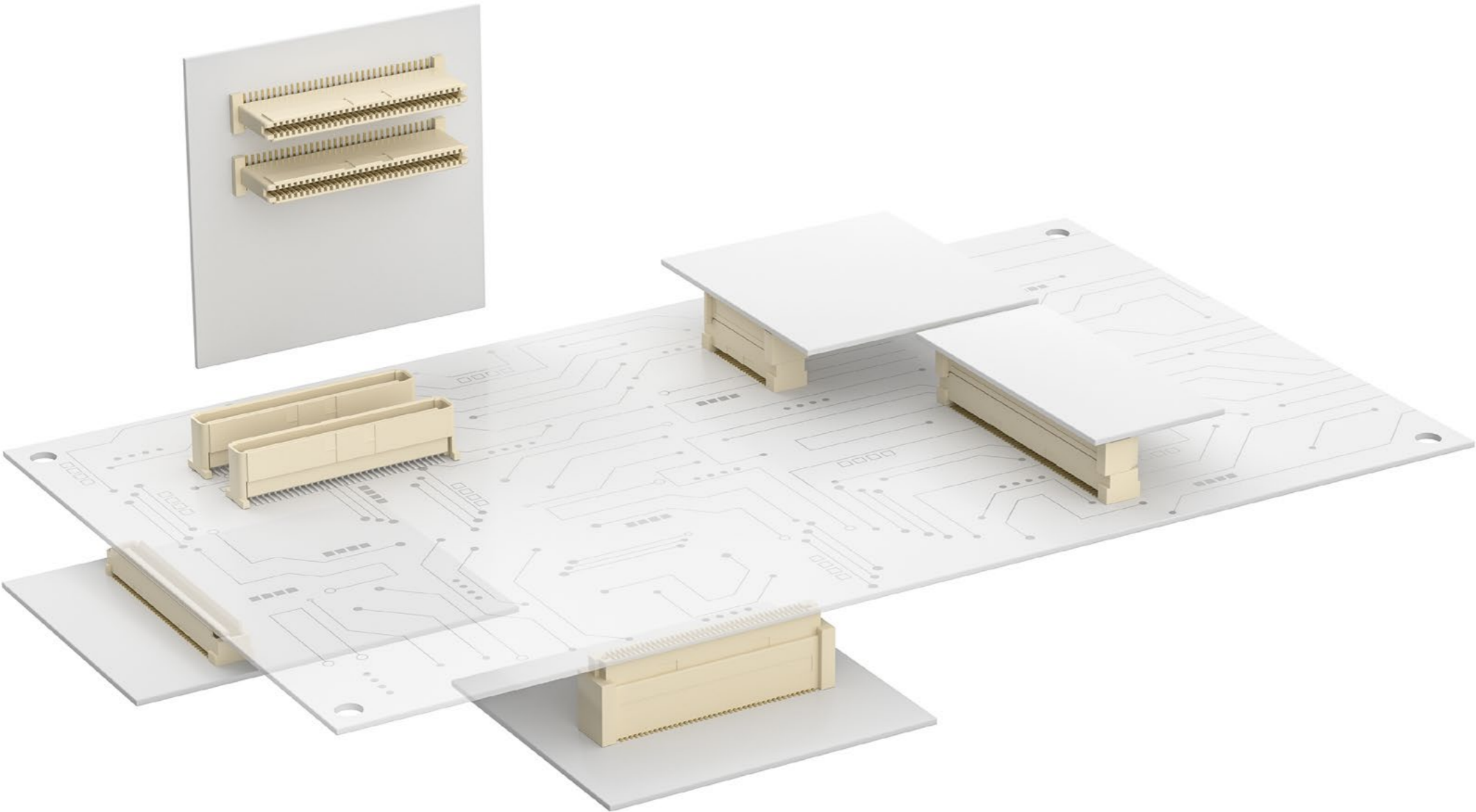
CONNECTORS
BOARD-TO-BOARD CONNECTORS

WR-BTB

Special Features
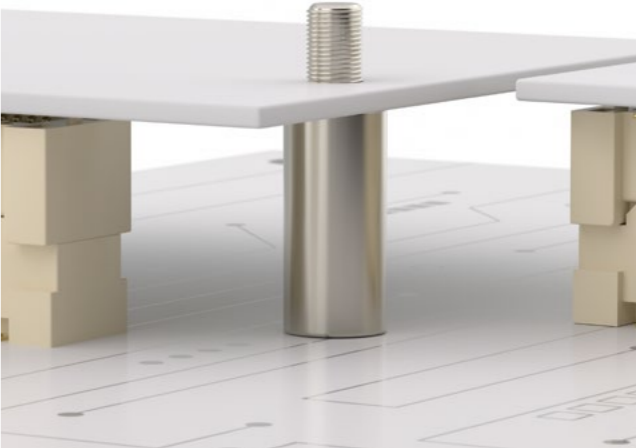
Perfectly matching SMT Spacers available

Features & Benefits
- 1.00 mm pitch standard for IEEE 1386 mezzanine connectors
- 0.80 mm pitch polarized to prevent reverse mating
- Transmits USB 2.0 differential signal with a data rate of 480 Mbps
- Up to six different height combinations by polarity
- Specially designed for fast and durable data transmission
- Strong and reliable mating interface

Available Products
- 0.80 mm pitch:
  40 pin – Stacking heights: 10 and 14 mm
  80 pin – Stacking heights: 5, 8, 9, 12, 13 and 16 mm
  100 pin – Stacking height: 10 mm
- 1.00 mm pitch:
  64 pin – Stacking heights: 7.75, 9.75, 11.75, 12.75
  and 14.75 mm

Visit our online catalogue for detailed product selection:
www.we-online.com/BTB

CONNECTORS
ULTRA-MINIATURE RF COAXIAL CONNECTORS

WR-UMRF
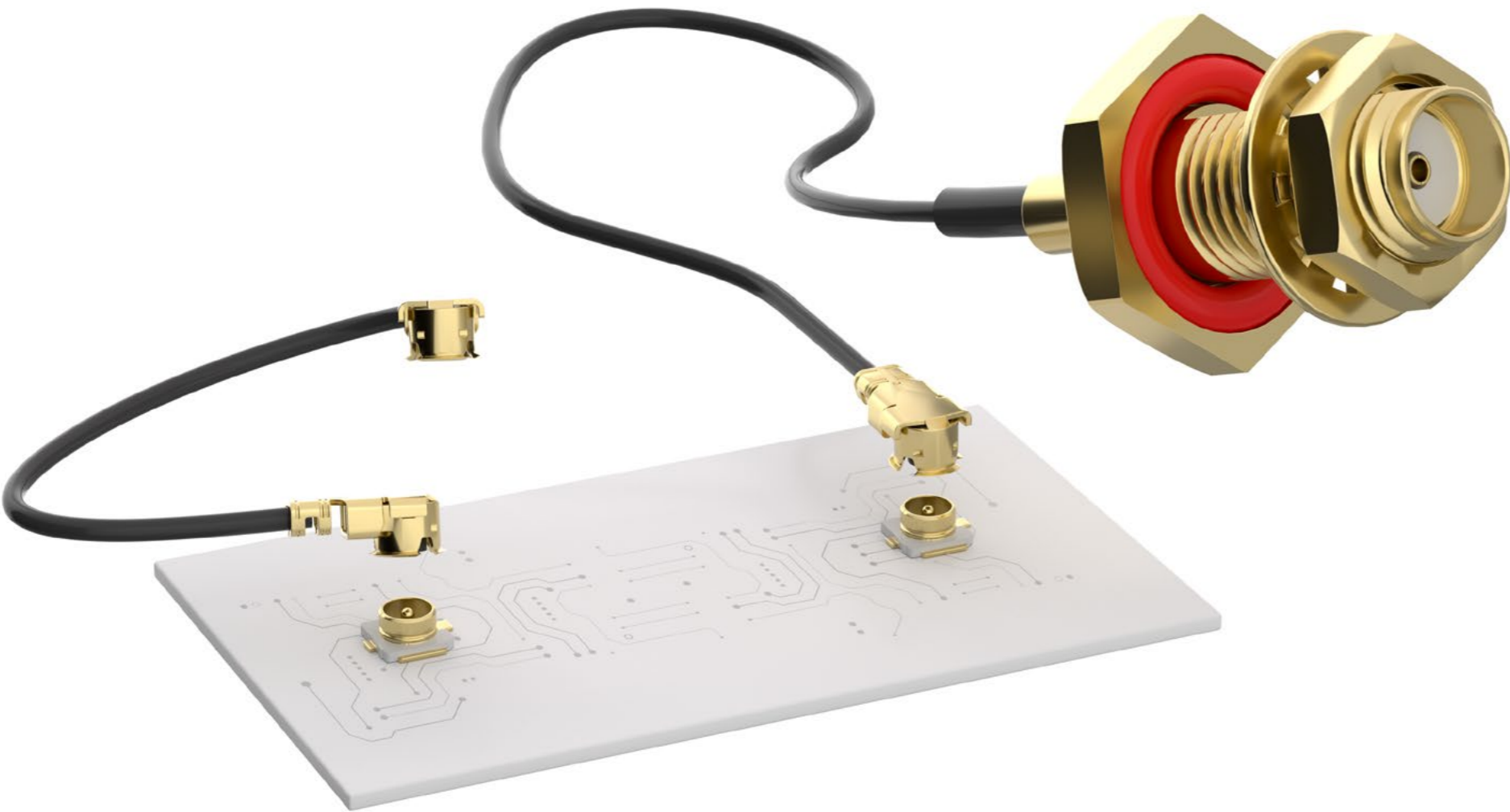
Special Features

IP67 panel protection
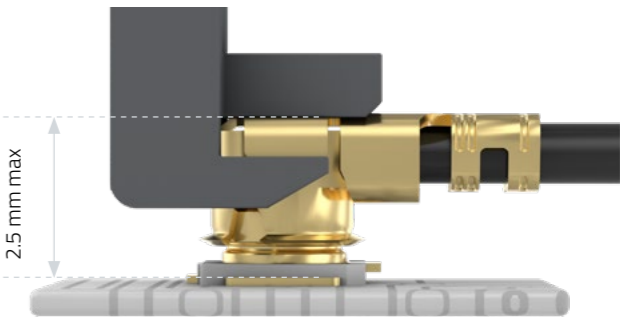
Slim mating height

2.5 mm max

Hand tool to assure mating / unmating safely

Features & Benefits
- 50Ω, support up to 6 GHz
- Manual snap-on interface for quick and ease connections
- Compatible with HRS(U.FL) & I-PEX(MHF1)
- Low-profiled design with advantage for limited space (Mated height 2.5 mm)
- Manual installation or using a tool
- IP67 designed to protect panel from ingress of moisture and particle

Available Products
- Receptacle and cable assemblies
- Cable diameters available: 1.13mm, 1.32mm and 1.37mm (Black or Gray)
- Insertion and extraction tool (PN 600636001)
- UMRF adaptor convert to SMA Plug /Jack
- Customized cable assemblies:
  - UMRF Plug to UMRF Plug
  - UMRF Plug to strip end
  - UMRF Plug to other coax connectors interface – SMA, RPSMA, SMB, MCX, MMCX, or N Type

Visit our online catalogue for detailed product selection:
www.we-online.com/UMRF

CONNECTORS
SMP COAXIAL CONNECTORS

WR-SMP

Special Features

Full-/Limited Detent   Smooth Bore

Full Detent: Maximum retention for high vibration resistance
Limited Detent: Medium to low retention
Smooth Bore: Lowest retention achieved with sliding contacts for modular systems and application

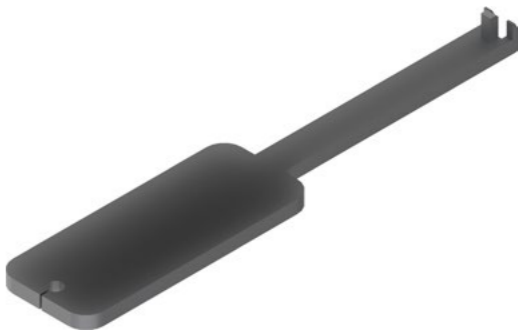SMP connector is also designed for Board-to-Board application. Achieved by the so called bullet connector. The adaptor compensates axial and radial misalignments.
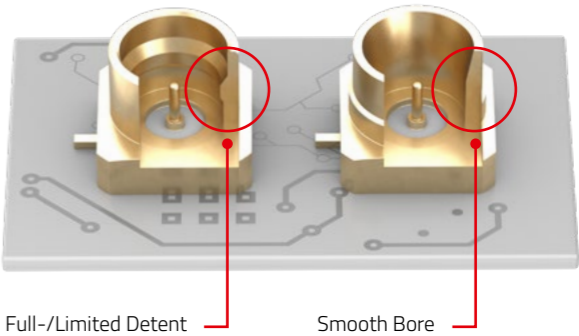
Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 18 GHz, 50 Ω
- Durability
  - Smooth Bore: 1000 cycles
  - Limited Detent: 500 cycles
  - Full Detent: 100 cycles

Available Products
- Plug & Jack
- THT, SMT, THR & cable mount
- Straight, right angled, end launch

Visit our online catalogue for detailed product selection:
www.we-online.com/SMP

CONNECTORS
MMCX COAXIAL CONNECTORS

WR-MMCX

Special Features

A snap ring ensures mechanical fixation.
The interface is appropriate for dense environment.

Features & Benefits
- Interface in accordance with IEC 61169-52
- Interface for DC to 6 GHz, 50 Ω
- Size reduction for limited space on the design
- Lock-snap-on coupling mechanism for fast and easy connection
- High durability up to 500 cycles minimum
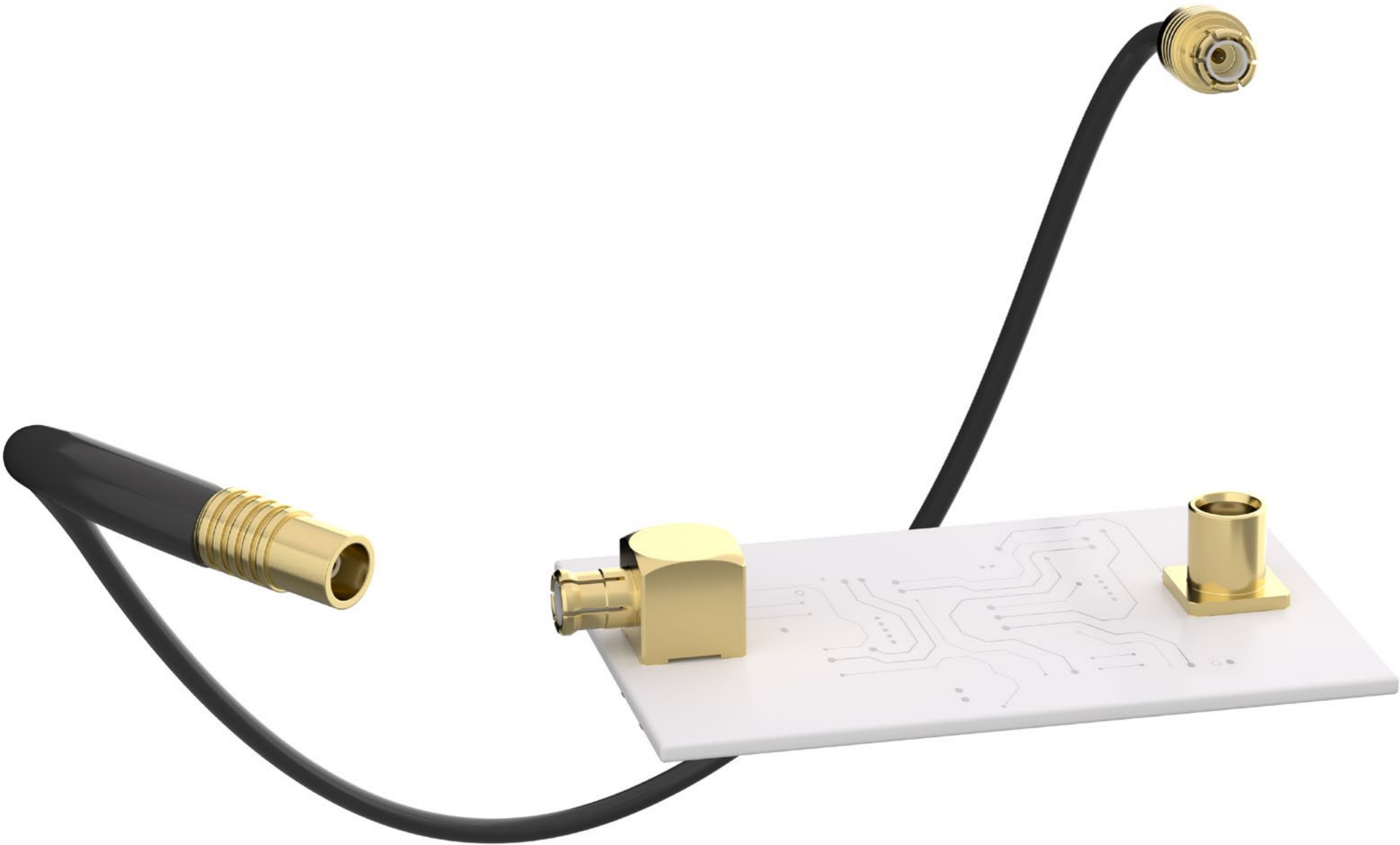
Available Products
- Plug & Jack
- THT, SMT & Cable mount
- Straight, right angled, end launch, rear mounted bulkhead

Visit our online catalogue for detailed
product selection:
www.we-online.com/MMCX

CONNECTORS
MCX COAXIAL CONNECTORS

WR-MCX

Special Features

A snap ring ensures mechanical fixation.
User friendly interface for assembly engagement.

