

ELECTRO- MECHANICAL SOLUTIONS

- I CONNECTORS
- I CASES
- I HEATSINKS
- I HARNESS PRODUCTION
- I CABLES & CABLE PROCESSING SYSTEMS

RELIABLE CONNECTION SYSTEMS

MICRODIS ELECTRONICS

with over 35 years of experience in the sales of electromechanical components, Microdis Electronics offers its customers extensive expertise and reliable application support.

Our in-house harness production for small and medium-scale projects enables us to deliver customized solutions tailored precisely to our partners' requirements.

We also supply the necessary equipment and tools to support our customers' own harness production needs.

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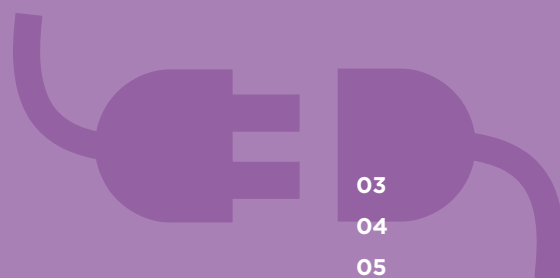
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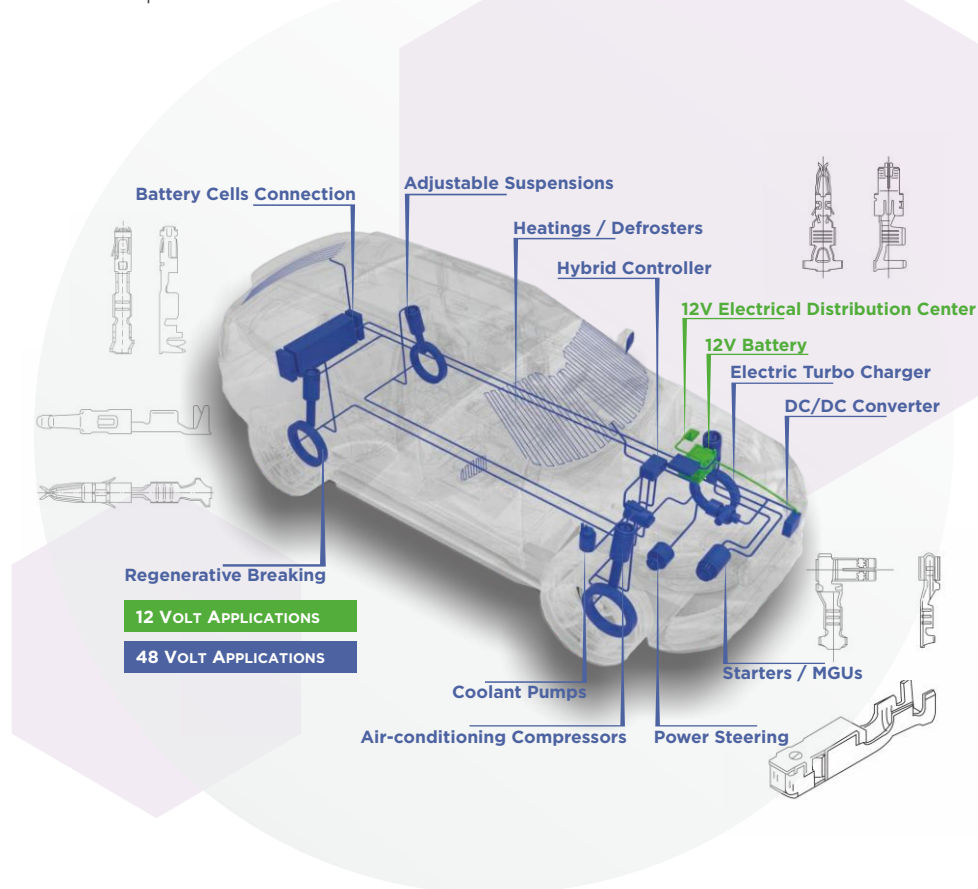


CABLING SOLUTIONS FOR Automotive & Home appliances



Trusted technology partners delivering high-quality solutions across connectivity, assembly, and installation. From precision connectors and harness components to advanced tooling and cabling systems, the following brands represent innovation, reliability, and proven performance. Explore the offerings of LEAR, KST, SAVOY, KLAUKE, and HATKO, each providing unique value to demanding applications in electronics and industry.

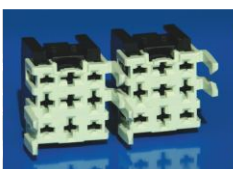
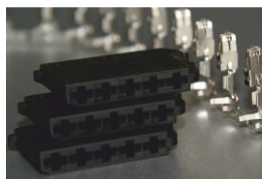
Crimp contacts in strip and loose-form, as well as housings and complex connector systems for industrial use and for applications in the automotive and commercial vehicle sector are among our areas of expertise.



MANUFACTURERS' PRODUCTS

MAIN PORTFOLIO

- | Core ferrules
- | Flat plug technology uninsulated
- | Flat plug technology insulated
- | Claw cable lugs
- | Crimp terminals and connectors uninsulated
- | Crimp terminals and connectors insulated
- | Round plug technology insulated
- | Shrink connectors
- | Tubular cable lugs



LUGS AND FERRULES



LEAR, KLAUKE, and KST are recognized suppliers of reliable connection technology. Lear focuses on ring terminals and customized solutions for automotive power applications. Klauke delivers high-quality cable lugs and ferrules with proven crimping performance, complemented by professional tooling. KST offers a wide range of copper lugs and terminals, certified for demanding sectors such as automotive, renewable energy, and industrial infrastructure.

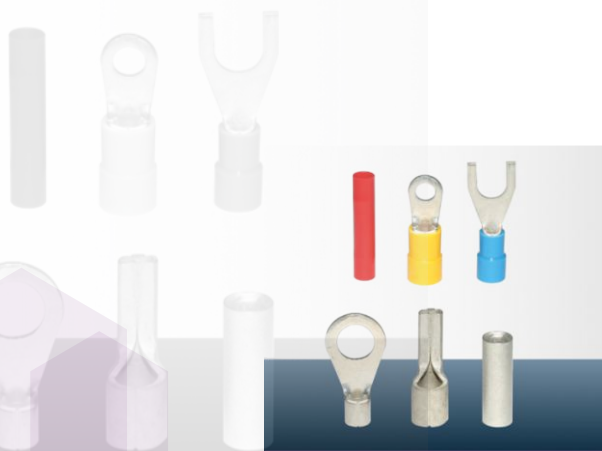
TUBULAR CABLE LUGS AND CONNECTORS

- | Cable lugs and connectors with and without insulation
- | Tubular cable lug standard design in straight and angled form
- | Compression cable lug according to DIN 46235
- | Tubular cable lug for fine-stranded cable
- | Connectors



