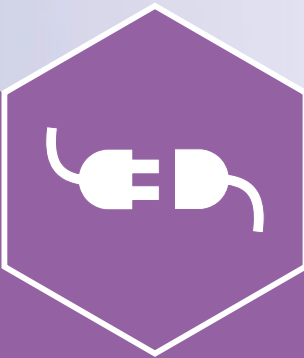


**MICRODIS**

COMPETENCE & RELIABILITY

E-MECH SOLUTIONS



# ELECTRO- MECHANICAL SOLUTIONS

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

[WWW.MICRODIS.NET](http://WWW.MICRODIS.NET)

# RELIABLE CONNECTION SYSTEMS

## **MICRODIS ELECTRONICS**

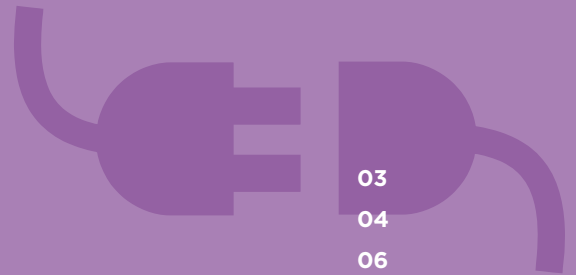
with over 30 years of experience in sales of electromechanical components, Microdis Electronics provides customers with deep knowledge and application support.

In-house harness production for small and medium projects allows us to support our partners with customised solutions fitted just to their needs.

We also fulfill the needs of our customers concerning the equipment needed for harness production.

# CONTENT

CABLING SOLUTIONS FOR AUTOMOTIVE	03
CABLING SOLUTIONS FOR INDUSTRY, DEFENCE, MEDICINE	04
PLASTIC ENCLOSURES	06
ALUMINIUM ENCLOSURES AND HEATSINKS	07
CABLING SOLUTIONS FOR NETWORKS	08
TERMINAL BLOCKS	08
PCB LEVEL CONNECTORS	09
CABLES	10
HARNESS PRODUCTION	11
CABLE PROCESSING SYSTEMS	
APPLICATORS AND PRESSES	12
MECAL GUIDE TO QUALITY CRIMPING	13
PROFESSIONAL HAND TOOLS & PNEUMATIC AND HYDRAULIC PRESSES	14



# CABLING SOLUTIONS FOR Automotive & Home appliances

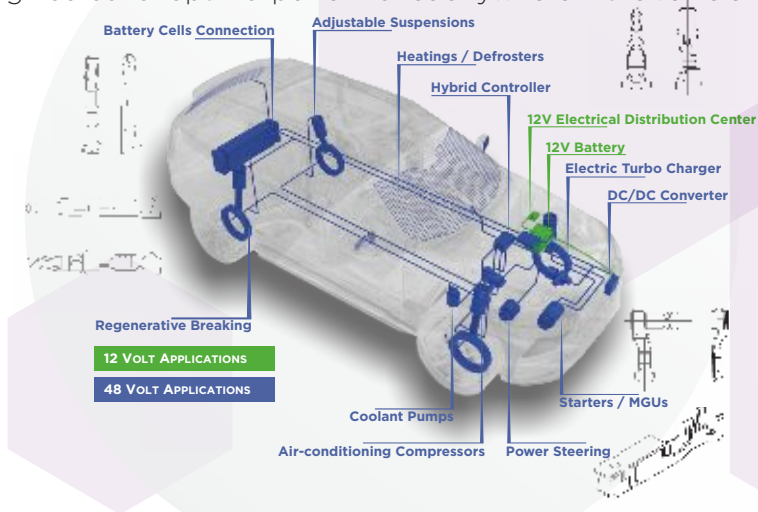
## LEAR CORPORATION TERMINALS & CONNECTORS



Lear's product portfolio includes standard and custom terminal & connector systems, with capability ranging from signal to high power. Lear experience in integrating terminal & connector solutions throughout the vehicle's electrical distribution system allows for maximum reliability while reducing cost.

Lear's capabilities cover the complete value chain—from advanced research and development, through tooling construction, to extensive manufacturing expertise, allowing Lear to shorten the product and process development cycle.