Features & Benefits
- Interface in accordance with IEC 61169-36
- Interface for DC to 6 GHz, 50 Ω
- Snap-on coupling mechanism for fast and easy connection
- High durability up to 500 cycles minimum

Available Products
- Plug & Jack
- THT, SMT & cable connector
- Straight, right angled, end launch, rear mounted bulkhead

Visit our online catalogue for detailed
product selection:
www.we-online.com/MCX

CONNECTORS
SMB COAXIAL CONNECTORS

WR-SMB

Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 4 GHz, 50 Ω
- Circuit miniaturization with wide range of configurations
- Snap-on coupling mechanism ideal for fast installation
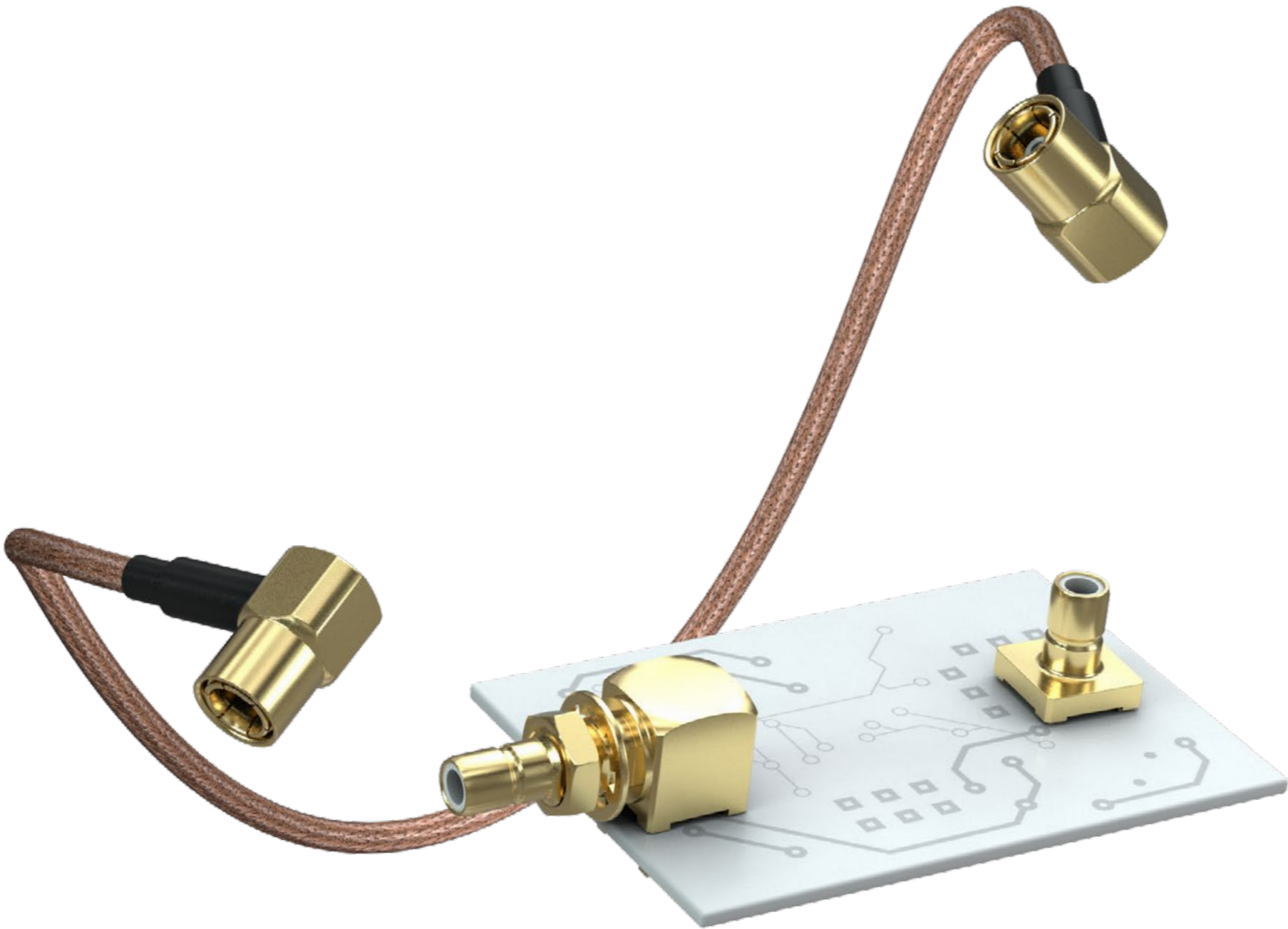- High durability up to 500 cycles minimum

Available Products
- Plug & Jack
- THT, SMT & cable mount
- Straight, right angled, end launch, rear mounted bulkhead

Visit our online catalogue for detailed product selection:
www.we-online.com/SMB

CONNECTORS
SMA COAXIAL CONNECTORS

WR-SMA

Special Features

Coupling with thread design enables less force. Expend over a greater period of time.

IP67 versions available

Accessories

Red and black silicone caps for SMA Jack for protection purposes and torque wrench available.

Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 18 GHz, 50 Ω
- High mechanical stability in intense vibration environment
- High axial force and torque
- Excellent electrical performance and high mating cycles up to 500 cycles minimum

Available Products
- Plug & Jack
- THT, SMT, THR, panel mount & cable connector
- Straight, right angled, end launch, rear mounted bulkhead
- IP67 Jack

Visit our online catalogue for detailed product selection:
www.we-online.com/SMA

CONNECTORS
REVERSE POLARITY SMA COAXIAL CONNECTORS

WR-RPSMA
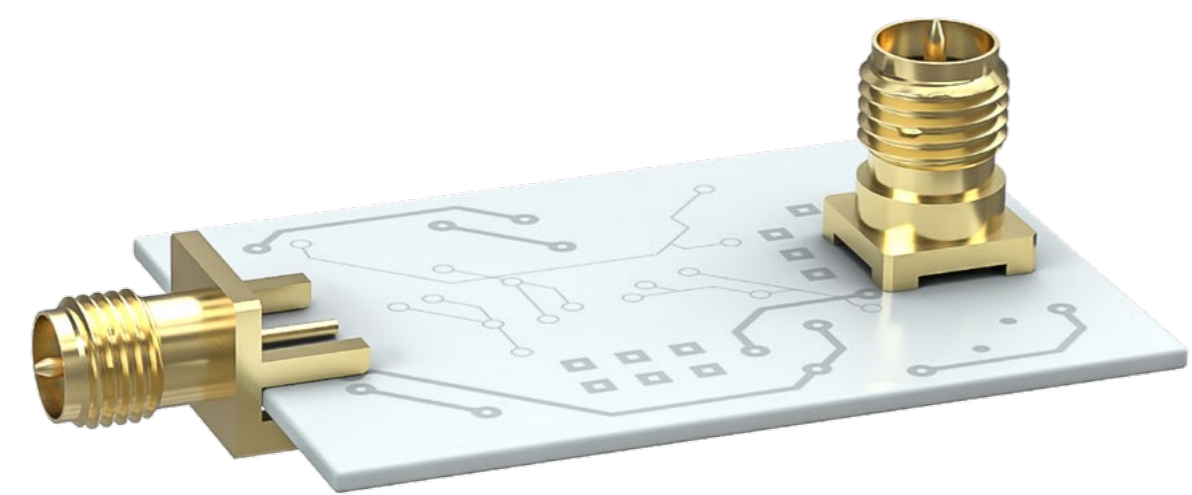
Special Features

Reverse gender SMA interface. Appropriate for mistake proofing.

The additional solderless SMA type allows for quick installation, stable electrical performance, and simplifies assembly, reducing the risk of damage.

Accessories

Torque wrench available

Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 18 GHz, 50 Ω
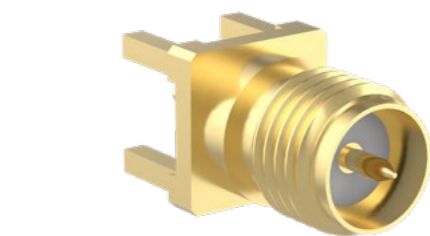- High mechanical stability in intense vibration environment
- High axial force and torque
- Excellent electrical performance and high mating cycles up to 500 cycles minimum

Available Products
- THT, SMT & Solderless mount
- Straight, right angled, end launch, rear mounted bulkhead
- IP67 Jack

Visit our online catalogue for detailed product selection:
www.we-online.com/RPSMA

CONNECTORS
BNC COAXIAL CONNECTORS

WR-BNC

Special Features

Bayonet Coupling Nut

Compact PCB connector size

Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 4 GHz, 50 Ω
- Bayonet coupling, quick connect with lock
- Cable connector entry option inculdes: RG58,RG174 and RG316

Available Products
- Plug & Jack
- THT & Cable Connector
- Straight & Right Angle

Visit our online catalogue for detailed product selection:
www.we-online.com/BNC

CONNECTORS
TNC COAXIAL CONNECTORS

WR-TNC

Threaded Coupling Nut

Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 11 GHz, 50 Ω
- Threaded coupling, size between N Type and SMA
- Cable connector entry option inculdes:
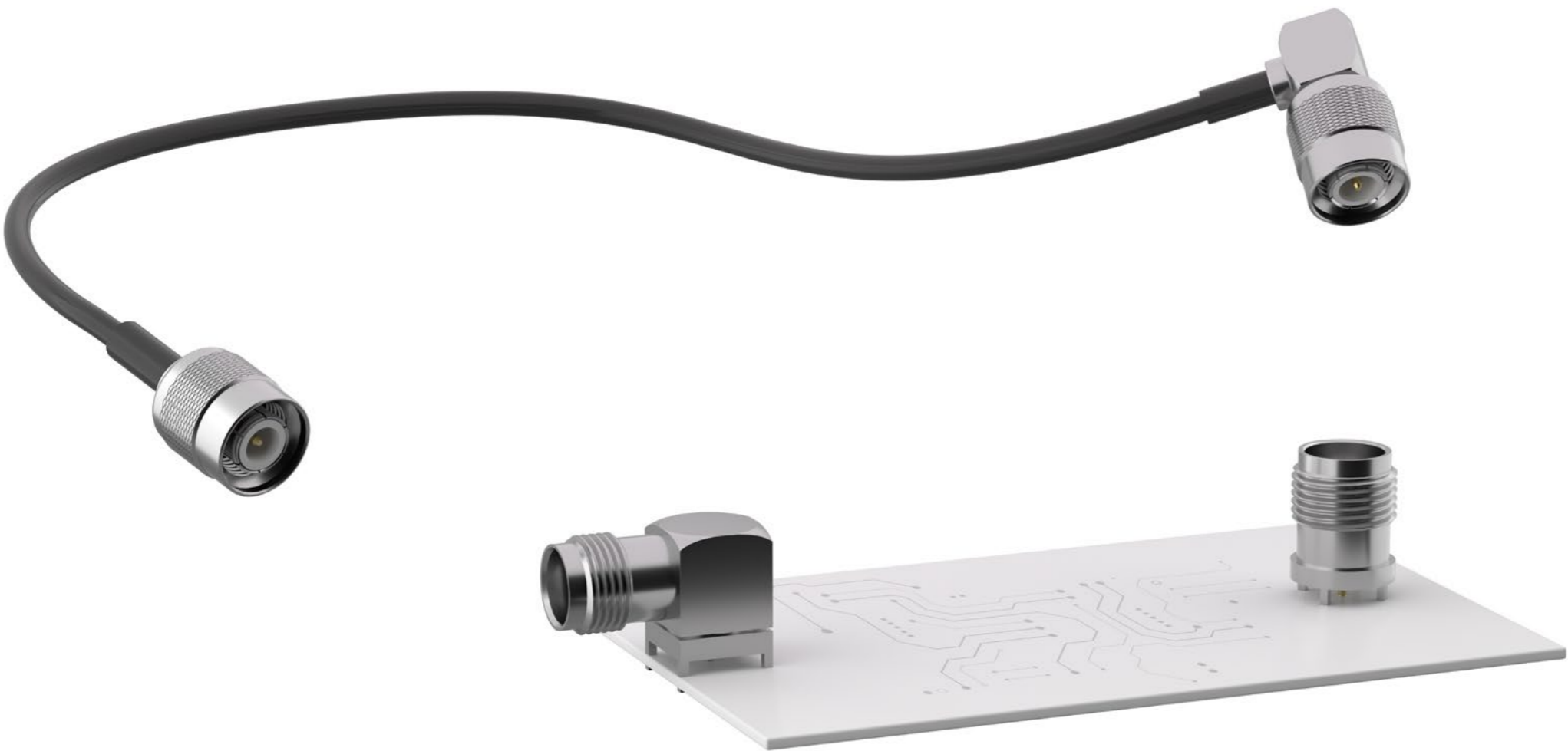 RG58 and RG174

Available Products
- Plug & Jack
- THT & Cable Connector
- Straight & Right Angle

Visit our online catalogue for detailed product selection:
www.we-online.com/TNC

CONNECTORS
N TYPE COAXIAL CONNECTORS

WR-NTYPE

Knurl Coupling Nut

IP67 Panel Protection

Gold plated connector solder legs

Features & Benefits
- Interface in accordance with MIL-STD-348
- Interface for DC to 11 GHz, 50 Ω
- Screw-on coupling
- Rugged structure for shock and outdoor application
- Cable connector entry option inculdes micro-coaxial cable types (1.13, 1.32, 1.37)