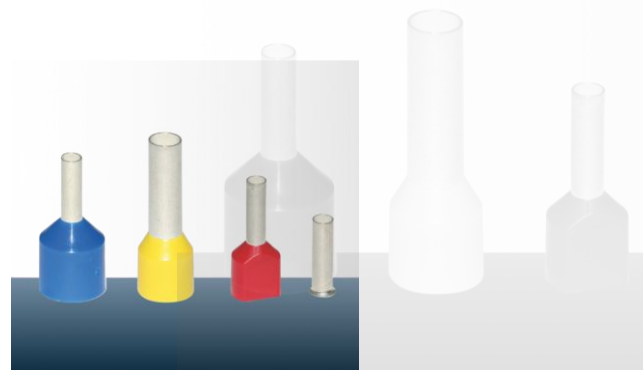
CRIMP CABLE LUGS AND CONNECTORS

- | Ring shape according to DIN 46234, pin form according to DIN 46230, fork form
- | Ring form according to DIN 46237, pin form according to DIN 46231, fork form
- | Butt, parallel and end connectors



WIRE FERRULES

- | Uninsulated according to DIN 46228 part 1
- | Insulated according to DIN 46228 part 4
- | Various color series
- | Special designs



CRIMP CONTACTS, CONNECTORS AND HOUSINGS



Lear Corporation offers a wide portfolio of products and solutions. Their diverse capabilities allow them to serve global automotive manufacturers with innovation, quality, and flexibility.

TERMINALS

More electrified, connected mobility starts with smarter solutions

CONNECTORS

Lear offers high-performance and cost-effective systems

EYELETS

Lear's Eyelet product portfolio includes a wide spectrum of ring terminal solutions

SEALS

Lear provides complete system solution for sealed connectors

To explore the full portfolio, please visit the Lear website and consult the online catalogue.
<https://catalog.lear.com/>



TRUCK TECHNOLOGY - Heavy duty power system

	Heavy Duty POWER SYSTEM	MKR PLUS MKS PLUS
	Heavy Duty POWER SYSTEM	VKR PLUS VKS PLUS
	High Current POWER SYSTEM	MAK 8/12 MAS 8/12
	SYSTEM	MAK AFS
	SYSTEM	AFK AFS



JAPAN SOLDERLESS TERMINALS - JST

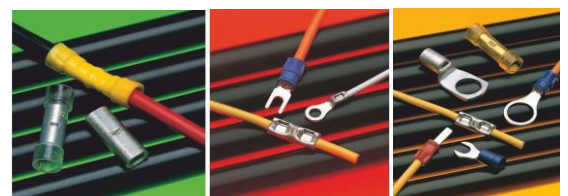
J.S.T. Mfg. Co., Ltd., founded in 1957 in Japan, pioneered solderless terminals and is today one of the world's leading manufacturers of electrical connectors.

The company offers an extensive portfolio of more than 100,000 unique parts, including wire-to-board, board-to-board, FFC/FPC and coaxial connectors, as well as tooling and automation systems.

With over 60 years of continuous growth, JST delivers reliable connection solutions across automotive, industrial automation, consumer electronics, medical devices, and home appliances.

JST MAIN PORTFOLIO

- | Wire-to-Board connectors
- | Board-to-Board connectors
- | Wire to wire connectors
- | Solderless terminals and splices
- | Flat ribbon cables
- | Control cables
- | Stranded wires



CABLING SOLUTIONS FOR Industry, Defence, Medicine

FISCHER CONNECTORS



Fischer Connectors has been designing, manufacturing and distributing high performance connectors and cable assembly solutions for 60 years. Fischer Connectors connectors are known for their reliability, precision and resistance to demanding and harsh environments.

Fischer Connectors' products are commonly used in fields requiring faultless quality, such as: medical equipment, industrial instrumentation, measuring and testing devices, broadcast, telecommunication and defence.

Primary design and manufacturing facilities are located in Saint-Prex, Switzerland.

**60+ YEARS OF
EXPERTISE, RELIABILITY,
INNOVATION**



EXPERTISE

GUIDING YOU FROM CONCEPT TO DELIVERY

- | Sustainable supply chain efficiency
- | Performance via lean manufacturing
- | Process control & continuous improvement

RELIABILITY

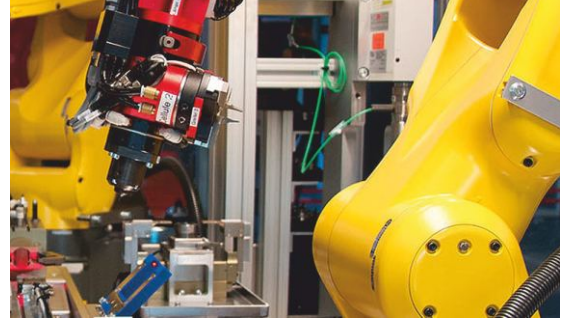
GETTING YOU WHERE YOU WANT TO BE

- | Products: delivering quality over time
- | Service: ensuring on-time deliveries
- | Support: responding quickly to your requests

INNOVATION

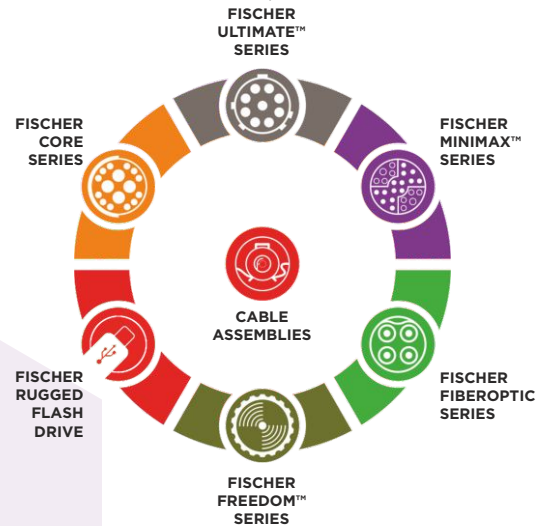
HELPING YOU WORK SMARTER

- | Technology that speeds up production & delivery
- | Solutions that help you overcome your challenges
- | Customer-first approach that saves you time & money



CHOOSE FROM MORE THAN 30.000 CONFIGURATIONS THEN SELECT THE CABLE YOU NEED FOR YOUR APPLICATION

To date, Fischer Connectors has placed expertise with more than 30.000 references across five product families:



A PIONEER IN CONNECTOR TECHNOLOGY

Fischer Connectors has been keeping the spirit of innovation alive for over sixty years. Breakthrough technologies, high quality products and laser-focused customer culture has helped customers design reliable, innovate products and achieve business goals.