From patents filed to finished product, Lear continues to commit its resources to the development of the industry's most technically advanced terminals & connectors. Lear's focus remains on developing and manufacturing high performance, ultra-compact, cost-effective systems, engineered for optimal performance anywhere in the vehicle.



## MANUFACTURERS' PRODUCTS

### LEAR MAIN PORTFOLIO

- | Leaf spring connection systems
- | Pin and socket round connection systems
- | Secure contact systems
- | Flat fuse connection systems

### SAVOY MAIN PORTFOLIO

- | Chain terminals 2.8-4.8-6.3-7.7-9.3 mm
- | Ring tongue and other solderless terminals and splices

### JST MAIN PORTFOLIO

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



## SAVOY TECHNOLOGY



Savoy Technology is the specialist stamping company of the multi-national group Savoy International. In operation since 1961, Savoy Technology is a supplier of high quality and high performance connectors for automotive market and industries.

Savoy Technology designs, produces and supplies the complete range of connectors and hundreds of other special assembly parts.

With more than 45 years in skill design, manufacturing and stamping of innovating electrical connectors, Savoy Technology is an significant supplier for the automotive market.

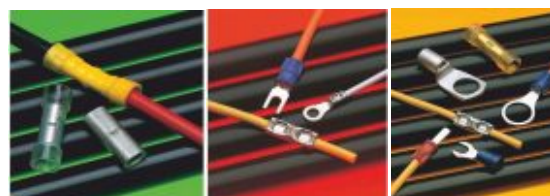
Savoy Technology designs and manufactures a multitude of products ranging from the most basic to the most complex electrical connectors, like hermaphrodite sliding terminals with the highest level of quality.

## JAPAN SOLDERLESS TERMINALS - JST



J.S.T is one of the worlds largest manufacturers of electrical and electronic connectors. The first products were loose piece terminals, which were introduced into the market in 1957.

Today, JST is a manufacturer of the most reliable, most technologically advanced and cost-efficient electromechanical components.



# 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

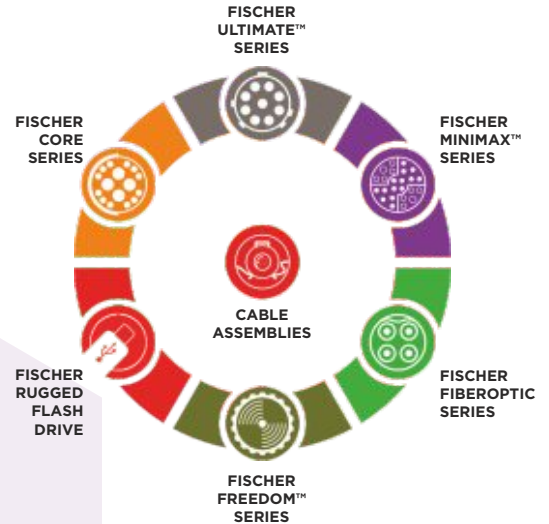
## INNOVATION

### 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**

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



## FISCHER ULTIMATE™ SERIES

2 TO 42 CONTACTS



**Rugged  
Compact  
Lightweight**

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



## FISCHER FREEDOM™ SERIES



**Easy Mating  
Easy Cleaning  
Easy Integration**

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



## FISCHER MINIMAX™ SERIES

4 TO 24 CONTACTS



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

- Miniature and lightweight
- Designed and tested for high-speed protocols
- 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:**
- Faultless optic performance
  - Indoor, outdoor & extreme applications
  - Up to IP67 (unmated) / IP68 (mated)
  - 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.