Available Products
- Plug & Jack
- THT, 4 Hole Flange & Cable Connector
- Straight, Right Angled, Rear mounted Bulkhead

Visit our online catalogue for detailed product selection:
www.we-online.com/N-Type

CONNECTORS
COAXIAL ADAPTORS

WR-ADPT

IN-SERIES		
SMA Plug	SMA Plug	
	SMA Jack	
SMA Jack	SMA Jack	
MCX Jack	MCX Jack	
MMCX Jack	MMCX Jack	
SMB Plug	SMB Plug	
	SMB Jack	
SMB Jack	SMB Jack	
SMP Jack	SMP Jack	
BNC Jack	BNC Jack	
TNC Jack	TNC Jack	
N Type Plug	N Type Plug	
	N Type Jack	
N Type Jack	N Type Jack	

IN-BETWEEN-SERIES		
SMA Plug	RP-SMA Plug	
	RP-SMA Jack	
	MCX Plug	
	MCX Jack	
	MMCX Plug	
	MMCX Jack	
	SMB Plug	
	SMB Jack	
	UMRF Jack	
	BNC Plug	
	BNC Jack	
	TNC Plug	
	TNC Jack	
	N Type Plug	
	N Type Jack	
SMA Jack	RP-SMA Plug	
	RP-SMA Jack	
	MCX Plug	
	MCX Jack	
	MMCX Plug	
	MMCX Jack	
	SMB Plug	
	SMB Jack	
	UMRF Jack	
	BNC Plug	
	BNC Jack	
	TNC Plug	
	TNC Jack	
	N Type Plug	
	N Type Jack	

Visit our online catalogue for detailed product selection:
www.we-online.com/ADPT

CONNECTORS
COAX CABLE ASSEMBLIES

WR-CXASY

Typical Coaxial Cable Structure

Jacket:
Provide environmental protection for cable

Shielding:
Prevent and minimize RF leakage with braided wires or metal foil

Dielectric:
Main path for signal transmission
Insulating material that could separate cable center conductor and the shielding

Center Conductor:
Composed by multiple strands of twisted copper wire or a solid copper wire

Cable Styles

Cable Properties Overview

Suggested Frequency Range				
DC 1 GHz	3 GHz	6 GHz	18 GHz	
RG58 / RG174	RG178	RG142 / RG316 / RG316DB / Low Loss 195 / 1.13 / 1.32 / 1.37	RG405(.085") / RG402(.141") / .047"	

Nominal Outer Cable Diameter										
Thick → Thin										
RG58 / RG142 / Low Loss 195	Hand formable 1.41"	RG316DB	RG174	Flexible .085"	Hand formable 0.85	RG178	Flexible .047"	1.37	1.32	1.13

Minimum Bending Radius								
Low → High								
1.13 / 1.32 / 1.37	Hand formable .085"	Flexible .047" / Hand formable .141"	RG178	RG316 / Low Loss 195 / Flexible .085	RG316DB	RG142	RG174	RG58

Operating Temperature	-65 °C	-55 °C	-40 °C	-20 °C	+80 °C	+85 °C	+90 °C	+165 °C
RG402(.141") / RG405(.085") / Flexible .047"								
RG178 / RG142 / RG316 / RG316DB								
1.13 / 1.32 / 1.37								
Low Loss 195								
RG58 / RG174								

Features & Benefits
- Pre-assembled cables between SMA, RPSMA, MCX, MMCX, SMB, SMP, N Type, BNC, TNC and UMRF
- Various types of standard flexible cables – Supporting frequency range up to 18 GHz
  - Flexible cables: RG58, RG174, RG178, RG142, RG316, RG316DB, Low Loss 195, .047", .085"
  - Hand formable cables: .141", .085"
- Customized cable assemblies with low MOQ upon customers specification possible

Visit our online catalogue for detailed product selection:
www.we-online.com/CXASY

CONNECTORS
TOOLS

Aluminium

for WR-WST IDC
use with IDC Han...

IDC Handpress

for WR-MM,
WR-BHD,
WR-DSUB,
WR-WST **REDFIT**

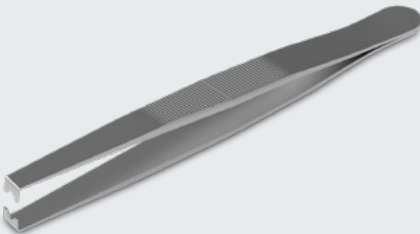**Automatic Crimping Tool**

for WR-WTB, WR-MPC3, WR-MPC4,
WR-DSUB

Hand Plier / Die Set

for WR-WTB, WR-MPC3, WR-MPC4,
WR-DSUB

SMP Extraction Tool

IDC Press Adapter

for WR-MM, WR-BHD, WR-DSUB

SMA & RPSMA Torque Wrench

Manual Extraction Tool

for WR-MPC3, WR-MPC4

**UMRF Insertion and
Extraction Tool**

**Crimping Tool for RF
Cable Connector**

Manual Crimping Tool

for WR-WTB

Hand Plier

for WR-TBL

IDC Handpress Base Plate

for WR-MM, WR-BHD, WR-DSUB

Hand Pliers

for WR-WST **REDFIT** (IDC)

Manual Insulation Stripper

Included:

Straight Blades (600 002 1)
V-Blades (600 002 2)

Optional available:

Round Blades (600 002 3)

SWITCHES
TACT SWITCHES

© eiCan

Special features

All Metal Parts

- 48 hours salt spray test
- Corrosion resistant

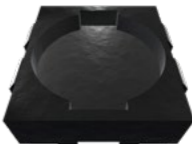**Polyimide Tape / Silicone Rubber**

- Protection from environment
- Silicone rubber for tough environments

Snap Dome (Stainless Steel)

- High performance stability
- Full load life cycle tests
- Less friction

Plastics

- 5 times reflow resistant
- UL flammability approved

Tact Switches

The Tact Switches from Würth Elektronik are characterized by performance stability and long lifetime. All metal elements are corrosion resistant proven by a 48 hours salt spray test. Polyimide tape or silicone rubber protect the switch even in tough environments. The switch range includes various high quality solutions like dip, rotary, detector, micro, slide, rocker switches and encoder. Available from stock. Samples free of charge.

For further information, please visit: **www.we-online.com/switch**

#TIMETOSWITCH

SMT Vertical   SMT Side Push   THT Vertical   THT Right Angled   IP67   Illuminated Solution   Long Travel

Features & Benefits
- IP67 versions
- Long lifetime
- Corrosion resistant metal elements
- Full load life cycle test
- Tight tolerance due to automated production
- Plastic material UL94 flammability approved
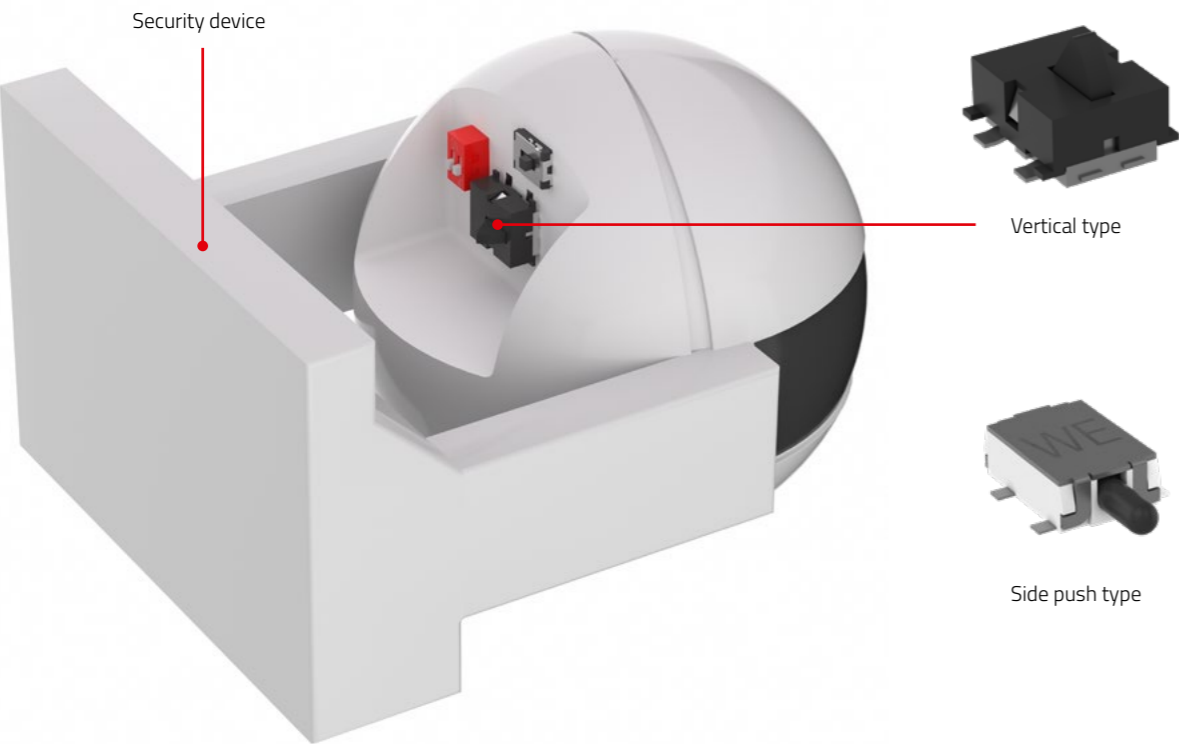- Support vapor phase soldering

Available Products
- Straight & right angled types
- THT and SMT
- Various operatoin forces and heights

Visit our online catalogue for detailed product selection:
www.we-online.com/TACT-SWITCH

SWITCHES
DETECTOR SWITCHES

Security device

Vertical type

Side push type

Tamper detection is the ability of a device to sense an active attack to the device and the threat of the attack should initiate an event (e.g. alarm, shutdown of the device).

UL 61058-1

SPDT

Features & Benefits
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
- 5 times reflow on SMT parts
- Low activation and return force
- Suitable for static use
- Application categories:
  - Detection / endstop
  - Power ON / OFF
  - Tamper detection (example above)
- Corrosive Test according to IEC 60068-2-42

Available Products

Detector Switches
- SPST – Normal open type
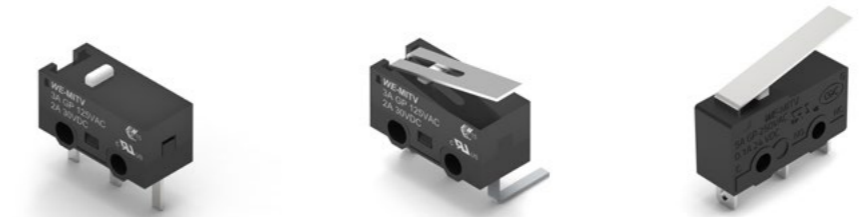- SPST – Normal closed type
- Horizontal & vertical operation

MICRO SWITCHES

Actuator Type
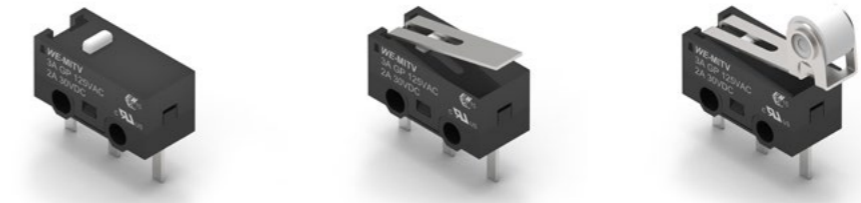
| Pin plunger | Lever | Roller lever |

Terminal Type

| THT | Right Angle | Solder Lug |

	WE Detector Switch	**WE Micro Switch**
Application categories	Detection/endstop, Power ON/OFF, tamper detection	
Actual product size	Up to 5.7 x 4.0 mm	12.8 x 5.8 mm 19.8 x 6.4 mm
Safety certificate	No	UL 61058-1
Circuit schematic	SPST (NO, NC)	SPDT
Terminal type	SMT	12.8 mm - THT 19.8 mm - THT, Solder Lug

Features & Benefits
- Trackable safety certification on UL/IEC 61058-1
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
- Low activation and return force
- Suitable for static use
- Compliances: CE

Available Products

Micro Switches
- Actuator type
- Roller type
- Lever type
- Horizontal & vertical operation

SWITCHES
DIP SWITCHES

INDUSTRIAL CONTROL

Features & Benefits
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
- 5 times reflow on SMT parts
- Gold plating on contact and terminal
- Washable series support vapor phase soldering
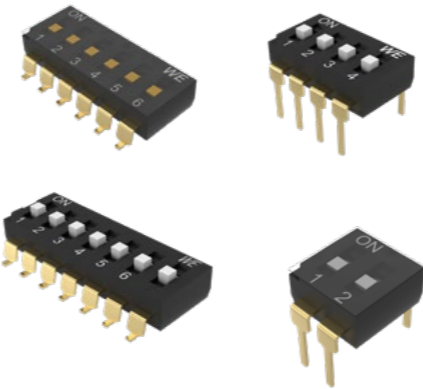- Corrosive test according to IEC 60068-2-42

Available Products
- 1 to 12 poles
- 1.27 mm & 2.54 mm pitch
- THT & SMT
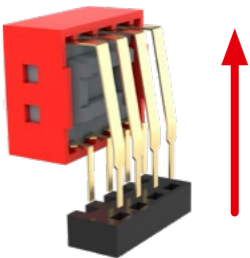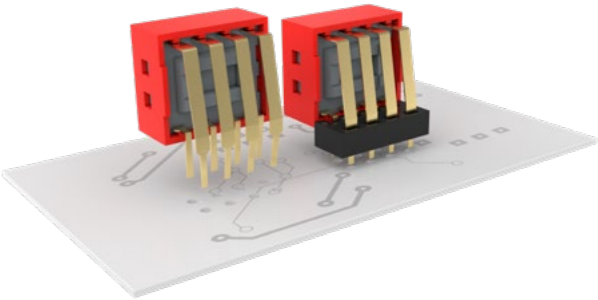- Raise and flat actuator
- Washable products available

Box type

Right angled

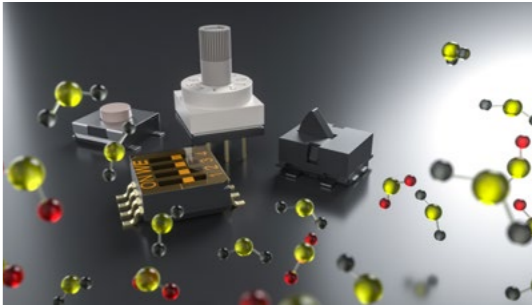**IC type**

Half pitch

Special Features

Würth Elektronik utility patent in China, Germany, Hong Kong, South Korea and Taiwan:
- Black supporter to prevent deformation on the terminal
  - Easy manual placement on PCB
  - Saving of time and assembly costs