SOLVING CHALLENGES - AS UNIQUE AS YOU ARE

Turning your connectivity challenges into success stories:

- | Miniaturization & weight reduction
- | Data transmission: more & faster
- | Extreme sealing & hermeticity
- | Complete solutions (connectors & cable assemblies)

COMPLETE SOLUTIONS, ENGINEERING SUPPORT, RAPID DELIVERY

- | Vertically integrated solutions (connectors, components, cables and assembly)
- | Expertise in design, manufacture & test assemblies
- | Fast prototyping & production
- | High quality guaranteed in low & high volume projects



FISCHER CORE SERIES

1 TO 55
CONTACTS

**Any size
Any configuration
Any application**

- I Fully configurable to fulfill each of your needs
- I High sealing performances for vacuum & underwater applications
- I High temperature & chemical resistance
- I Connectors and / or cable solutions



FISCHER ULTIMATE™ SERIES

2 TO 42
CONTACTS

**Rugged
Compact
Lightweight**

- I IP68 up to 120m / IP69 / Hermetic
- I 360 degree EMC shielding
- I High corrosion resistance
- I 10.000 mating cycles



FISCHER FREEDOM™ SERIES



**Easy Mating
Easy Cleaning
Easy Integration**

- I Breakthrough plug & use connectivity
- I 360 degree mating freedom & optimized cable management
- I Non-magnetic ball locking with variable force
- I IP68 sealed to -20m/24h
- I Low profile, right-angled plug



FISCHER MINIMAX™ SERIES

4 TO 24
CONTACTS

**High-density miniaturization
High-speed data transfer
Reliability**

- I Miniature and lightweight
- I Designed and tested for high-speed protocols
- I IP68 watertight down to 20m



FISCHER FIBEROPTIC SERIES

1 TO 4 FIBERS
HYBRID 2+2

**Robust
High Performance
Easy Cleaning**

A pre-cabled solution ideal for:

- I Faultless optic performance
- I Indoor, outdoor & extreme applications
- I Up to IP67 (unmated) / IP68 (mated)
- I Easy field cleaning



DEFENCE
& SECURITY



INDUSTRIAL



BROADCAST



ENERGY



INSTRUMENTATION



MEDICAL



TRANSPORTATION

Locking	Push-pull Quick-release / Friction	Push-pull Quick-release	Push-pull	Push-pull Screw-locking Quick-release
Shell material	Chromium / Plated brass	Brass / Aluminum	Brass	Brass / PEEK <small>ongoing test</small>
Plug Ø [mm]	9-34	12-29	24	12.9
Number of contacts	1 to 55	2 to 42	1 to 4 fibers / Hybrid 2+2	4 to 24
Contact type	Low voltage / High voltage	Low voltage	Fiber optic / Low voltage	Low voltage
Test voltage DC [kV]	Up to 50	Up to 2.5	Up to 2.8	Up to 1.5
Current rating [A]	Up to 60	Up to 9.2	Up to 10	Up to 5.0
Contact termination	Crimp / Solder / PCB	Crimp / Solder / PCB	Solder	Solder / PCB
Sealing level	IP68/69 / Hermetic	IP68/69 / Hermetic	IP67/68	IP68
Mating cycles	10,000	10,000	1,000	5,000

CORE



ULTIMATE™



FIBEROPTIC



MINIMAX™



PLASTIC ENCLOSURES

PERFORMANCE ENGINEERED ENCLOSURES

CamdenBoss has over 440 designs, sizes and styles of enclosures to satisfy today's competitive market, where functionality, price, aesthetics and ergonomics are all driving demands.

In addition to extensive range of standard injection moulded, die-cast and sheet-metal enclosures, CamdenBoss has manufacturing and assembly facilities enabling offering bespoke designed Tool-Free Custom-Design enclosures from flat-sheet plastic, full customisation of standard ranges and complete turnkey enclosure and assembly solutions.

PRODUCTS

- | Universal enclosures
- | Heavy duty enclosures
- | Interface supports
- | Diecast & metal boxes
- | Potting boxes
- | 19" subracks
- | Hand held cases
- | Din-Rail boxes
- | Control stations
- | Desktop & instrument cases
- | 19" enclosures



CUSTOM DESIGNED ENCLOSURES

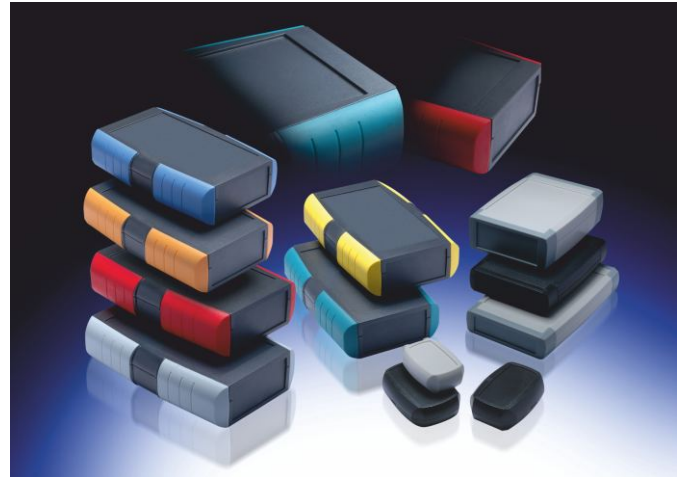
Custom Enclosures with Flat-Sheet Plastic Technology - No Tooling!

CamdenBoss develops and manufactures enclosures to your specifications using Flat Sheet Plastic Technology.

Combining years of engineering expertise, precision machining & innovative assembly techniques; any concept can be manufactured to your exact size and specification. CamdenBoss unique is ideally suited for low to medium batch quantities - from the most simple to the most complex of enclosures.

Advantages:

- | Rapid Lead Times
 - | 1 - 3 weeks prototyping
 - | 3 - 4 weeks volume productions
- | Creative - industrial designers, technical sales & CAD/CAM engineers at your disposal
- | Inexpensive - No Tooling Charge
 - | Low design and set-up costs
 - | Competitive unit pricing
- | Any Quantities
 - | From low batch runs of 5 to high volume 5000+ production runs
- | Flexible - make changes to the design quickly & easily after prototyping or after production



CUSTOMIZATION CAPABILITIES

- | Machining: milling, drilling, cutting and countersinking etc.
- | Surface coating and RFI shielding
- | Printing and engraving
- | Materials: bespoke colours, material types and flammability

Basic Construction Method

Basic Construction



Complex Construction Method

Complex Construction



ALUMINIUM ENCLOSURES AND HEATSINKS

CASES

- | Miniature aluminium cases
- | Design cases
- | Combination cases
- | Tube cases
- | Desk consoles and shell cases
- | 19" System cases
- | 19" Subracks
- | 19" Plug-in boxes
- | 19" Insert modules



THERMAL MANAGEMENT

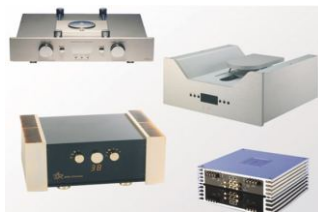
- | Machined extruded heatsinks
- | Extruded heatsinks with solder pin
- | Heatsinks and fan coolers for processors
- | Lamella heatsinks
- | Finger shaped and small heatsinks
- | Cooling aggregates
- | Thermal interface materials



SERVICES

Precision Machining

Fischer Elektronik offers a wide range of processing options, especially for decorative applications. All standard cooling heatsinks and cases and also special front and cover plates can be manufactured to suit customers' requirements in terms of decorative design. CNC machining centres and automatic machines are used to ensure optimum processing quality. Components receive mechanical surface treatment in preparation for anodizing or galvanic coating such as chromium or gold, consisting of sandblasting, grinding and polishing.