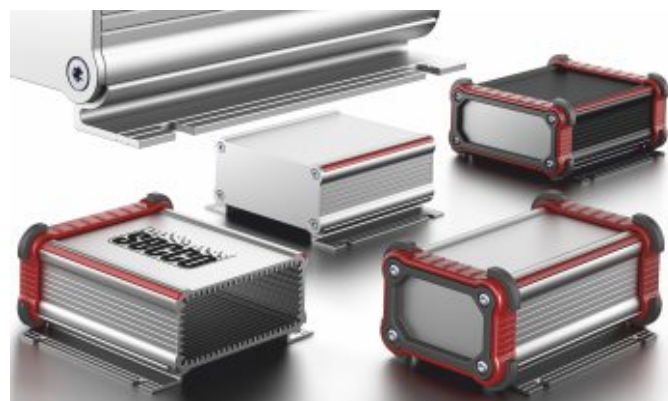
### Powder Coating

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

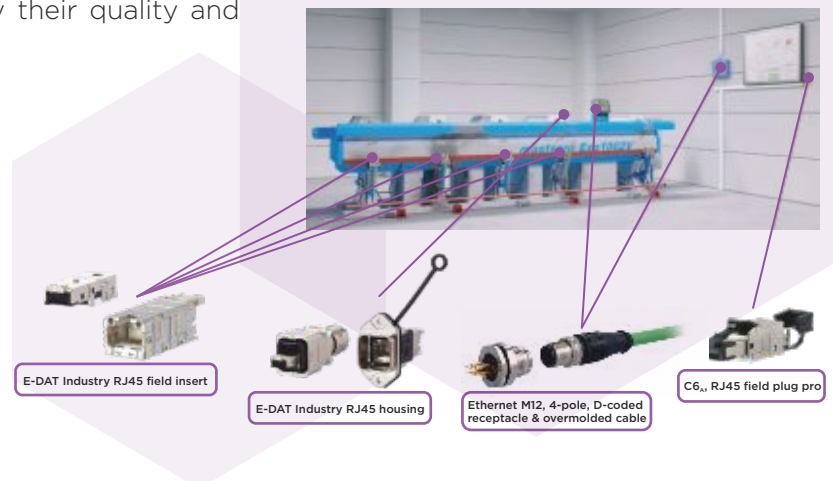
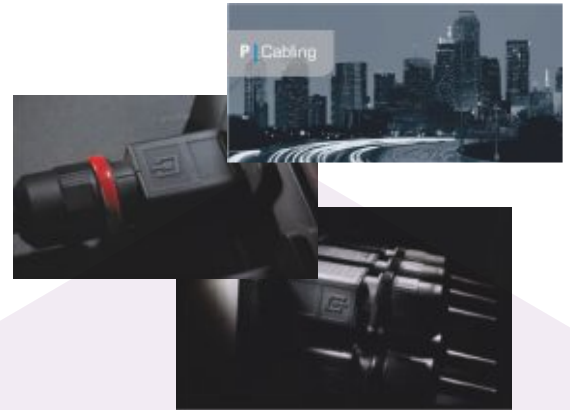
## CABLING SOLUTIONS IN THE COPPER AND FIBER OPTIC TECHNIQUES FOR BUILDING AND INDUSTRIAL CABLING APPLICATIONS

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 mm<sup>2</sup>
- | 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

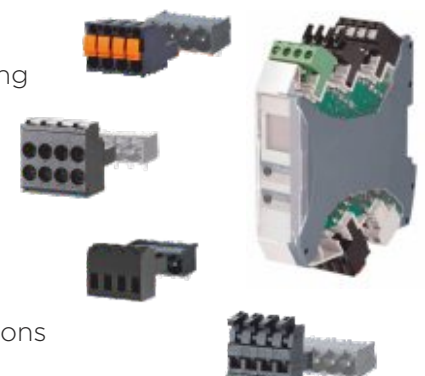
- | Solderable
- | Centerline 3.5 - 10.16 mm

### 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



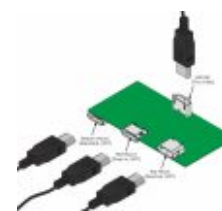


# PCB LEVEL CONNECTORS



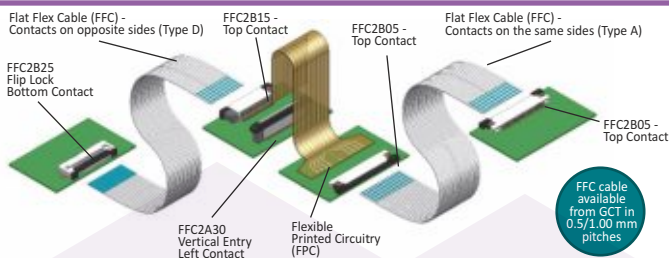
## USB 2.0 & 3.x connectors

- | 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 SD & uSD card connectors

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



## SIM card connectors

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



## Modular Jack connectors

- | 4-8 positions
- | 4-8 positions loaded
- | Right angle or vertical
- | THT or SMD style