Placement example: Left without black supporter plastics; right with patented black supporter plastics
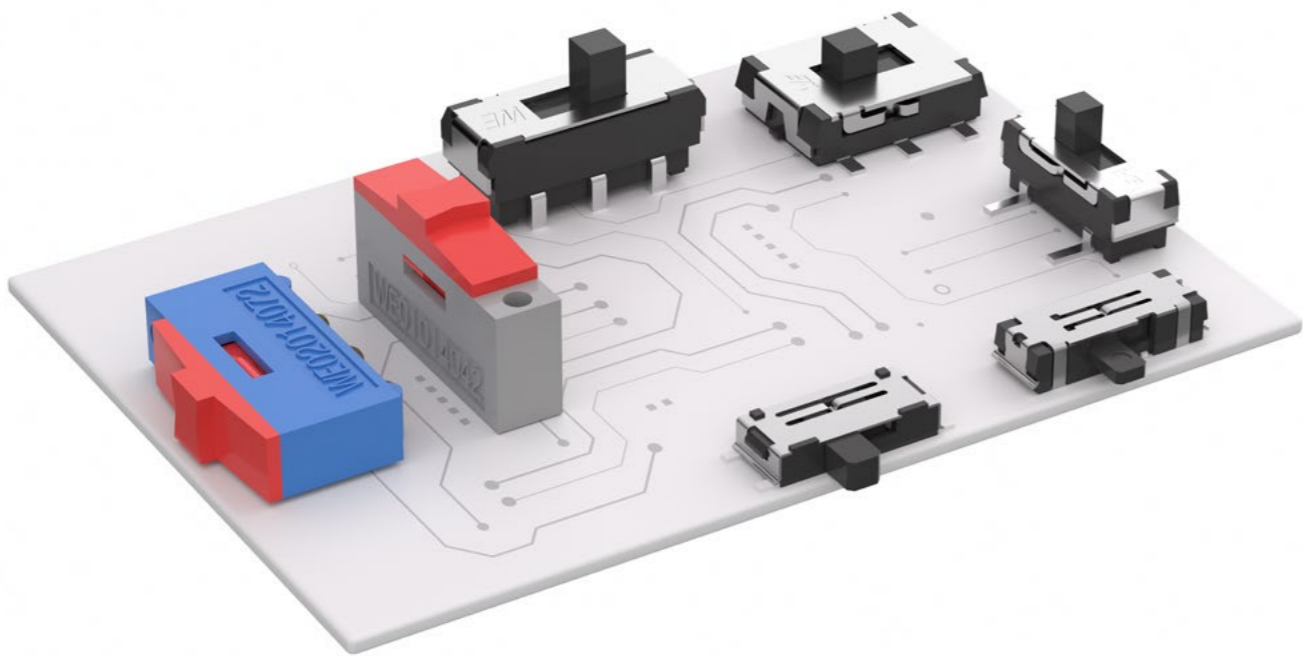

Corrosive Test according to IEC 60068-2-42

SWITCHES
SLIDE SWITCHES

PUSH BUTTON SWITCHES

Special Features

Plastic caps red & black for Push Button Switches

Special design of the push buttons' actuator tip (caved design) provides a perfect fix point for pen or other sharp tools while operation

Features & Benefits
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
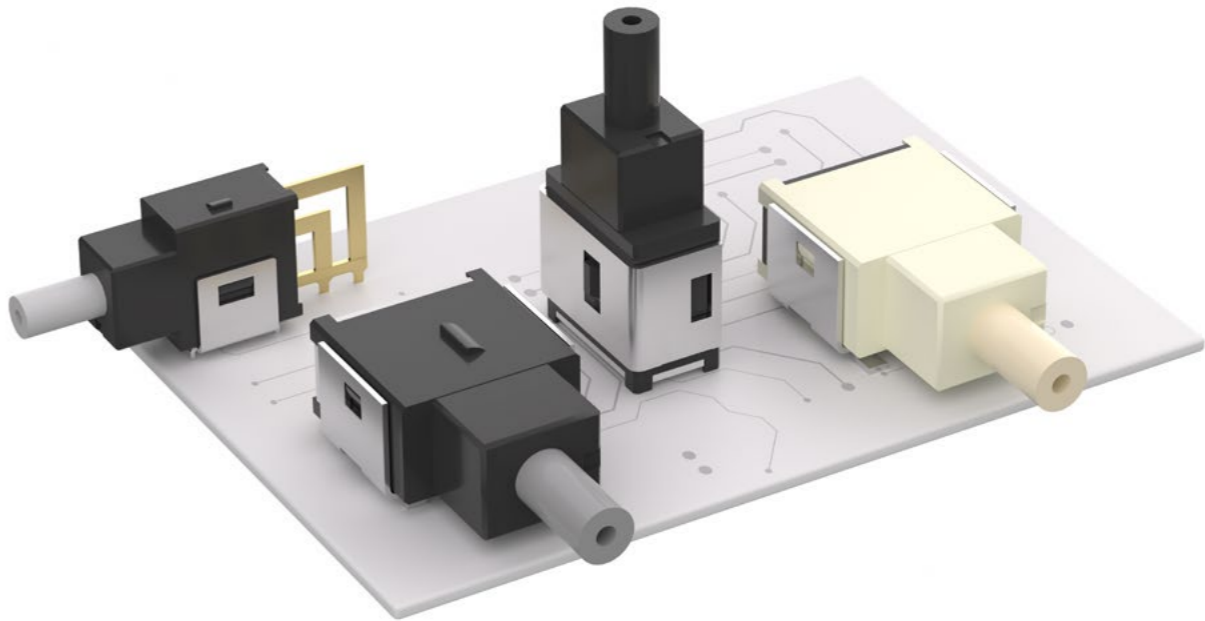- 5 times reflow on SMT parts
- Non-shorting

Available Products

Slide Switches
- THT & SMT
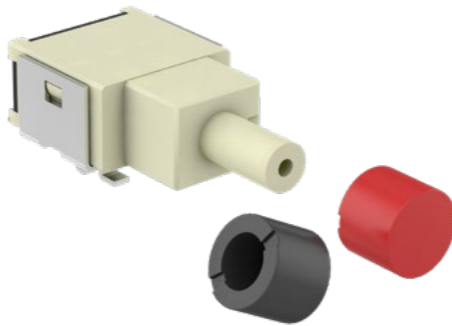- DPDT & SPDT
- Same side / opposite side connection

Features & Benefits
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
- 5 times reflow on SMT parts
- Non-shorting
- Self cleaning contact
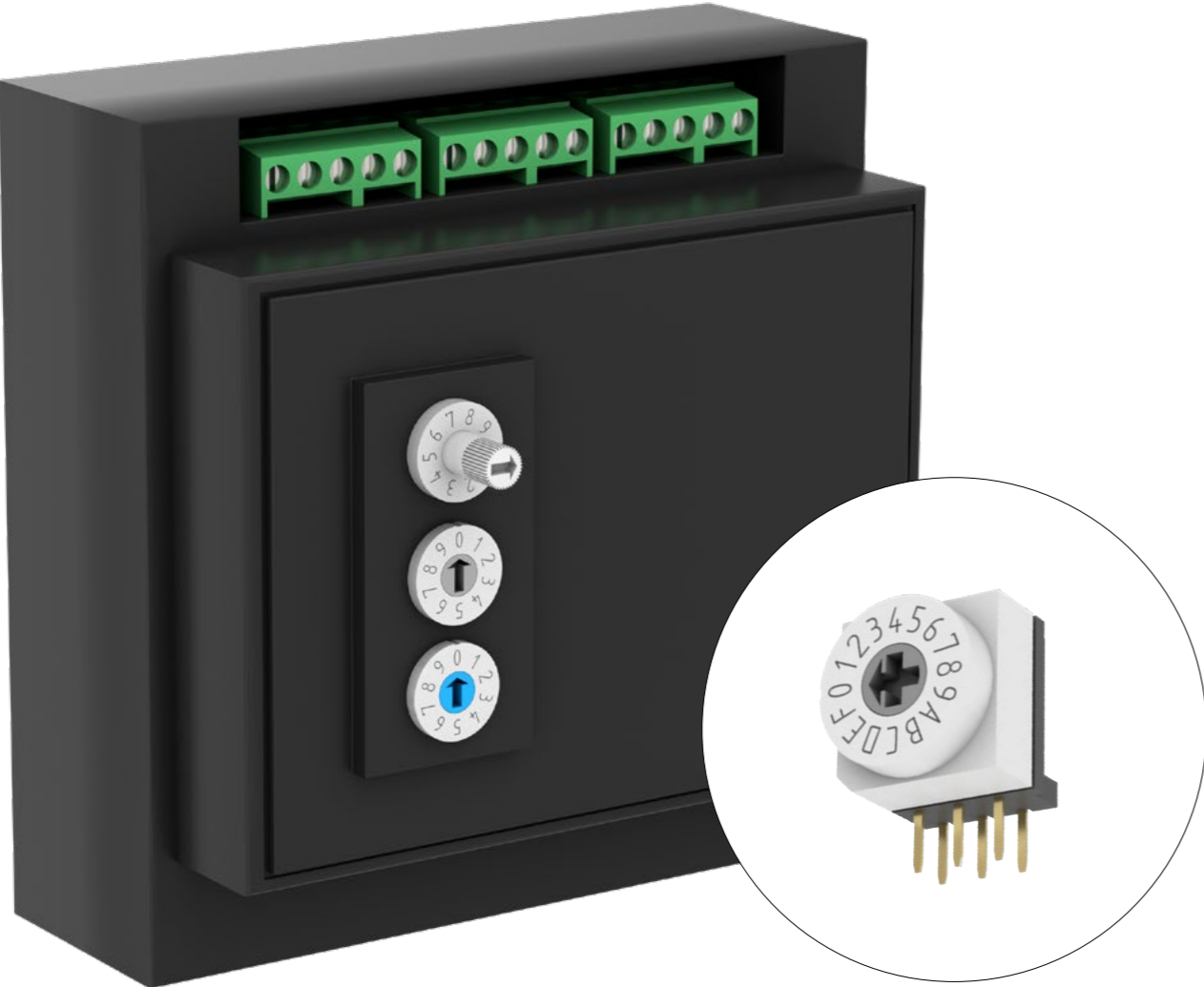
Available Products

Push Button Switches
- THT & SMT
- SPDT
- Plastic caps available
- Horizontal and vertical operation

SWITCHES
ROTARY SWITCHES

7x 7 mm SMT / THT IP67

10 x 10 mm SMT / THT IP67

10 x 10 mm THT Right Angled Type

Special Features

IP67

Accessories

- Segment wheel / spindle in various colors
- Delivery with accessory for THT products on request (MOQ: 5.000)

Corrosive Test according to IEC 60068-2-42

Features & Benefits
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
- 5 times reflow on SMT parts
- Gold plating on contact and terminal
- Customized laser carving on request (MOQ: 5.000)
- Supports vapor phase soldering
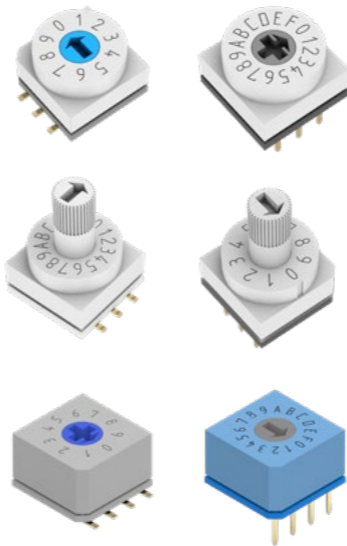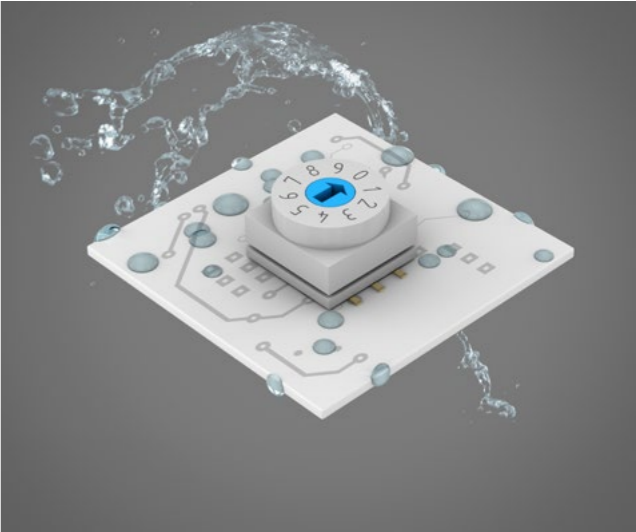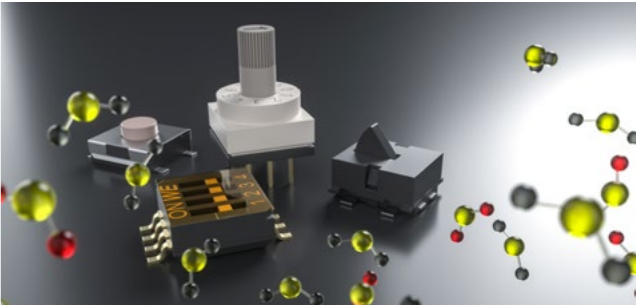- Corrosive test according to IEC 60068-2-42

Available Products
- THT & SMT
- 10 x 10 mm right angled on pitch 2.54 & 5.08 mm
- Real and complement code
- IP67 (excl. 10 x 10 mm right angled types)
- 10 x 10 mm size with either 3 x 3 terminal or 4 x 1 terminal
- 7 x 7 mm size

Visit our online catalogue for detailed product selection:
www.we-online.com/ROTARY

SWITCHES
INCREMENTAL ENCODER SWITCHES
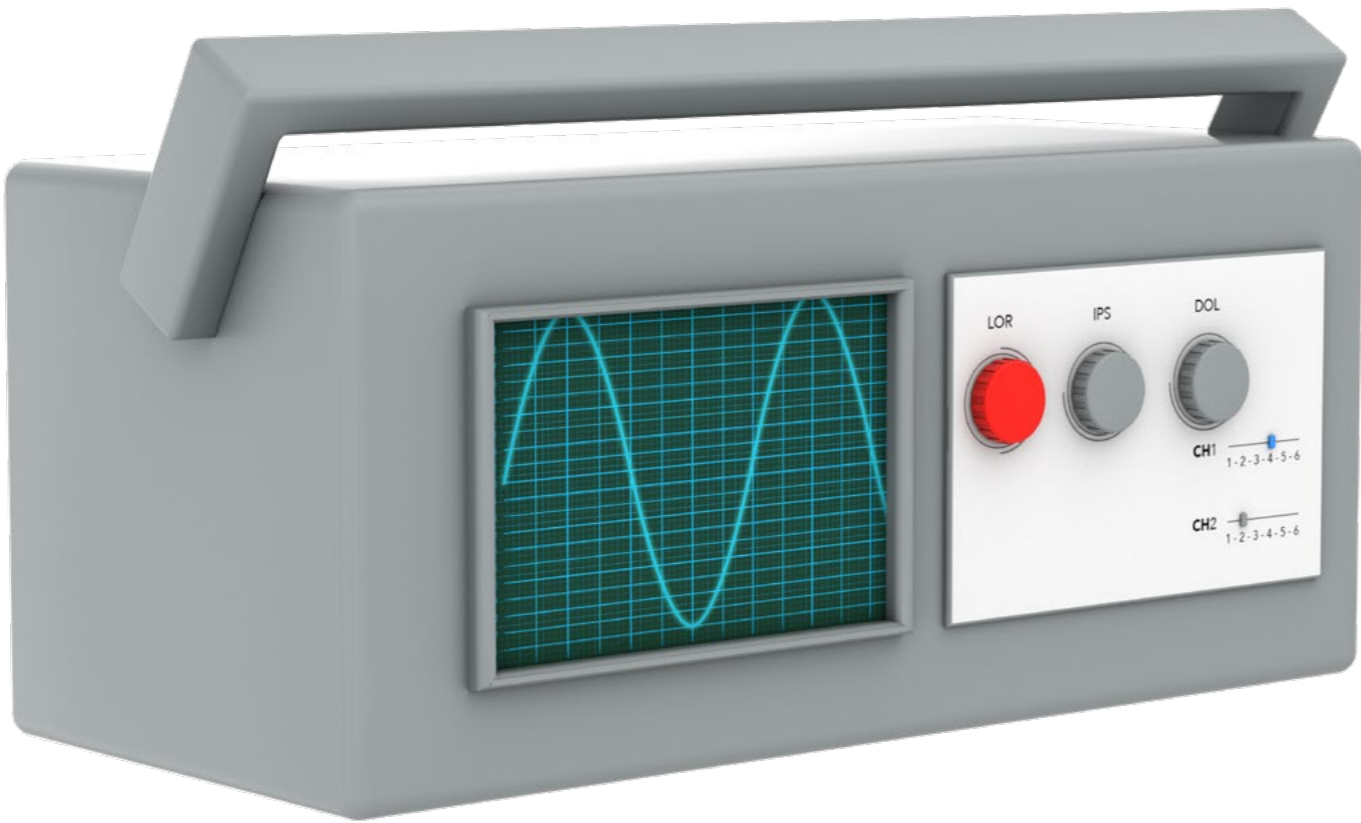
Mechanical encoders typically are used to sense human adjustment of the device in a clockwise or counter-clockwise direction triggering some action by the digital circuit.