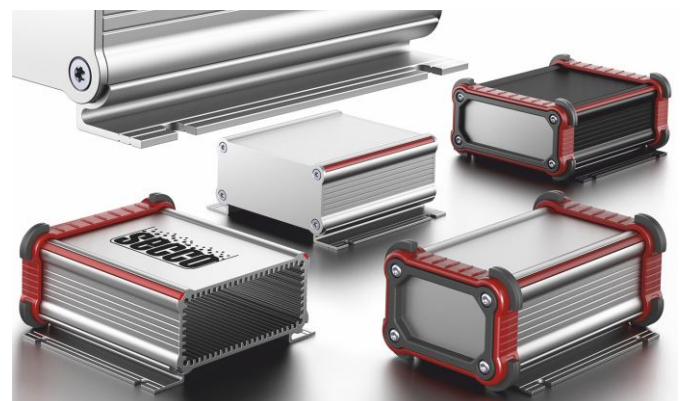
Powder Coating

For the safe use of electronic casings under difficult ambient conditions where anodized or painted casing surfaces are no longer sufficient, first-class surface coating is required. In addition to its standard product range, Fischer Elektronik offers robust and invulnerable powder coatings. In addition to colour and structural options for individual surface designs, powder coatings offer excellent resistance to scratches, abrasion and shocks and provide outstanding protection against corrosion and chemicals as well as good electrical insulation. Other important features include a long service life, highlight fastness and a base material which is environmentally friendly, as the powder contains neither heavy metals nor solvents.



Screen printing & Laser lettering

For optical identification of milling Fischer use screen printing or YAG-lasers. Especially laser inscriptions are of outstanding quality and ensure good, permanent legibility, even in the case of letter sizes below 1mm and under the influence of solvents.



CABLING SOLUTIONS FOR Networks



We realize ideas

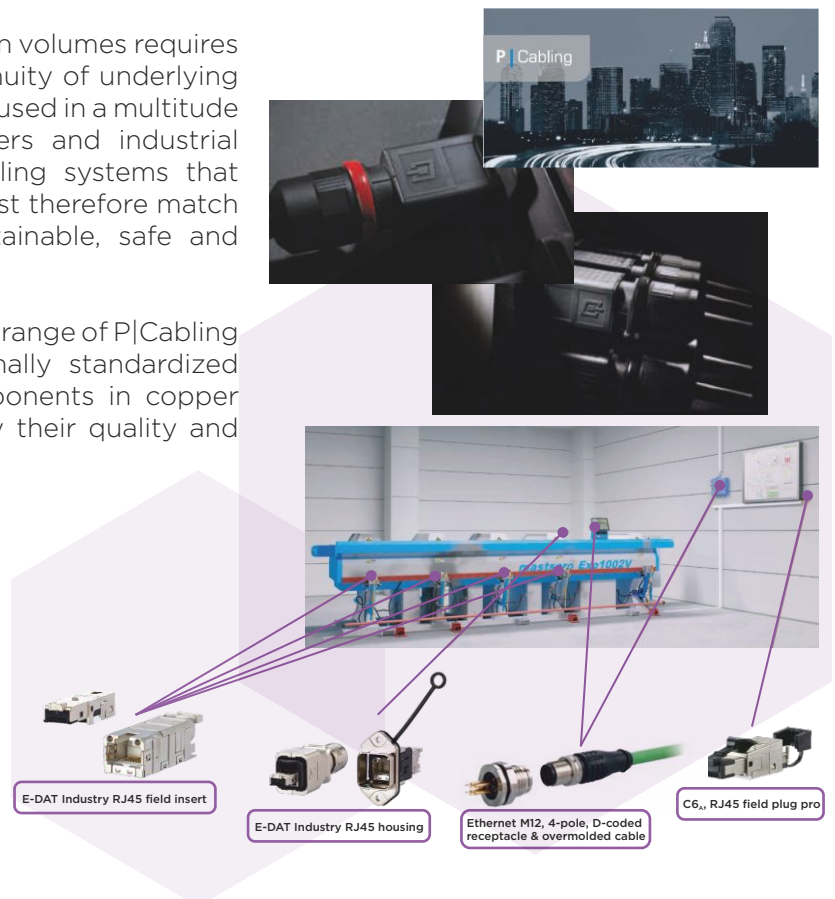
CABLING SOLUTIONS IN THE COPPER AND FIBER OPTIC TECHNIQUES FOR BUILDING AND INDUSTRIAL CABLING APPLICATIONS

The growing demand for data transmission volumes requires an ever stronger performance and continuity of underlying data networks. Today, IT-technologies are used in a multitude of applications in buildings, data centers and industrial plants. Anticipatory and intelligent cabling systems that spanningly connect several segments must therefore match perfectly in order to guarantee a sustainable, safe and continuous form of communications.

All this is guaranteed by the Metz Connect range of P|Cabling products: Highly specialized, internationally standardized and high-performance connection components in copper and fiber optic technology stand out by their quality and strong system compatibility.

BUILDING AND INDUSTRIAL CABLING, DATA COMMUNICATION

- | Office fiber optic
- | Office RJ45
- | Industry fiber optic
- | Industry RJ45
- | Ethernet M12
- | Industry unequipped housings
- | Data center solutions
- | Assembled cables
- | Accessories



TERMINAL BLOCKS

SPRING CLAMP TERMINAL BLOCKS

- | Solderable
- | Pluggable
- | Compression-mount
- | For solid wires and multi-stranded wires
- | Nominal cross section of 0.08 - 2.5 mm²
- | Centerline 2.5 - 10mm

SCREW-TYPE TERMINAL BLOCKS

- | Solderable
- | Pluggable
- | Single poles
- | For solid wires and multi-stranded wires
- | Centerline 3.5 - 10.16 mm

IDC TYPE TERMINAL BLOCKS

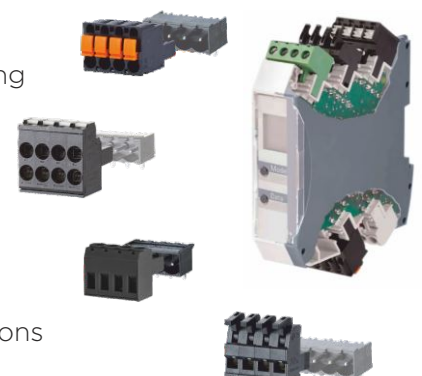
- | Solderable
- | Centerline 3.5 - 10.16 mm