## Board-to-board connectors

- | 0.8, 1.0, 1.27, 2.0, 2.54 mm pitch
- | Headers, elevated headers, sockets, elevated sockets
- | Horizontal, parallel, perpendicular
- | THT or SMD style



## DC Power Jacks

- | THT and SMD
- | 0.65 mm, 2.00 mm, 2.35 mm & 2.50 mm center pin diameters

- | Current ratings from 1.5 A to 8.0 A
- | Shielded variations in both straight and right angle orientation



- | 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



Since 1987 the designated target of MEDI - Kabelhandels GmbH is to supply customers with cables and wires at the highest quality level. The company's aim is to provide solutions for all requirements, with business and technical advice as well as training from development to serial production.

With partners worldwide, MEDI-Kabel can satisfy customers' needs and requirements with competence and effectiveness. The manufacturer is capable of offering a wide range of products in wide temperature-ranges, mechanical and electrical requirements as well as different approvals (VDE, HAR, UL, CSA, MIL etc.).

A modern high-level rack with 1500 pallets capacity and more than 5000 cable and wire types available enables MEDI-Kabel to cover most of customers' requirements in short time, even special customized cables with small minimum order quantities.



## 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

## XTRA CABLES FOR INTERNATIONAL USE

### Xtra BASIC

This standard cable is suitable for systems and equipment which have been designed for export.



**Xtra BASIC**  
UL/CSA/HAR/MTW/AWM  
Wire Style 1015

#### Assembly

Cable: Tinned copper according to EN 13602  
Cable insulation: Special PVC  
Marking: Printing and label



**Xtra ECO**  
UL/cUL/HAR/VDE  
Wire Style 3578

#### Assembly

Cable: Copper blank according to EN 13602  
Marking: Printing and label  
Core insulation: Cross-linked halogen free elastomer compound



**Xtra HEAT**  
UL/cUL/VDE  
Wire Style 3672

#### Assembly

Cable: Tinned copper according to EN 13602  
Core insulation: Silicone in VDE quality  
Marking: Printing and label

## 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

#### Technical Data

Test voltage: 3000 V  
UL/CSA: 600V - 105 °C  
MTW: 600V - 90 °C  
HAR: 300/500 V - 90 °C (H05V2-K)  
450/750 V - 90 °C (H07V2-K)

#### Certifications



#### Technical Data

Test voltage: 3000 V  
UL/cUL: 600 V - 105 °C  
HAR/VDE: 300/500 V - 90 °C (H05Z-K)  
450/750 V - 90 °C (H07Z-K)

#### Certifications



#### Technical Data

Test voltage: 2000 V  
UL/cUL: 300 V - 150 °C  
VDE: 300/300 V - 180 °C  
(0,75 mm<sup>2</sup>; N2GFAF)