Plain Bushing

Without Bushing

Threaded Bushing

Special Features

Available Schematics

A leads B

B leads A

Features & Benefits
- Full load life cycle test
- 48 h salt spray test
- Plastic material UL94 flammability approved
- Threaded bushing type with nut and washer included
- Without switching function on request (MOQ: 5.000)
- Without detent on request (MOQ: 5.000)

Available Products
- Different pulses
- 1:1 or 1:2 detent combination
- Different schematics available (A leads B or B leads A)
- With switching function
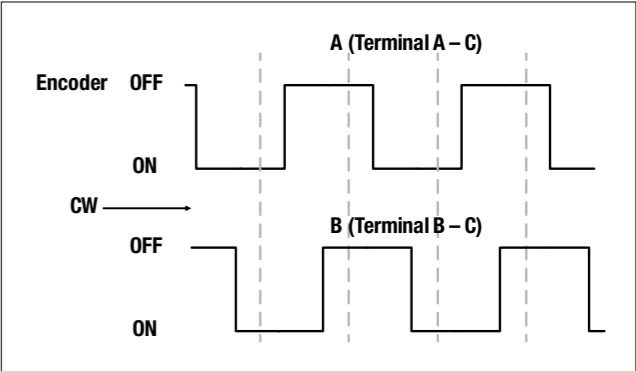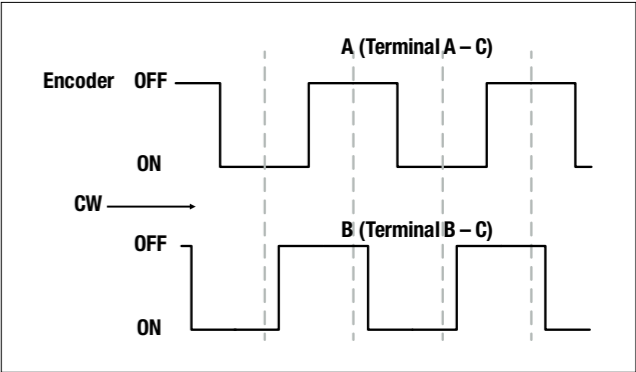- Threaded / plain bushing and without bushing available

SWITCHES
TOGGLE SWITCHES
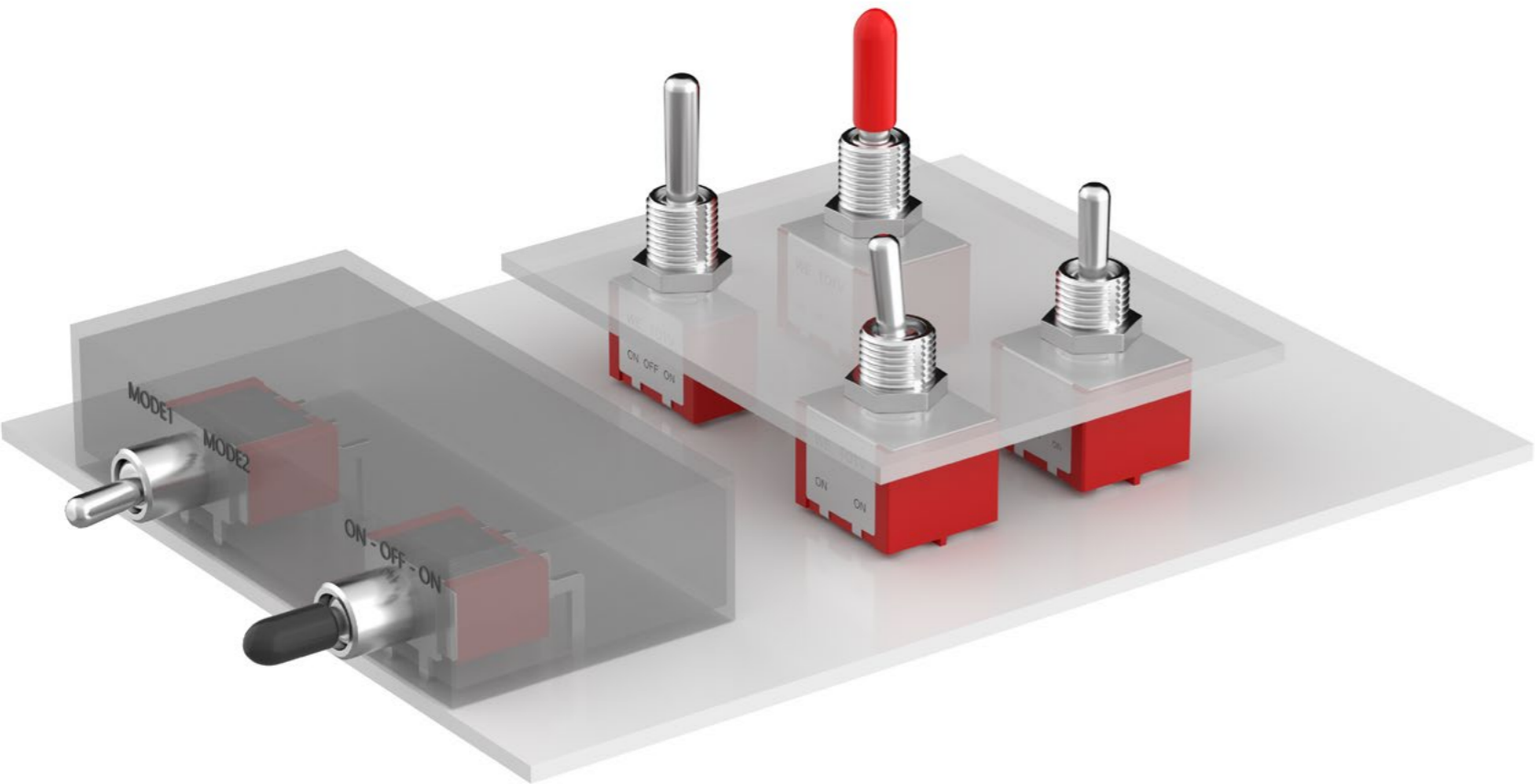
Special Features:
Assembly sequence

Nut
Internal tooth lock washer
Locking Ring (optional)
Customer panel
Nut
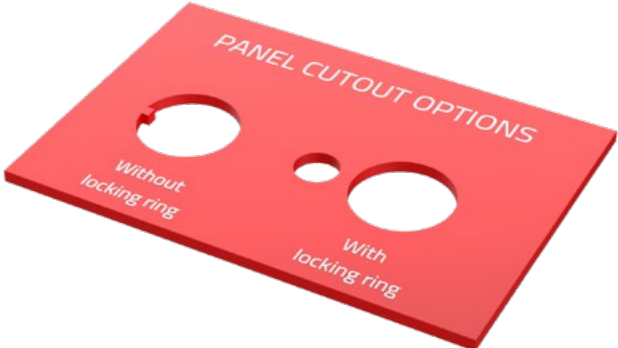
Torque force up to 10 kgf·cm max

2 cut out design for different assembly sequence

PANEL CUTOUT OPTIONS
Without locking ring
With locking ring

Accessories

Bat-handle Cap for Toggle Switches

Features & Benefits
- Full load life cycle test
- 1 A , 30 VDC
- 48h salt spray test
- Plastic material UL94 flammability approved
- Threaded bushing with assembly accessories included
- ESD solutions for system level according to IEC 61000-4-2

Available Products
- Panel cut out ø6.35 mm with keyway bushing
- Schematic SPDT/DPDT in ON-ON and ON-OFF-ON
- Opposite side connection
- Horizontal & vertical operation
- Assemble with standard cap (MOQ: 500 pcs)
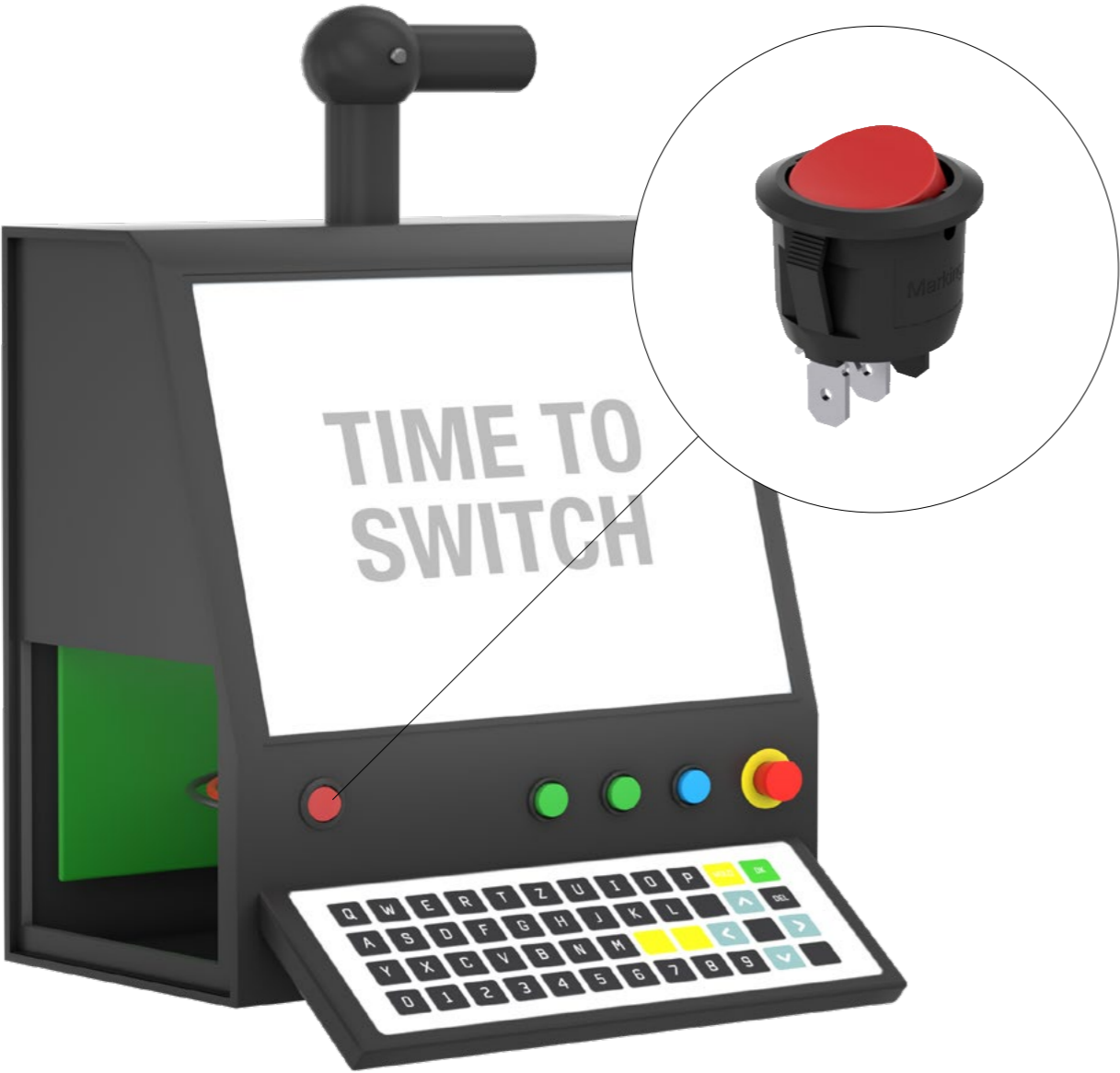- Standard caps available in red or black, customized color on request (MOQ: 10.000 pcs)

Visit our online catalogue for detailed product selection:
www.we-online.com/ToggleSwitch

SWITCHES
ROCKER SWITCHES

TIME TO SWITCH

ILLUMINATED

Ø20.2 mm

IP 40

27.6 x 13.8mm

30.2 x 22.2mm

Ø20.2mm

19.2 x 12.9mm

19.2 x 6.8mm

Special Features

No worries about aging of plastics!
WE provides UV test reports on Rocker Switches

Accessories

Need a protection cover?

IP 65

27.6 x 13.8mm

Ø20.2mm

30.2 x 22.2mm

Features & Benefits
- Trackable safety certification on UL/IEC/CQC 61058-1
- DC rating listed
- 48 h salt spray test
- Glow Wire Test according to IEC 60695-2-11
- UV Test according to IEC 60068-2-5
- IP65 design
- Hot stamping technique on marking
- Customized marking on request (MOQ: 5.000)
- Compliances:

$C\epsilon$

Available Products
- IP40
  - Panel cut-out 27.6 x 13.8mm
  - Panel cut-out 19.2 x 12.9mm
  - Panel cut-out 30.2 x 22.2mm
  - Panel cut-out 19.2 x 6.8mm
  - Panel cut-out Ø20.2mm
- IP65
  - Panel cut-out 27.6 x 13.8mm
  - Panel cut-out 30.2 x 22.2mm
  - Panel cut-out Ø 20.2mm
- Round types: Panel cut-out: ø 20.2 mm
  - With 0.187" quick connect terminal (SPST, DPST)
  - With IP65 design (SPST, DPST)
  - Illuminated type available in 110 VAC and 250 VAC
  - Illuminated type color options in:
    Amber Transparent, Green Transparent, Red Transparent)
- Protection cover for standard round types

Visit our online catalogue for detailed product selection:
www.we-online.com/Rocker

SWITCHES
ILLUMINATED SWITCHES

Special Features for the Caps

For WS-PBTL and WS-TATL
- 3 times coating on the caps (laser carving)
- Customized laser carving on standard caps (MOQ: 300)
- Customized pantone or RAL cap color coating (MOQ: 1.080)
- Assembled parts on request (MOQ: 1.080)
- New technology "laser etching" on transparent cap