ADVANTAGES

- | Solderable
- | Complete range for different installation requirements
- | A variety of connecting technologies
- | Additional product designs (operating options, mounting flanges etc.)
- | Solutions for different connection cross-sections
- | Color variants at customer request
- | Varying number of poles
- | Codeability
- | Customer-specific adaptations possible



We realize ideas

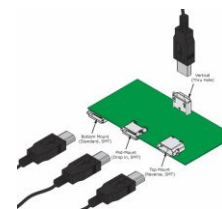


PCB LEVEL CONNECTORS



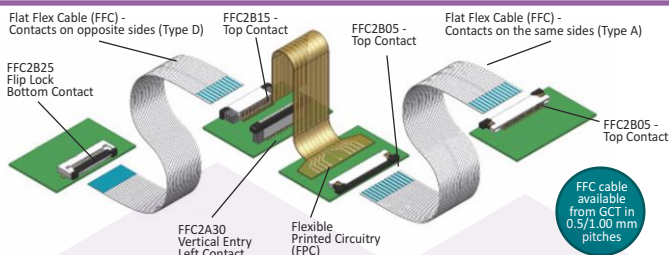
USB 2.0 & 3.x connectors

- | USB C
- | Micro USB
- | Mini USB
- | Full size USB
- | A, B, AB types



FFC connectors & cables

- | 0.3, 0.5, 1.0 mm pitch
- | Side or top entry
- | Top or bottom contact
- | Side or flip lock



Memory card connectors

- | Hinged
- | Push-push
- | Push-pull



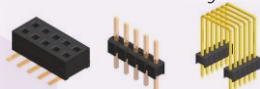
SIM card connectors

- | Hinged
- | Push-push
- | Retainer
- | Dual SIM



Board-to-board connectors

- | 0.8, 1.0, 1.27, 2.0, 2.54 mm pitch
- | Headers, sockets also elevated
- | THT or SMD style

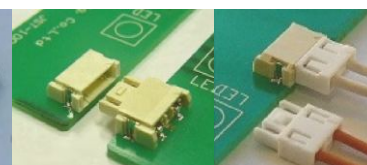


DC power jacks

- | 0.65, 2.00, 2.35 & 2.50 mm pin
- | 1.5 to 8.0 A
- | THT and SMD
- | Shielded variations
- | Straight and right angle



- | Board-to-Board connectors
- | Wire-to-Board connectors
- | LED lighting connectors



- | PCB connectors - male and female headers, contact strips
- | IDC connectors male & female headers, one & two rows
- | D-SUB connectors
- | DIL, PGA, PLCC, transistor sockets
- | Flat ribbon cables



Board to Board Connectors

- | Centerline 1.27, 2.00, 2.54 mm
- | SMD & THT

RJ45 & RJ11, RJ12 Jacks

- | THT & SMD versions
- | Shielded & unshielded
- | Single & multiport
- | With integrated magnetics and/or LED indicators

USB Jacks

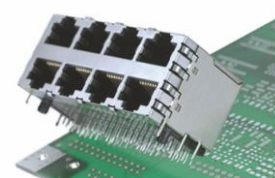
- | THT & SMD versions
- | Type A, B & microB

M12 Jacks

- | D coded or X coded types
- | 4 or 8 pins
- | THT or panel mounted
- | Sealing level up to IP68



We realize ideas



CABLES

ICC (Italian Cable Company) is a leading manufacturer of electrical cables and wiring solutions for industrial and energy applications. Headquartered in Bolgare, northern Italy, ICC has over 60 years of experience and a strong reputation for quality, innovation, and reliability. The company serves a wide range of sectors, including industrial automation, power distribution, automotive, renewable energy, and transportation. With a focus on continuous improvement and sustainability, ICC combines advanced technology, flexible manufacturing, and a commitment to the “Made in Italy” standard.



INTERCONNECTING WIRES AND FLEXIBLE LEADS

- | Insulation: PVC/PE/TPE/Silicone/PP/PA Tefzel/Teflon/PUR/Glass filament/EVA etc.
- | Temperature range: -200 to 1200 °C halogen- free/flame resistant/lead free
- | VDE/UL/CSA/MIL approvals, DIN standards
- | Single, multiple, fine, ultra-fine wire / single, double, triple coloured

FLAT CIRCULAR CONDUCTORS

- | UL / CSA approval

DATA AND COMMUNICATION TECHNOLOGY

- | Optical fiber technology (patch cable / connection technology)
- | Optical fiber cables
- | Plug-in connectors and systems
- | Splice boxes
- | Trunk cables
- | Copper wiring systems

RIBBON CABLES AND TWIN CONDUCTORS

- | All grid sizes / single & multi coloured
- | Solid or flexible – screened

DATA AND CONTROL CABLES, POWER CABLES

- | Screened / unscreened
- | Insulation: PVC/PE/PUR/Silicone/Teflon
- | Approvals: UL/CSA/MIL/VDE
- | Customer-specific manufacture from 500m

ACCESSORIES

- | Spiral cables (from 1 cable)
- | Shrink tubing
- | Insulation tubing
- | Cable testing systems
- | Cable protection systems



CABLE MARKING SYSTEMS



Portable printers: M611, M710, M410, M211

Brady Corporation is a global manufacturer and supplier of complete solutions for safety, identification, and regulatory compliance. The company specializes in products that protect people, products, and environments - even under demanding conditions. Its mission is to develop innovative identification solutions that enhance protection, safety, productivity, and efficiency for customers. Brady's portfolio includes printers, software, durable labels for challenging applications, and consumables designed for demanding environment.

PRODUCTS

Portable printers

Portable models allow technicians to label wires directly on-site, while desktop systems are optimized for high-volume, repeat applications in production or assembly.

Industrial printers

Rugged and durable. Built for high-volume printing in tough environments. Ensure long-lasting performance in manufacturing and industrial facilities.

Laboratory printers

Tailored for labeling samples, vials, and laboratory equipment. Materials are resistant to chemicals, solvents, and extreme temperatures.

Wire and cable identification printers

Designed to print on heat-resistant and abrasion-proof materials. Ideal for marking wires, cables, and electrical components. Engineered to handle dense wiring systems found in data centers, control panels, telecom, and industrial automation. With support for heat-shrink sleeves, self-laminating labels, wrap-around markers, and flag labels to suit different wire diameters and applications.



Industrial printer i7500, with automated cutter



Wraprator A6200 and A6500 Wire Identification Printer Applicators



PROMARK T-2000 Thermal printer and MK10-Squix Heavy duty marker printer

Partex (Partex Marking Systems) is a Swedish family-owned company established in 1948.

It specialises in industrial identification systems. Its products include wire and cable markers, labels, sleeves, nameplates, and accessory items like cable ties, terminals and heat-shrink tubing.

PRODUCTS

Heavy-duty desktop printers

High-performance thermal-transfer units that print and cut markers from reel-fed profile material.

Portable printers

Lightweight, durable units for onsite use.

Compact colourful touchscreen printers

Table devices with touchscreen controls. Accepts reel-fed profile inside housing, feeds and prints Partex profiles and labels.