#### Certifications



# HARNESSES 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



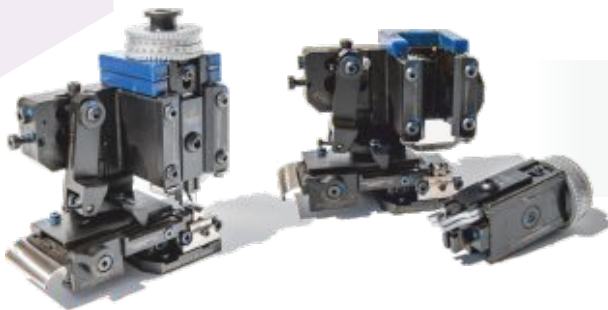
# CABLE PROCESSING SYSTEMS

## APPLICATORS AND DIES



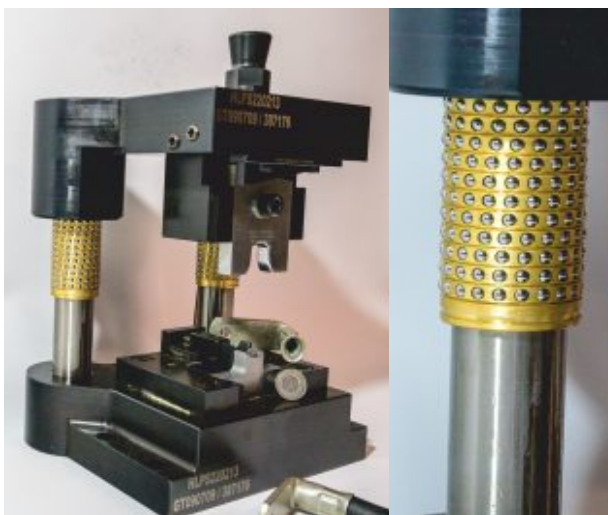
Ricardo & Barbosa - Portuguese company, located in PORTO, established in 1978, as manufacturer of spare parts for molds and tools for the semiconductor industry, electrical wiring for the automotive industry as well as precision mechanical parts for space & aero industry, working on big numbers of multi-axial 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.

## MECAL'S CRIMPING MACHINES PORTFOLIO

- | Mechanical applicators for crimping of reeled terminals with cross-sections up to 25 mm<sup>2</sup>
- | Dies for crimping of loose terminals up to 75 mm<sup>2</sup>
- | 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 mm<sup>2</sup>
- | 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 <sup>2</sup>



## MECHANICAL PRESSES WITH CRIMPING FORCE FROM 2 TO 22 TONS



1.5 TONS  
TT

2 TONS  
P107C

4 TONS  
P040

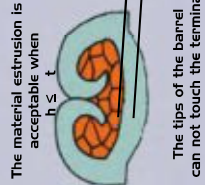
# MECAL GUIDE TO QUALITY CRIMPING

The following information is referred to standard crimping



## Checks and evaluations

Description	Rif
Bent left or right (max)	A
Bent up or down (max)	B
Torsion (max)	C
Balimouth	D
Cut-off (max)	E
Wire overlay (min)	F



The tips of the barrel can not touch the terminal bottom

## Measurements

### 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%.

## Automotive

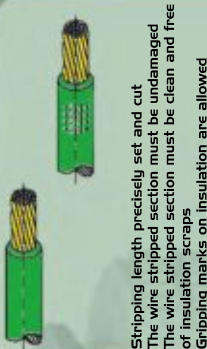
Wire sect | Min pulling force in Newton | Class 1 | Class 2 | Class 3

Wire sect   mm <sup>2</sup>	Class 1	Class 2	Class 3	Wire section AWG	Min pulling force in Newton
0.35	34	.....	.....	32	0.03
0.5	60	80	80	30	0.05
0.75	70	120	120	28	0.08
1	80	160	160	26	0.12
1.27	90	160	200	24	0.2
1.5	100	200	200	22	0.23
1.75	100	250	250	20	0.25
2	100	300	300	18	0.25
2.5	100	350	350	16	0.25
3	.....	400	400	14	0.25
4	.....	450	500	12	0.25
6	.....	800	1500	.....	.....
10	.....	1400	2400	.....	.....
16	.....	1900	3000	.....	.....
25	.....	2270	4000	.....	.....
35	.....	2800	6000	.....	.....
50	.....	3500	8400	.....	.....
70	.....	4200	11400	.....	.....
95	.....	.....	.....	.....	.....

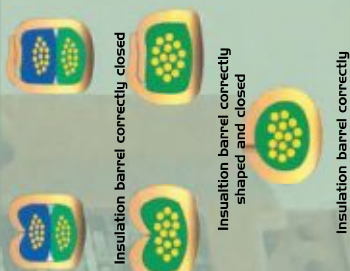
Class 1: Terminals with  $\leq 2.9$  mm/Ampere  $\leq 5A$   
Class 2: Terminals with  $> 2.9$  mm/Ampere  $> 5A$   
Class 3: Cylindrical terminals (to be coined)  
Ref: DIN EN 60382-2  
Mecal Specifications