Standard caps

Laser Carving   Laser Etching

Features & Benefits
- Full load life cycle test
- Plastic material UL94 flammability approved
- 3 times reflow on SMT parts
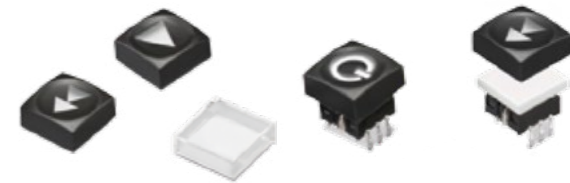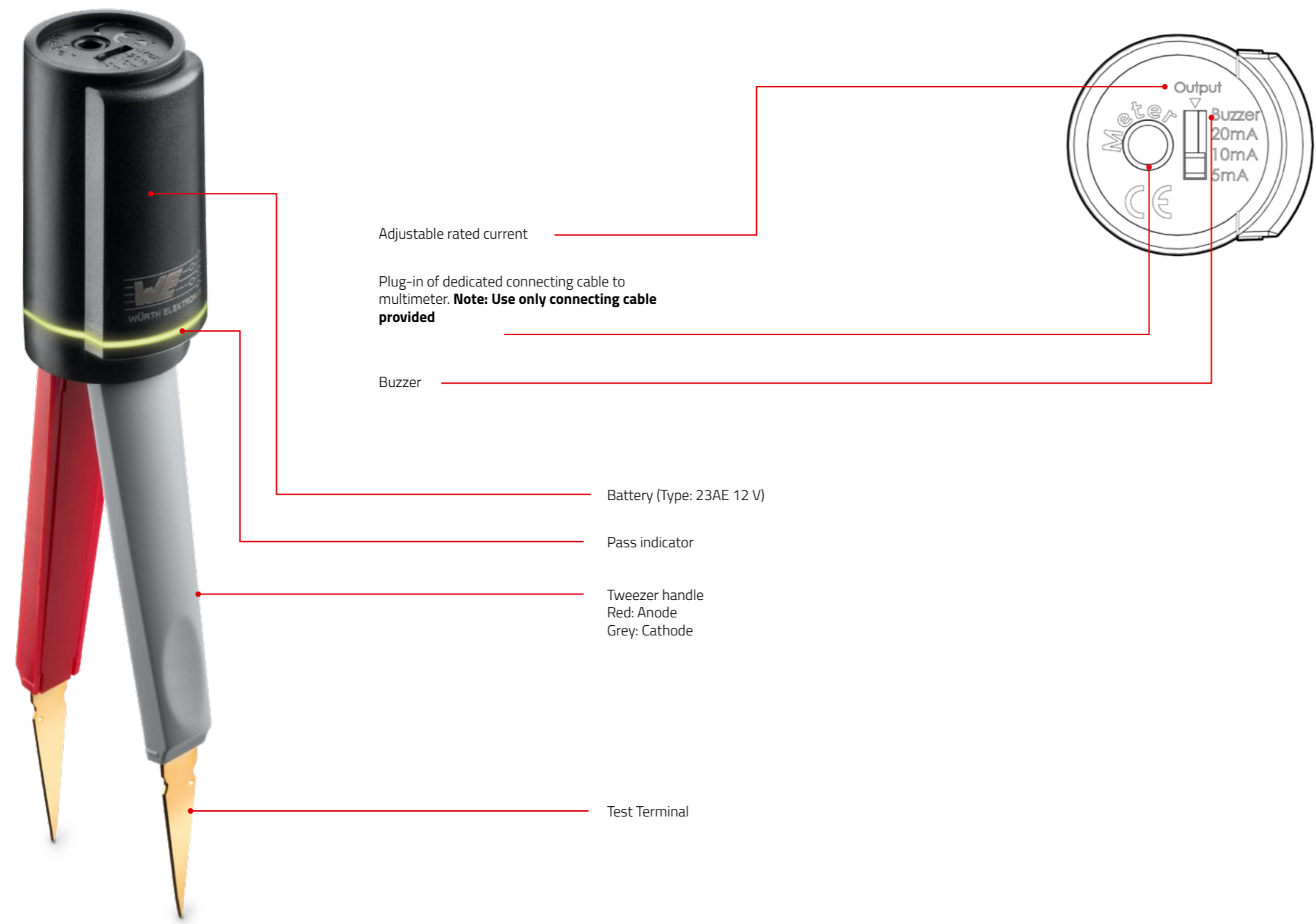- LED bin code limitation avoiding coloring variation

Available Products
- SMT & THT
- Different LED color options

Special thanks to our customers Synedyne Systems Pvt. Ltd and Weber Ultrasonics AG
for allowing us using their application pictures to show Würth Elektronik product features

SWITCHES
MULTIFUNCTIONAL TEST TWEEZER

Output

Meter

Buzzer
20mA
10mA
5mA

CE

Adjustable rated current

Plug-in of dedicated connecting cable to multimeter. **Note: Use only connecting cable provided**

Buzzer

Battery (Type: 23AE 12 V)

Pass indicator

Tweezer handle
Red: Anode
Grey: Cathode

Test Terminal

The Compact Testing Tweezer is specifically designed for quick and easy testing of small electronic components such as Switches, LEDs, Resistance, Fuses or conductivity test on PCB circuits. It can also be connected to a multimeter for resistance measurement.
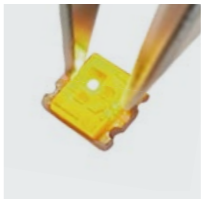
In additional to LED measurement, the adjustable current rating provides instant LED testing and demonstration.

PCB circuit conductivity test

Fuse testing

LED light-up test

Measuring small electronic components

Multimeter connecting cable

Do not measure power loaded subjects!
Do not use in high-voltage systems.
Switch off power before testing!

Warning
Sharp objects

Note: Sharp object!
Risk of injury, use carefully!

CE

Visit our online catalogue for detailed product selection:
www.we-online.com/TWEEZER

ASSEMBLY TECHNIQUE
SPACER STUDS & ROUND SPACERS

Polyamide

Steel

Brass

Polyamide
- Low weight
- Insulated connection

Steel, zinc plated
- High mechanical stability

Brass, nickel plated
- Non magnetic
- Higher electrical and thermal conductivity

Features & Benefits

Large product range to find a solution for every application.
Different versions of:
- Thread and wrench sizes
- Length
- Material
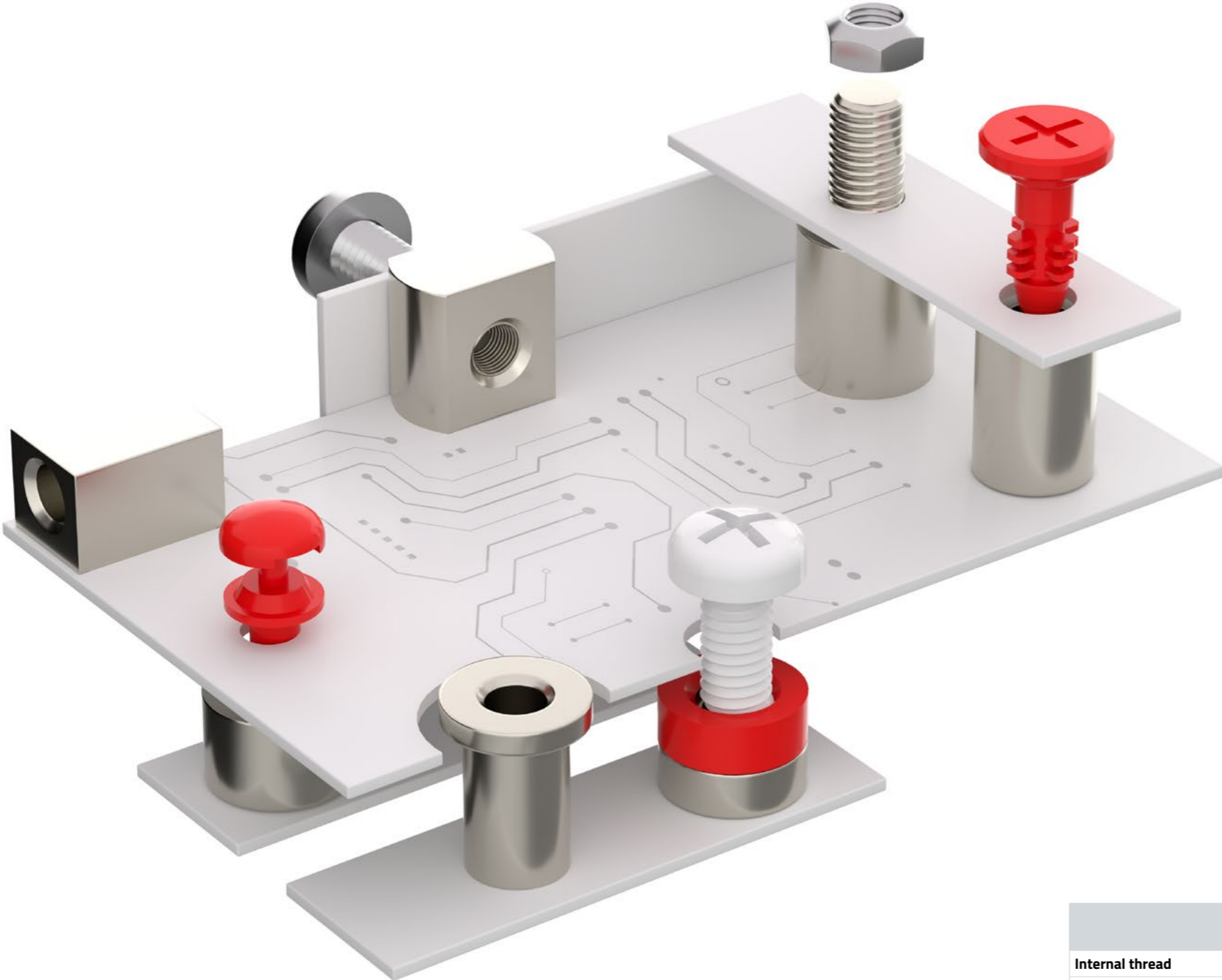- Types of mounting

Available Products
- Internal / internal thread
- Internal / external thread
- Snap-in
- Round spacers

Visit our online catalogue for detailed product selection:
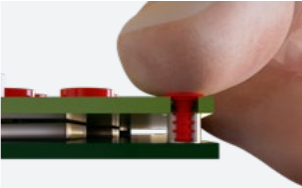www.we-online.com/SPACER-STUDS
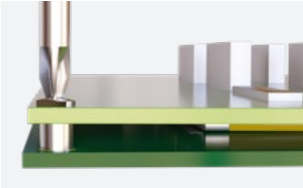
ASSEMBLY TECHNIQUE
SMT SPACERS

Special Features
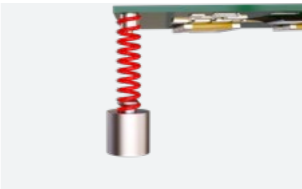

Screwless connections for fast mounting

Robust screw connections for high mechanical load

Full automation for fast and very precise positioning on the PCB

Optimal solder pad geometry and specially developed plating for constant and reliable soldering results

High holding forces and torques for safe and strong mechanical connection

Tab on the polyimide foil for instant removal

Features & Benefits
- Fast and precise process
- Instant removable polyimide foil
- Strong holding forces and torques
- Highest process reliability
- Customized length upon request (with MOQ)

	Length	Thread size	Hole ø
Internal thread	1 to 16 mm	M1.6 to M5	
Through hole	1 to 16 mm		2.25 to 4.50 mm
External thread	5 to 15 mm	M3	
Reverse type	1 to 10 mm (using standard PCB 1.6 mm)	M3	3.20 mm
Right angled with pin or right angled block thread	XX	M2 to M3	3.30 mm
Accessories:	▪ Mounting button for M3 and snap rivet for fast and tool free mounting ▪ Distance cap & fitting plastic screw (M3) (for spacers with 6 mm outer diameter, starting at 2.5 mm height)		

Visit our online catalogue for detailed product selection:
www.we-online.com/SMT-SPACERS

ASSEMBLY TECHNIQUE
PLASTIC SPACERS
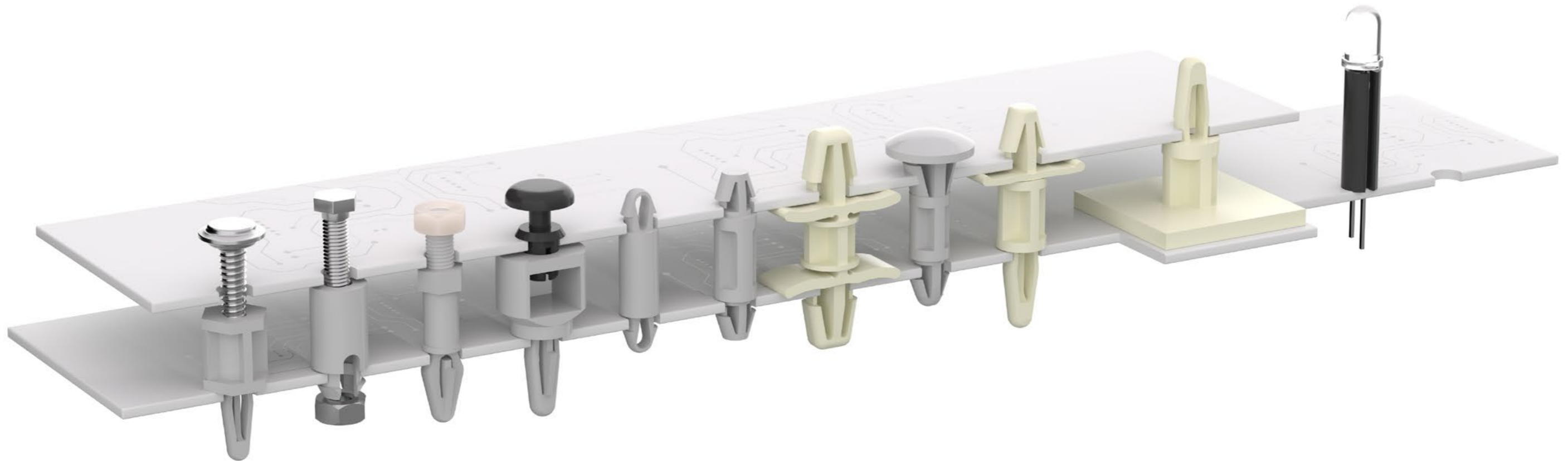
Features & Benefits
- Light and insulated connection
- Many different versions and mounting variations:
  - Snap-in
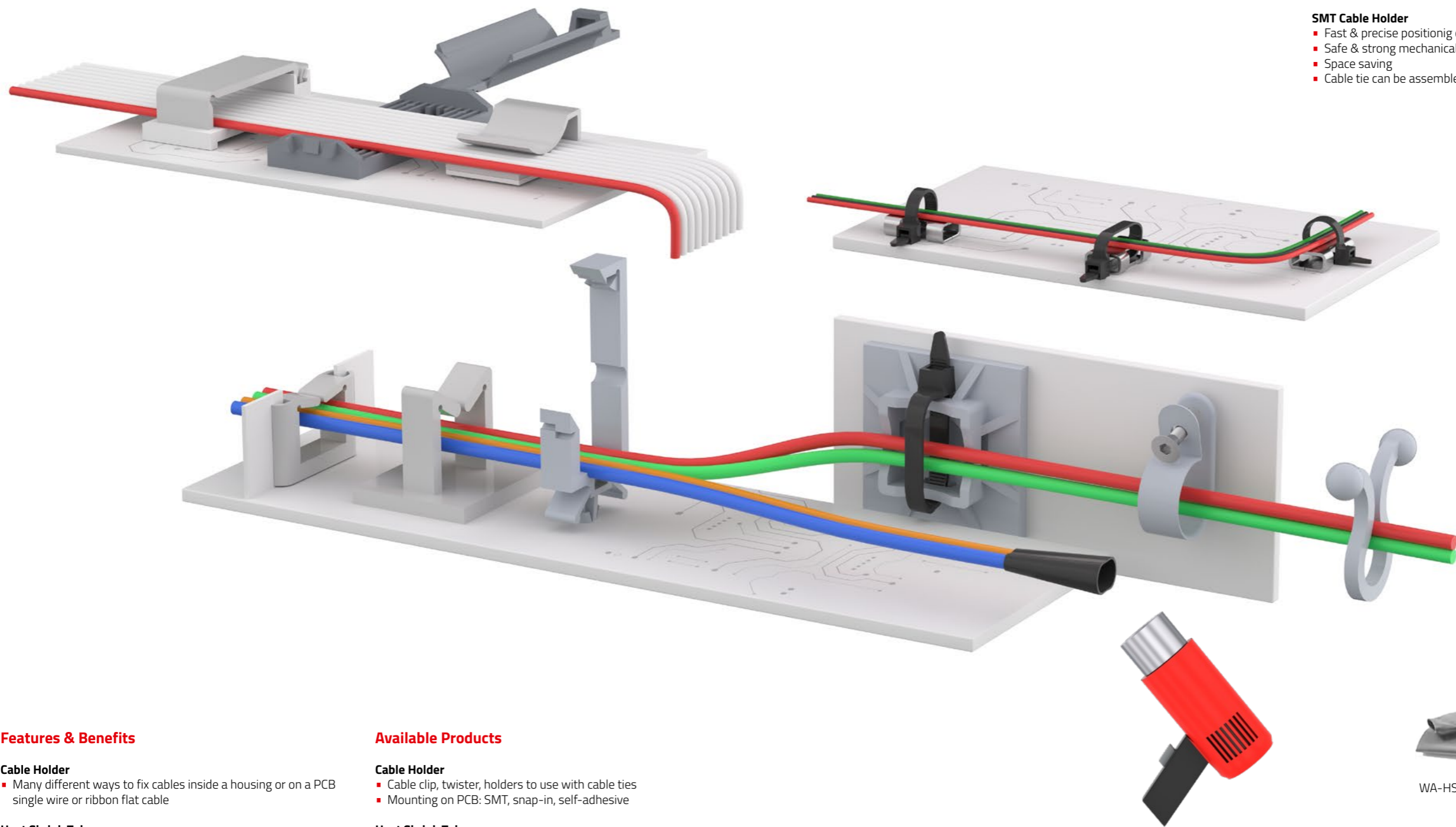 - Self adhesive
  - Screw mount
  - Snap rivet mount