Card printers

Prints full-colour symbols, barcodes, graphics on Partex tag cards. Suited for on-site production of wire and cable markers. Thermal-transfer, durable, user-friendly, high throughput.



Oval profile, Heat shrink profile, Profile for holder and Flat slide-in profile label examples. Halogen-free versions available for selected profiles

HEAT SHRINKABLE TUBING

DSG-CANUSA



Insulation
Polyolefin 2:1 or 3:1



Sealing Polyolefin
adhesive-lined 4:1



Labelling
Polyolefin 3:1



SEALFIX
Waterproof butt connectors
with adhesive-lined clear
heat shrink tubing



DERAY-Mini Shrink Device 2.0 heatshrink system
with infrared heating elements and
DERAY-Vision System - camera-based inspection system
as a plug & play add-on for **DERAY-WorkMan 2.0**



DSG-Canusa is a global manufacturer of heat-shrink and cold-shrink tubing, accessory products and application equipment. DSG-Canusa specializes in high-performance heat-shrink and cold-shrink tubing made from polyolefin, fluoropolymer, elastomer—with or without adhesive—for sealing, protection and identification of wires, cables, pipes and harnesses.

PRODUCTS

- | **Thin, medium, and heavy-wall heat-shrink tubing**
- | **Single-wall heat-shrink tubing**
- | **Dual-wall (adhesive-lined) tubing**
- | **High-temperature tubing**
- | **Marker sleeves**
- | **Braided sleeves**
- | **Halogen-free heat-shrink tubing**
- | **Cold-shrink products (tubes and tapes)**

HEAT SHRINK MACHINES

DSG-Canusa offers application equipment designed to apply heat-shrink products. The lineup includes:

- | **Infrared shrink machines**
Provide uniform heat application via IR technology
- | **Hot-air shrink equipment**
Air-based heat sources for versatile shrink application
- | **Automated and custom solutions**
Tailored shrink systems and inspection rigs engineered to fit specific production workflows

CABLE TIES AND FASTENERS

PANDUIT™



Fir Trees, Integral Cable Ties, Edge Clips and Mounts



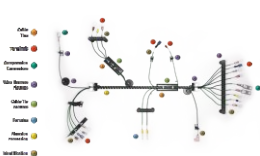
Nylon 6.6 options **PEEK** **Double Loop**

Panduit is a global manufacturer known for durable cable ties and fastening solutions designed to ensure reliable cable management in demanding environments. Their portfolio includes standard, specialty, and stainless-steel cable ties that meet stringent industry standards. Panduit fasteners are engineered for efficiency, safety, and long-term performance across industrial and data center applications.

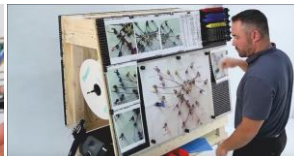
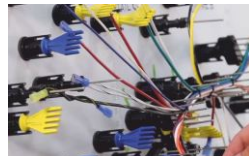
PORTFOLIO

- | UV and weather resistant
- | TEFZEL binder up to 260 °C
- | UL, CSA approvals, G, MIL, etc.
- | EDGE CLIP for edge fastening
- | Stainless steel cable ties with tensile forces up to 4,000 N
- | Halogen-free
- | Heat stabilized
- | Re-releasable

Quick-Build™ Harness Board System



Professional reusable boards for harness production



PAT 4.0 Cable Tie System



Automatic tool and reel-fed cable tie system

HellermannTyton HellermannTyton offers a wide range of cable ties and fastening systems for secure and versatile cable bundling. The solutions include innovative designs such as releasable ties, heavy-duty options, and specialised mounts for automotive and industrial use.



CABLE TIES

CABLE TIE GUNS

WIRE CONDUITS

CABLE MANAGEMENT

ELECTRICAL INSTALLATION

HARNESS PRODUCTION

IN-HOUSE PRODUCTION OF HARNESSES
based on all typical connectors in the full
(with continuous control of crimping parameters CFA)
and half - automatic process

MICRODIS
COMPETENCE & RELIABILITY

- | Pull force measurement
- | Processing of FBL / FFC flat cables with IDC connectors and electronic quality control
- | Application of IDC connectors with single-core cables in the half automatic process
- | Crimping of insulated and uninsulated connectors
- | Processing of multi-wire signal cables (stripping, crimping, tinning) - up to OD = 6.0 mm
- | Soldering of cables to the PCBs
- | Tinning of wires (automatic or manual)
- | Shrinking of heat shrink sleeves
- | Assembling



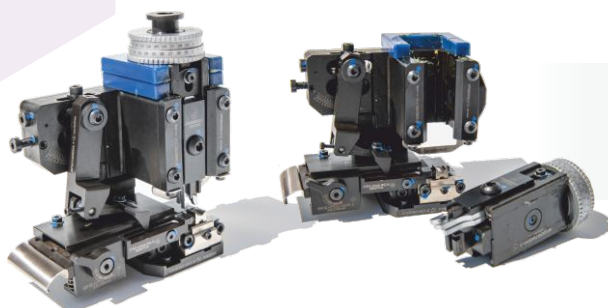
CABLE PROCESSING SYSTEMS

APPLICATORS AND DIES



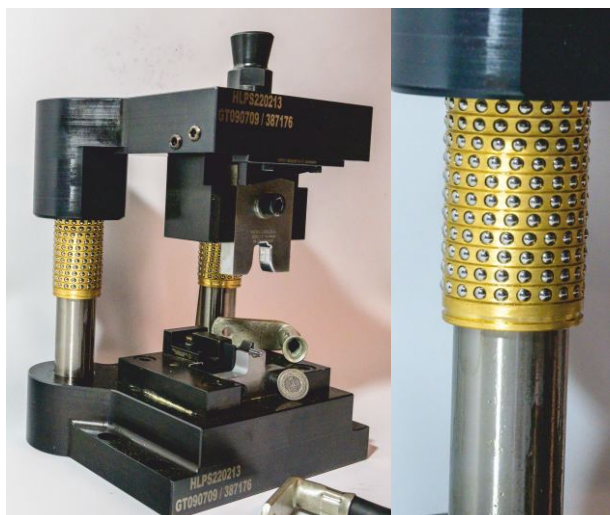
Ricardo & Barbosa - Portuguese company, located in PORTO, established in 1978, as manufacturer of spare parts for molds and tools for the semiconductor industry, electrical wiring for the automotive industry as well as precision mechanical parts for space & aero industry, working on big numbers of multi-axial CNC machines with wide range different materials. Certified by basic ISO, as well as dedicated certifications for automotive and space industry. With two production facilities in Portugal and Mexico and distribution in several countries.

R&B' main products in wire harness division are dedicated tools for crimping, like standard applicators for all kind of reeled terminals and connectors, as well as special dies for lose parts, removal tools and spare parts for applicators, produced on demand in very short time, using multi-axial CNC machines.