## Pull test

## Acceptable

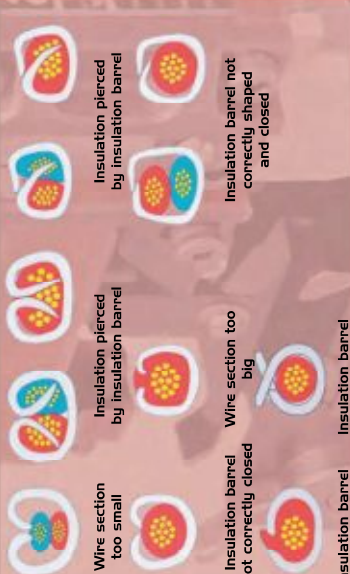
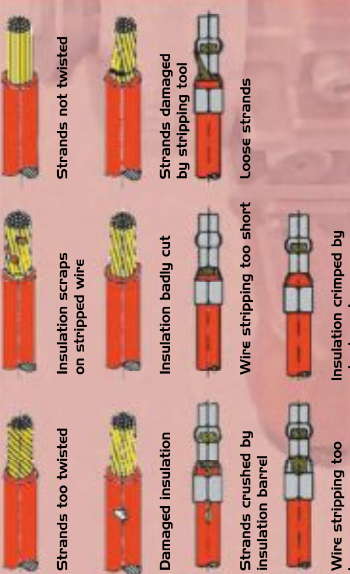


Stripping length precisely set and cut  
The wire stripped section must be undamaged  
The wire stripped section must be clean and free of insulation scraps  
Gripping marks on insulation are allowed  
Both wire and insulation must be clearly visible



The crimping is symmetrical. The strands are uniformly compacted, there are no empty spots. There's no material extrusion and/or terminal deformation. The flat spots are clearly visible and aligned.  
Flat spot  
The flat spots are an important mark of the anvil on the terminal bottom, they help with the strands compacting and keep the terminal aligned with the anvil itself

## 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 mm<sup>2</sup>.

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

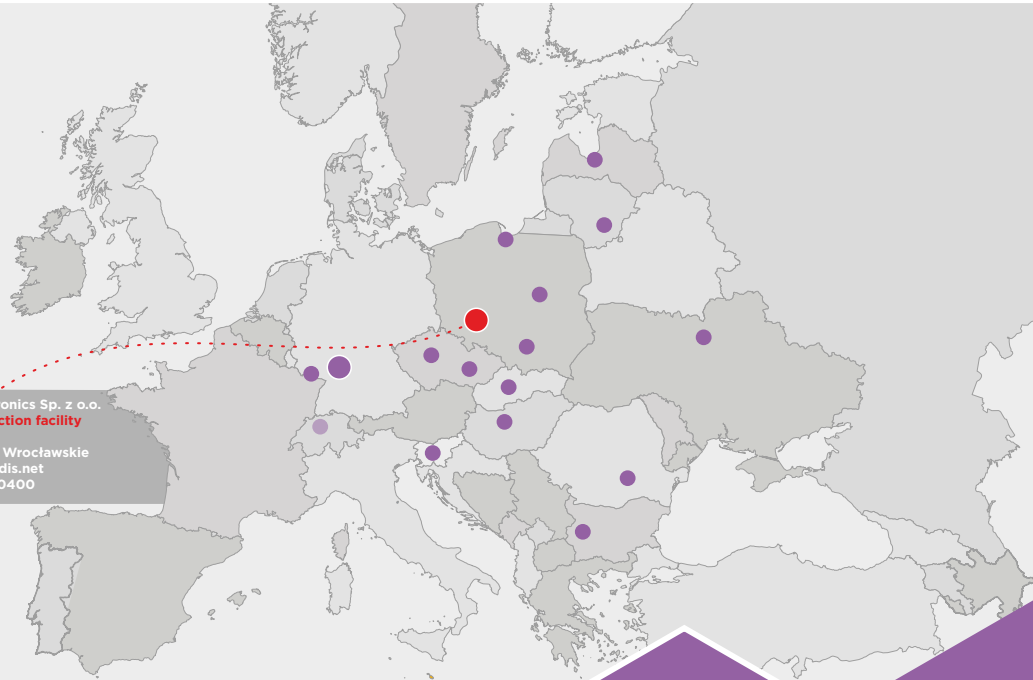
-

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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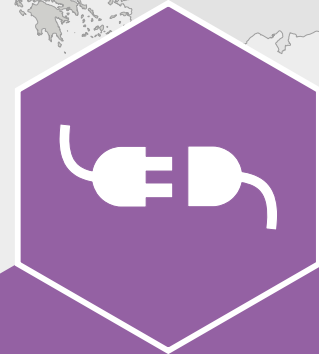
\*Electromechanical Competence Center for France

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.

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