Available Products
- Length 2 up to 80 mm
- For different hole diameters and panel thicknesses

Visit our online catalogue for detailed product selection:
www.we-online.com/SPACERS

ASSEMBLY TECHNIQUE
CABLE HOLDER & HEAT SHRINK TUBES

SMT Cable Holder
- Fast & precise positionig on the PCB
- Safe & strong mechanical connection
- Space saving
- Cable tie can be assembled in two directions

WA-HST Heat Shrink Tubes

Features & Benefits

Cable Holder
- Many different ways to fix cables inside a housing or on a PCB single wire or ribbon flat cable

Heat Shrink Tubes
- Insulation and protection of cable, wire and current bar

Available Products

Cable Holder
- Cable clip, twister, holders to use with cable ties
- Mounting on PCB: SMT, snap-in, self-adhesive
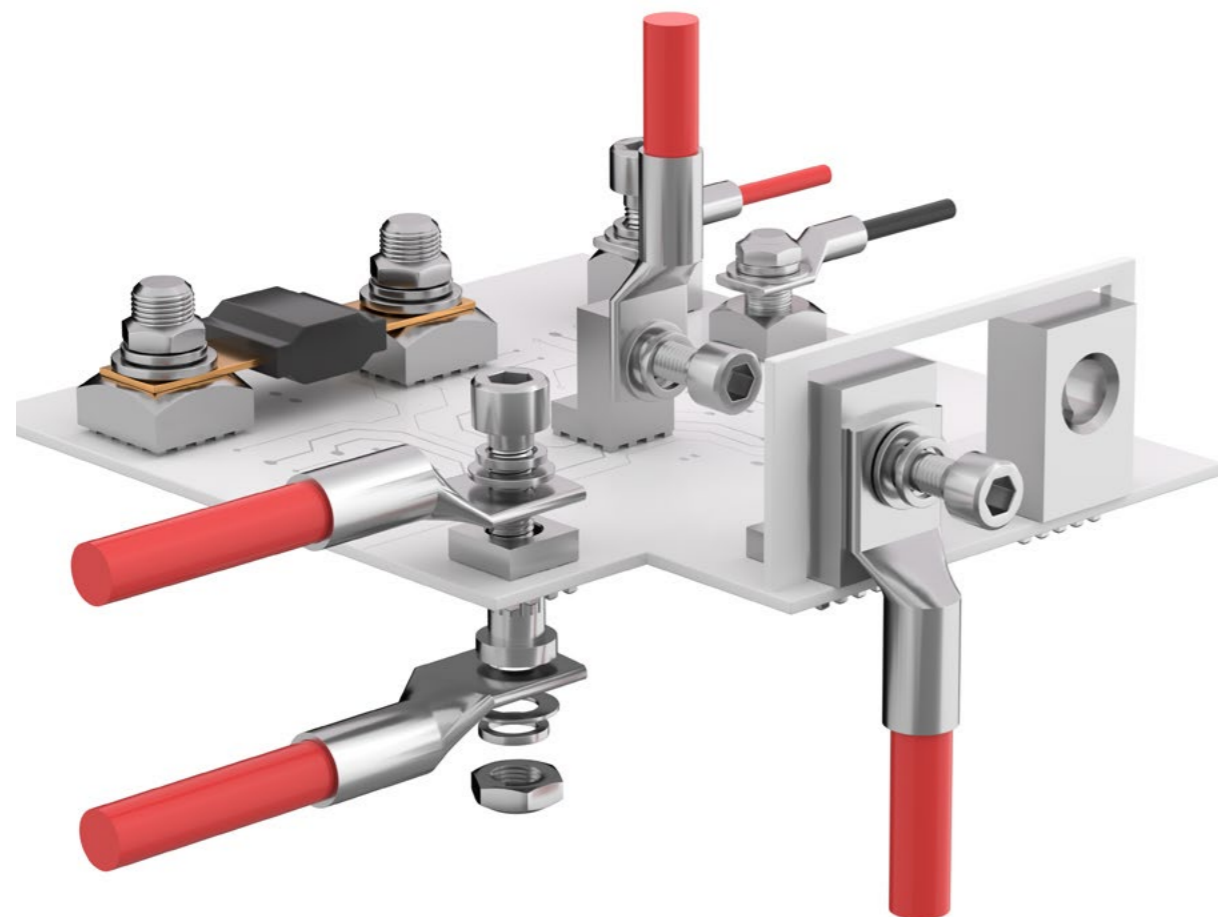
Heat Shrink Tubes
- Various diameters
- Shrinking rate 2:1 and 3:1
- Available on small and big reels

Visit our online catalogue for detailed product selection:
www.we-online.com/CABLE-HOLDER

REDCUBE TERMINALS
PRESS-FIT WIRE-TO-BOARD

Ampacity up to 500 A

Simple & Quick Processing

Applications

- High current Wire-to-Board & Board-to-Board connections
- Mounting of copper bars on PCBs
- Angled assembling of cable, PCB and housing
- Mounting of IGBT modules

Extraction Force 10 kg / Pin

Press-Fit Technology

Advantages

- Simple & quick processing
- No cold solder joints
- High process safety
- Low self heating

Lowest Heat Development

Cold Welding between Materials

Characteristics

- Homogeneous material transition between pin and through-hole plating
- Contact resistance less than 200 µΩ
- Gastight electrical and mechanical connection
- Extremely strong mechanical connection

Acessories

Cable Lugs

Features & Benefits

- Pressing the pins into the PCB, a high friction between pin and plated through-hole generates a homogeneous cold-welding between materials. Result is a gastight, strong mechanical connection with contact resistance less than 200 µΩ.
- With the lowest Failure-In-Time value, **REDCUBE PRESS-FIT** is the most reliable technology on the PCB. The FIT value is up to 30 times better than that of a SMD solder joint.
- **REDCUBE PRESS-FIT** is suitable for two side mounting and allows very compact design of modules.
- Mounting of laminated fuses is also possible.
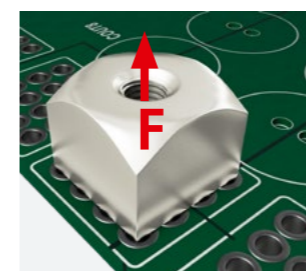
Available Products

- WP-BUCF, WP-BUTR, WP-BUFU: Internal thread M2.5 to M10
- WP-SHFU: External thread M3 to M10
- WP-RAFU, WP-RATR: Right angled M3 to M10
- WP-RAFE: Right angled edge position M3
- WP-TGCF, WP-TGTR, WP-TPSE: Two-part M3 to M8; ø 3.2 to 10.5 mm
- WA-CLUG: Cable lugs M3 up to M10, 1.5 mm² to 95 mm²
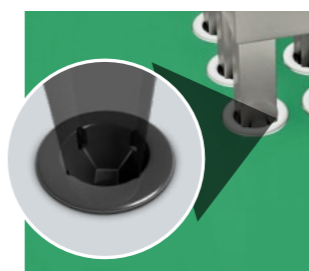- Customized parts possible on request
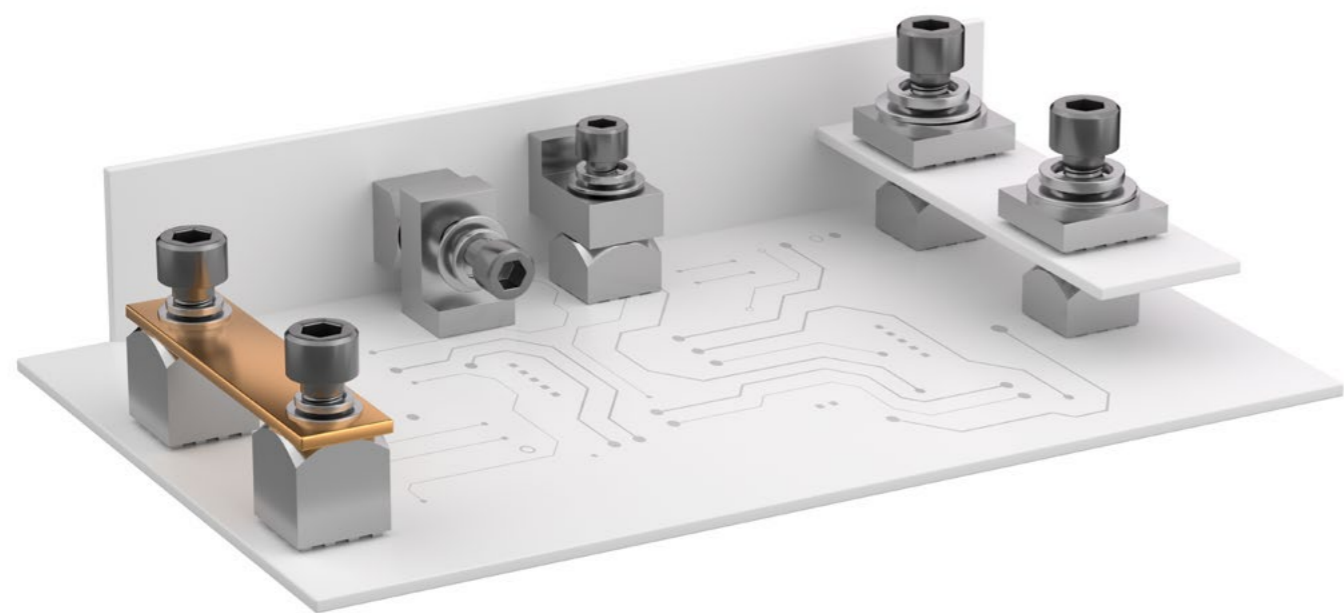- Rated current up to 500 A (+20 °C)

Visit our online catalogue for detailed product selection:
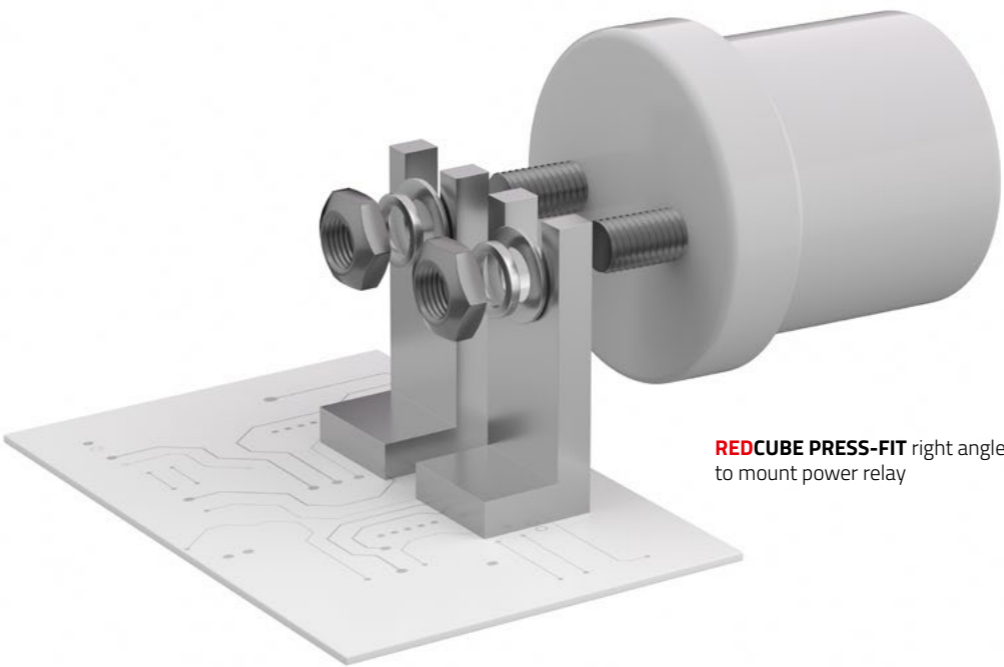www.we-online.com/REDCUBE-PRESSFIT

REDCUBE TERMINALS
PRESS-FIT BOARD-TO-BOARD

Special Features

Two-part **RED**CUBE **PRESS-FIT** to mount IGBT

REDCUBE **PRESS-FIT** right angled with U-shape to mount power relay

Features & Benefits
- **RED**CUBE **PRESS-FIT** allows high current board-to-board solutions up to 500 A. For applications with current up to 85 A, REDCUBE Press-Fit can be combined with **RED**CUBE SMT & THR versions.
- Mounting of a bus bar for increasing the current-carrying capacity is also possible by using **RED**CUBE **PRESS-FIT**.
- **RED**CUBE **PRESS-FIT** can be used for a solid high current connection of relay contractor or IGBT. Horizontal or vertical mounting on the PCB is possible.