FEATURED PRODUCT

Heavy-duty big cross-section dies



APPLICATORS, DIES AND PRESSES



MECAL Srl - italian company, established in 1976, with the aim of supplying the wire harness industry with the best crimping equipment. Their leading products like applicators and presses are extensively used by the automotive, communication and IT industry, and wherever a high quality connection is needed.

MECALS CRIMPING MACHINES PORTFOLIO

- Mechanical applicators for crimping of reeled terminals with cross-sections up to 25 mm²
- Dies for crimping of loose terminals up to 75 mm²
- Special applicators for crimping of IDC-rast connectors (pin by pin)
- 4 Points Crimp Applicator, designed to crimp loose End Sleeve (Tube) Terminals up to 25 mm²
- Electromechanical presses with a crimping force : 1.5 - 20 T
- Production process analyzers - CFA
- Pull force measurement devices
- Mini laboratories for micrography

Product ID: MRS	APPLICATOR
Crimping height	135.8 mm (5.346")
Stroke	40/30 mm (1.575/1.18")
Terminal pitch	<27 mm (<1.06")
Terminal thickness	<1.2 mm (<0.047")
Wire section	max. 10 mm ²



MECHANICAL PRESSES WITH CRIMPING FORCE FROM 2 TO 22 TONS



MECAL GUIDE TO QUALITY CRIMPING

The following information is referred to standard crimping



Checks and evaluations

Description	Rif
Bent left or right (max)	A 3°
Bent up or down (max)	B 3°
Torsion (max)	C 3°
Bulb mouth	D 0.2-0.5 mm
Cut-off (max)	E 0.5 mm
Wire overlay (min)	F 0.5 mm

The material extrusion is acceptable when

The tips of the barrel can not touch the terminal bottom

Crimping height measurement

Crimping width measurement

H/L ratio and strands compacting

The H/L ratio is acceptable when within a min of 55% and a max of 70%

The strands compacting is the difference between the cross section of the wire + terminal before and after the crimping itself. It is acceptable when within a min of 17% and a max of 24%

Pull test

Automotive

Wire sect mm²	Min pulling force in Newton Class 1	Class 2	Class 3
------------------	--	---------	---------

Wire section AWG	Min pulling force in Newton
---------------------	-----------------------------

Wire section mm²	Min pulling force in Newton
---------------------	-----------------------------

Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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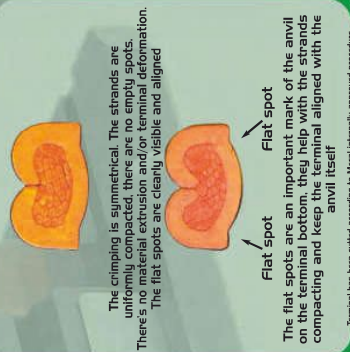
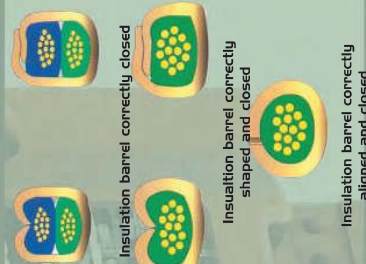
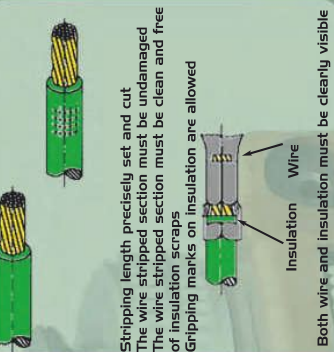
Wire section mm²	Min pulling force in Newton
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Wire section mm²	Min pulling force in Newton
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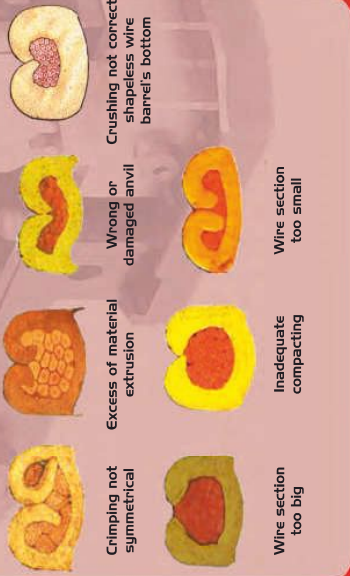
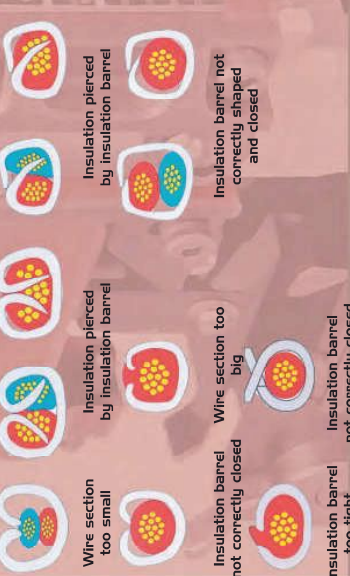
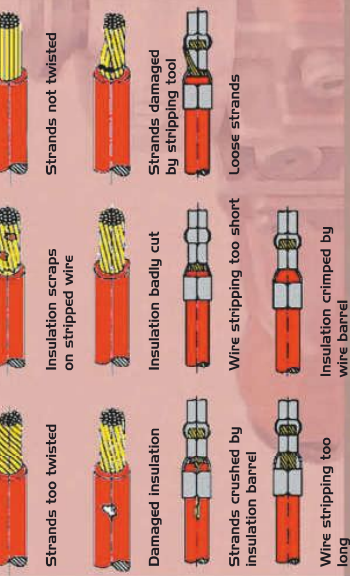
Wire section mm²	Min pulling force in Newton
---------------------	-----------------------------

Wire section mm²	Min pulling force in Newton
---------------------	-----------------------------

Acceptable



Unacceptable



General appearance

Insulation crimping

Wire crimping

Specifications subject to change. Consult Mecal s.r.l. for latest specification

www.mecal.net

CABLE PROCESSING SYSTEMS

**PROFESSIONAL
HAND TOOLS**
for crimping of single
terminals and cable ends,
tools for cutting of power cables

WEZAG®
WERKZEUGE • TOOLS

WEZAG, German company, founded in 1949. One of the worldwide leading manufacturers of hand tools.

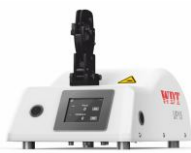


Separately delivered and terminal dedicated dies: CS30 system for crimping various types of contacts / terminals and universal handles. It's possible to use the same dies with WDT machines for crimping in half automatic cycles.

WDT®
WIRE PROCESSING SYSTEMS

**PNEUMATIC AND
HYDRAULIC PRESSES**

Swiss WDT company (owned by WEZAG) is a strong supplier of pneumatic solutions for crimping of big cross section loose plugs. WDT-presses with or without special adapters can work together with the same WEZAG-dies that are dedicated to CS or CK systems.