Available Products
- WP-BUCF, WP-BUTR, WP-BUFU: Internal thread M3 to M10
- WP-SHFU: External thread M3 to M10
- WP-RAFU, WP-RATR: Right angled M3 to M10
- WP-RAFU: Right angled U-Shape ø 3.3
- WP-TGCF, WP-TGTR, WP-TPSE: Two-part M3 to M8; ø 3.2 to 10.5 mm
- Customized parts possible on request
- Rated current up to 500 A (+20 °C)

Visit our online catalogue for detailed product selection:
www.we-online.com/REDCUBE-PRESSFIT

REDCUBE TERMINALS
PLUG

Ampacity up to 120 A

Plugging instead of Screwing

Applications

- High current and reversible Wire-to-Board connections
- Battery charger
- Multiple times pluggable solutions
- Mounting in very tight spaces
- Mounting areas with difficult access

Heat Resistance up to +125 °C

Automated Locking Function

Advantages

- Quick and easy assembling
- Tool-free and screwless mounting
- Multiple times pluggable
- Press-Fit advantages

Cross Sections: 4, 6, 10 & 16 mm²

Crimp Connection

Characteristics

- Standard hexagonal crimping tools
- Gastight and strong crimp connection
- Special plating for optimal crimping results

Features & Benefits

- The quick and easy pluggable solution **REDCUBE PLUG** offers all press-fit advantages. It is a multiple times pluggable solution for high current applications.
- Pushing on the top of the housing allows mating the corresponding cable connector. After actuating, the spring returns to its initial position and locks the cable connector automatically into the housing.
- A common hexagonal crimper is used to install the contact on the wire. This simple lug like crimp set the bond in place.
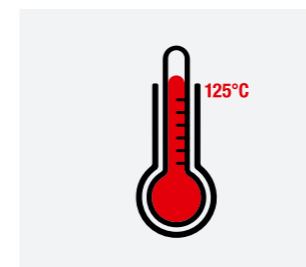
Available Products

- WP-PLUG: Cable cross section 4, 6, 10 & 16 mm²
- Color: Red, black, blue
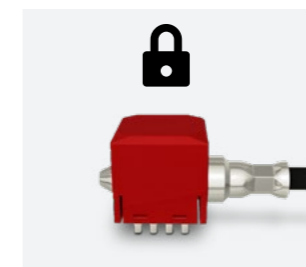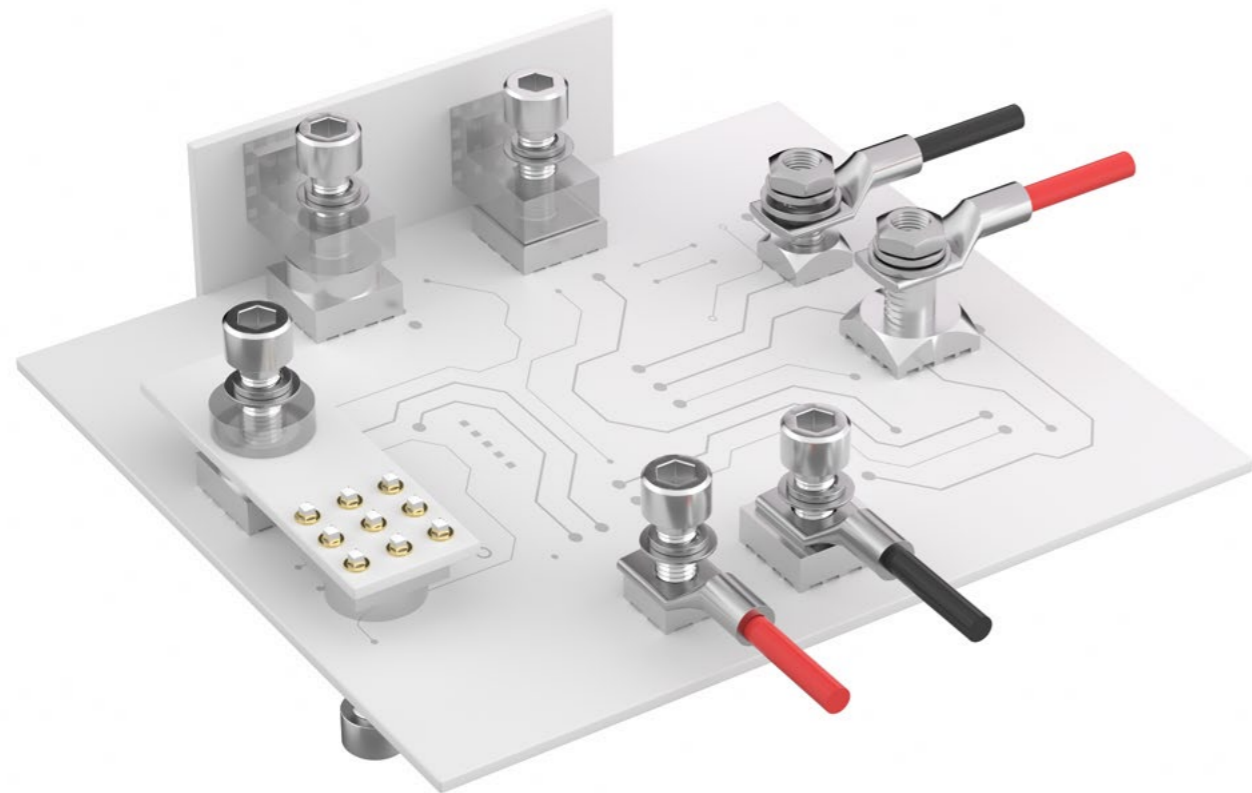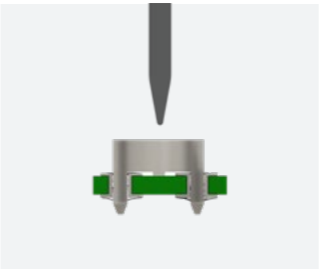- Rated current: up to 120 A (+20 °C)

Visit our online catalogue for detailed product selection:
www.we-online.com/REDCUBE-PLUG

REDCUBE TERMINALS
THR

REDCUBE SMD and **THR** are the result of the growing demand in electronic market: high current technology in combination with fully automated, timesaving processing.

Pick & Place
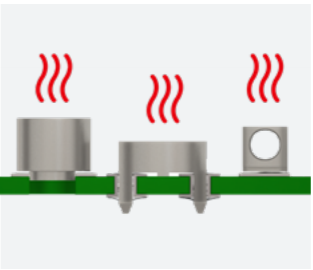
Reflow Soldering

Ampacity up to 85 A

Best holding forces

Applications

- High current Wire-to-Board and Board-to-Board connections
- Angled assembling of cable, PCB or housing

Advantages

- Optimal current distribution in multilayer applications
- Fully automated reflow soldering
- High mechanical stability
- Low heat development
- Low profile
- Tape & Reel

Acessories

Cable Lugs

Features & Benefits

- **REDCUBE THR** combines the advantage of Through-Hole-Technology (high mechanical stability) with the time saving pick and place mounting and efficient reflow soldering.
- Drilling from solid material, **REDCUBE THR** guarantees high ampacity with much better torques compared to stamped contacts.
- **REDCUBE THR** shows the highest ampacity of full-automatically processed high-current components.
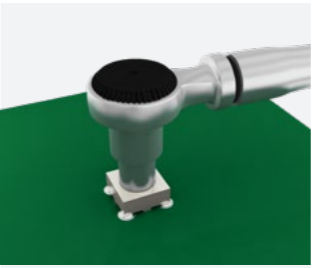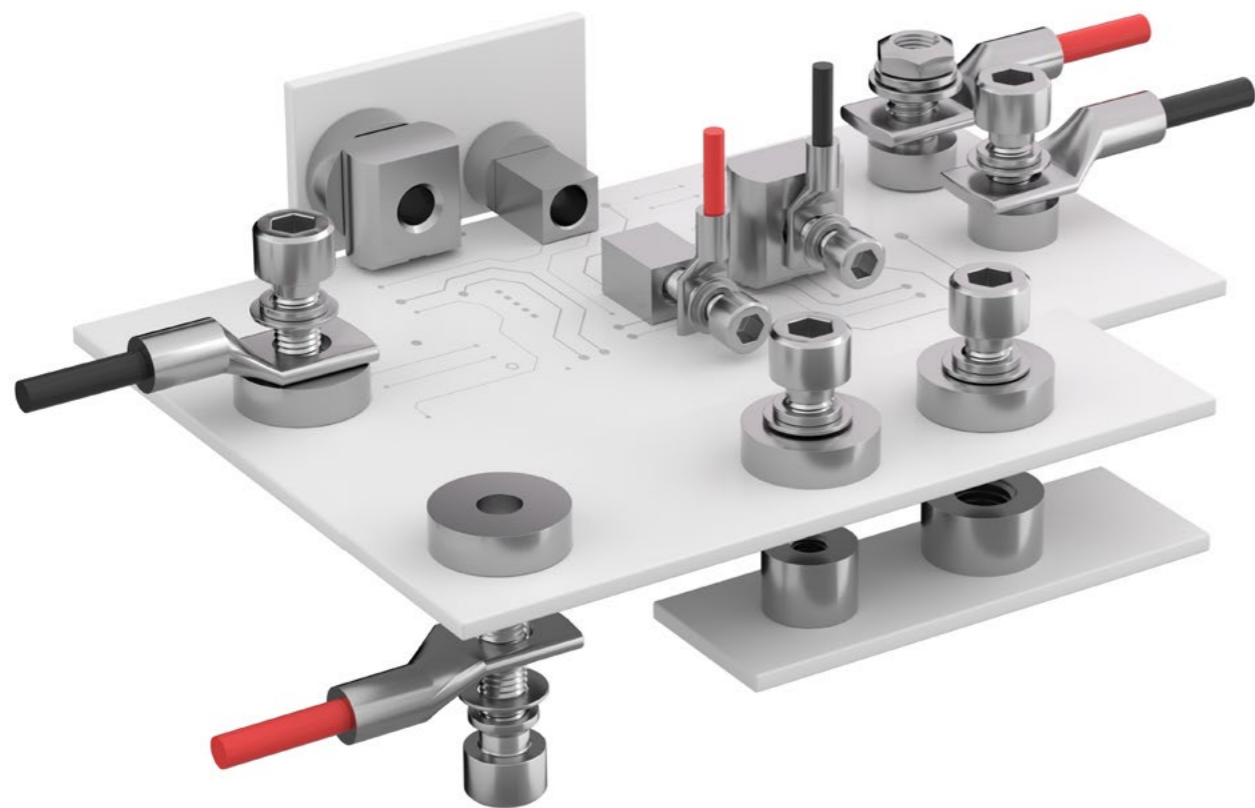
Available Products

- WP-THRBU: Internal thread: M3 to M5
- WP-THRSH: External thread: M3 to M5
- WA-CLUG: Cable lugs M3 up to M10, 1.5 mm² to 95 mm²
- Rated current: up to 85 A
- Packaging: Bulk, tape & reel

REDCUBE TERMINALS
SMT

Applications

- High current Wire-to-Board and Board-to-Board connections
- Angled assembling of cable, PCB or housing
- Suitable for IMS circuit boards

Pick & Place

Reflow Soldering

Advantages

- Simple and fast automated assembly
- High packing density
- Efficient and timesaving soldering process
- Angled assembling of cable, PCB or housing
- Tape & Reel

Ampacity up to 85 A

90° Board-to-Board

Acessories

Cable Lugs
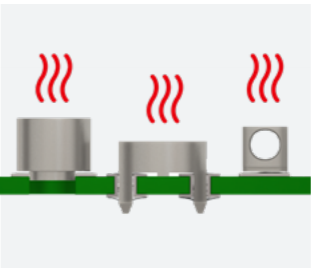

Features & Benefits

- **RED**CUBE SMT combines the advantages of a fully automatied pick and place mounting in conjunction with high-current technology.
- A large connecting area of **RED**CUBE SMT achieves a low contact resistance and best holding forces.
- The small size of **RED**CUBE SMT allows a high packing density without critical heat development on the PCB.
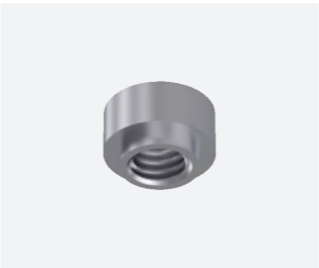
Available Products

- WP-SMBU: Internal thread: M3 to M5
- WP-SMSH: External thread: M3 to M5
- WP-SMRT: Reverse type Board-to-Board: ø 3.5 to 6.5 mm
- WP-SMRT: Reverse type Wire-to-Board: M3 to M6
- WP-SMRA: Right angled: M2, M3, ø 3.3
- WA-CLUG: Cable lugs M3 up to M10, 1.5 mm² to 95 mm²
- Rated current: up to 85 A

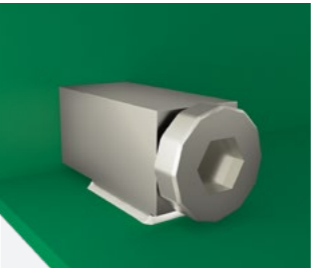Visit our online catalogue for detailed product selection:
www.we-online.com/REDCUBE-SMT

DESIGN KITS
OVERVIEW
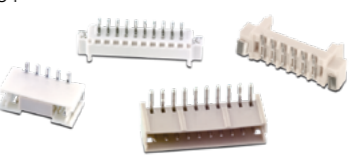

CONNECTORS OVERVIEW
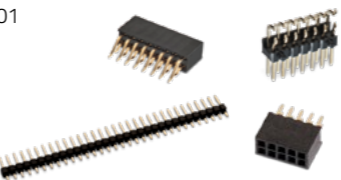Order Code: 612 690

WR-UMRF
Order Code: 636 001

WR-BTB
Order Code: 658 001

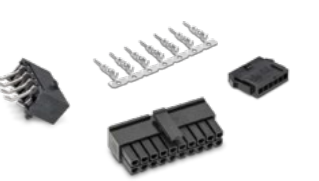**WR-WTB**
Order Code: 645 001

WR-PHD
Order Code: 613 001

WR-MPC4
Order Code: 649 001

WR-MM
Order Code: 690 001

WR-MPC3
Order Code: 662 001

WR-BHD
Order Code: 612 001

WR-FAST
Order Code: 638 001

WR-FPC
Order Code: 687 001

WR-FSH
Order Code: 696 001

WR-MJ
Order Code: 615 001

Assembly Overview
Order Code: 700 999

WR-COM
Order Code: 614 001

Tubular Cable Lugs
Order Code: 558 001

WR-SMA / WR-RPSMA
PCB Connector Order Code: 603 301
Cable Connector Order Code: 603 001

WA-SMST, SMSI, SMSE
Order Code: 977 990

WR-SMB
Order Code: 616 001

SWITCHES
Order Code: 499 001

WR-SMP
Order Code: 601 001

WR-MCX & WR-MMCX
MCX Connector Order Code: 606 001
MMCX Connector Order Code: 660 001

WR-DC
Order Code: 694 001

WR-NTYPE
Order Code: 604 001
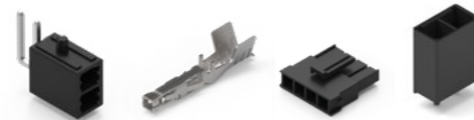
REDCUBE Terminals
Order Code: 746 701

WR-TBL
Order Code: 691 001

WR-CIRCM12
Order Code: 643 001

WR-MPC5
Order Code: 657 001

WR-TBL PLUGGABLE
Order Code: 691 002

WR-BNC
Order Code: 607 701

DESIGN KIT
ASSEMBLY TECHNOLOGY – PLASTIC
Order Code: 700 999

DESIGN KIT
SNAP RIVETS
WA–EXRV

SNAP RIVETS
Order Code: 700 970

NOTES

NOTES

ELECTRONIC & ELECTROMECHANICAL COMPONENTS

EMC Components

Power Magnetics

Signal & Communications

Quartz & Oscillators

Capacitors

Resistors

Automotive Standard Products

Optoelectronics

Power Modules

Wireless Connectivity & Sensors

Connectors

Fuseholders

Switches

Assembly Technique

REDCUBE Terminals

SUPPORT THROUGHOUT THE
WHOLE PRODUCT LIFE CYCLE:
MORE THAN YOU EXPECT

CONCEPT

- Local support through our technical sales team and field application engineers in 50 countries
- Design-in support
- Reference designs with leading IC manufacturers
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DESIGN & DEVELOPMENT

- Technical consulting through our technical sales team and field application engineers
- Free samples within 24 – 48 h
- Online platform REDEXPERT
- Application notes
- Design kits with free refill
- Component libraries for CAD and CAE tools
- Application handbooks in hardcopy & e-book

PROTOTYPING & TESTING

- No MOQ
- EMC test lab racks
- Re-Reeling
- EMC lab search engine

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