UP15

Electric

UP14

Pneumatic

UP14ZLW

Pneumatic

SSC

Pneumatic

UP35

Pneumatic

	UP15	UP14	UP14ZLW	SSC	UP35
Max. Crimp Force	15 kN (3372 lbf)	14 kN at 6 bar (3147 lbf at 87 psi)	14 kN at 6 bar (3147 lbf at 87 psi)	20 kN at 6 bar (4496 lbf at 87 psi)	20 kN at 6 bar (4496 lbf at 87 psi)
Dimensions	440 x 265 x 170 mm (17.3 x 10.4 x 6.7 inch)	320 x 135 x 260 mm (12.6 x 5.3 x 10.2 inch)	335 x 135 x 260 mm (13.2 x 5.3 x 10.2 inch)	385 x 180 x 480 mm (15.15 x 7.1 x 18.9 inch)	385 x 180 x 480 mm (15.15 x 7.1 x 18.9 inch)
Approx. Weight	10.5 kg (23.1 lbs)	14 kg (31 lbs)	14.5 kg (32 lbs)	22 kg (48.5 lbs)	20 kg (44.1 lbs)
Noise Level	70 dB(A)	73 dB(A)	73 dB(A)	62 dB(A)	62 dB(A)
Max. Air Pressure	-	6 bar / 87 psi	6 bar / 87 psi	6 bar / 87 psi	6 bar / 87 psi
Air Consumption	-	4.8 l per stroke	4.8 l per stroke	4.2 l per stroke	4.2 l per stroke
Electrical Connection	115 / 230 VAC 50 - 60 Hz	-	-	-	-
Electrical Connection (Light source)	-	-	-	Plug-in power supply 12 Volt with change adapter EU / US / UK / AU	Plug-in power supply 12 Volt with change adapter EU / US / UK / AU
Other Features	+ Piece & batch counter + Use of CSV10 tool heads	+ Economical entry into machine processing + CS30-dies from hand tool can be used without adapter	+ Linear working machine for automotive	+ Linear working machine for automotive + Safe crimping machine + No hands in crimping area	+ 8-indent processing possible

Dies and adapters for UP presses

- CS dies
- CSV10 heads
- U dies
- EHC dies

More dies and adapters available for almost all loose piece applications. Customised development according to specifications.



Insulation Crimping Tool

CABLE BST

The new blade design enables an exact cutting of the insulation of each stranded and solid wire with insulation of 0.03 to 16.0 mm².

High tool stability thanks to glass fiber polyamid, cutting and stripping area made of high-strength steel.



UP35BA

Pneumatic

20 kN at 6 bar
(4496 lbf at 87 psi)

380 x 225 x 480 mm
(15.15 x 8.9 x 18.9 inch)

20 kg (44.1 lbs)

62 dB(A)

6 bar / 87 psi

4.2 l per stroke

-

Plug-in power supply
12 Volt with change adapter
EU / US / UK / AU

+ Contact holding function

UP40

Electro-Pneumatic

40 kN at 6 bar
(8892 lbf at 87 psi)

550 x 310 x 560 mm
(21.65 x 12.2 x 22.05 inch)

45 kg (99.2 lbs)

70 dB(A)

6 bar / 87 psi

21 l per stroke

24 VDC | min. 1.75 A
Plug-in power supply
100 - 240 VAC with change
adapter EU / US / UK / AU

-
+ 2 operating modes
(with or without hold function)
+ Crimp force monitoring
as an option available

UP60

Pneumatic

60 kN at 6 bar
(13488.5 lbf at 87 psi)

545 x 260 x 555 mm
(21.5 x 10.2 x 21.85 inch)

64.5 kg (142.2 lbs)

69 dB(A)

6 bar / 87 psi

16 l (stroke of 10 mm)
52.5 l (stroke of 32 mm)

-

Plug-in power supply
12 Volt with change adapter
EU / US / UK / AU

+ Use of EHC & U-dies possible
+ Crimp force monitoring as an
option available
+ Reduced return of stroke
possible at small cross
sections

UP65

Hydraulic

150 kN
(33721 lbf)

595 x 245 x 625 mm
(23.4 x 9.65 x 24.6 inch)

145 kg (320 lbs)

69 dB(A)

max. 200 bar / 2901 psi

-

230 VAC | 50 Hz

-

+ Freely programmable
Crimp Height / Return Height/
Pre Crimp Position
+ 30 Program Memory
Locations
+ Internal Hydraulic Pump

UP150

Hydraulic

150 kN
(33721 lbf)

695 x 245 x 660 mm
(27.4 x 9.65 x 26 inch)

185 kg (408 lbs)

69 dB(A)

max. 210 bar / 3046 psi

-

110 - 230 VAC | 50 - 60 Hz

-

+ Freely programmable
Crimp Height / Return Height/
Pre Crimp Position
+ Crimp Force Monitoring
(CFM)
+ Internal Hydraulic Pump

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*Electromechanical Competence Center for Turkiye

Currently the Microdis Group employs over 100 people, with a large number of electronic engineers, mostly involved in sales and application support.

As a company with an extensive experience in the distribution of electronic components, and a purchasing center in Germany for many years, we are able to offer almost any product from a wide variety of electronic components. We offer also the production of cable harnesses and programming of crystal oscillators for a customised frequency.

Cooperation with a catalogue distributor provides fast deliveries (2 days) of a wide range of catalogue products.

We have certificates of quality management DIN EN ISO 9001:2015 for the distribution of electronic components.



AAEON
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BRIGHTK
CAMDENBOSS
CAVLI WIRELESS
EPSON

FISCHER CONNECTORS
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MECAL
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SAVOY TECHNOLOGY
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TRASNA

U-BLOX

WEZAG

Industrial computers and panels
 Industrial motherboards (3.5", mini-ITX, ATX...)
 Power, THT and chip LEDs and LED modules
 Interconnect components, electronic housings, 19" cabinets
 Cellular IoT modules based on the leading Qualcomm technology
 Crystals, oscillators, filters and sensors
 Programmable oscillator web-shop
 Military, medical and industrial connectors
 Heatsinks, connectors, 19" and case technology
 SIM-Holders, memory card connectors, USB connectors
 Large Format Displays
 Optocouplers, optoisolators
 Signal connectors
 Automotive and white goods connectors
 GPS, Galileo, Glonass, Iridium antennas
 Machines and systems for wire crimping
 Reed switches, sensors and relays
 Modules: Cellular, AI, Smart (SOM), Short Range
 Terminal block connectors - screw, spring and pins
 Wide-temperature fanless computers
 Industrial computers and panels
 Industry 4.0 computer solutions
 Crimping tools like standard applicators and heavy duty dies for loose terminals
 MIL & Space grade Frequency control solutions
 Automotive and white goods connectors
 Displays & projectors
 Cellular IoT modules (born from u-blox), (e)SIM, chip design, device management
 Modules: GNSS, WiFi, Bluetooth, ZigBee, Thread, Matter, NFC; Services: GNSS antennas
 Hand tools for crimping, pneumatic presses

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