

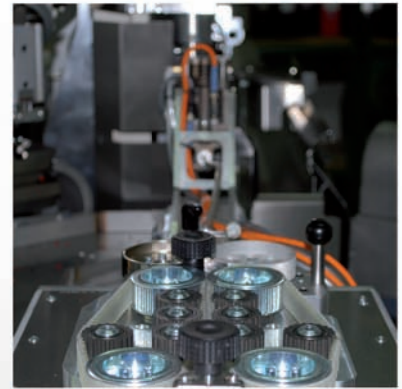
Harness Production  
Cables & Cable Processing Systems  
Heatsinks & Cases  
Tact Switches, Potentiometers, Encoders etc.  
Signal & Industrial Connectors





# Harness Production

- ✓ Harness with all typical connectors in half or full automatic process
- ✓ Harness with RAST connectors (Lear, Lumberg) or another IDC connectors in half automatic process
- ✓ Cutting and stripping from AWG32 (0,05mm<sup>2</sup>) up to AWG8 (8,00mm<sup>2</sup>)



- ✓ Measure and cut to length
- ✓ Full or partial strip both sides
- ✓ Crimp to crimp
- ✓ Twist and tin to crimp
- ✓ Special connectors hand soldering (D-Sub, industrial, etc.)
- ✓ Lead free tin plating
- ✓ Pull-out force and crimp height measuring
- ✓ Quality control



# Cable Processing System

## Machines for:

- ✓ Benchtop Crimping & Stripping
- ✓ Cutting to Length and Stripping
- ✓ Cutting
- ✓ Full Process Crimping
- ✓ Marking
- ✓ Prefeeding
- ✓ Coiling/Collection



## Tools and Applicators

- ✓ Applicators for RAST connectors
- ✓ Applicators for TYCO, JST, JAE, FCI
- ✓ Presses
- ✓ Hand tools
- ✓ Testing tools and spare parts







## Interconnecting wires and flexible leads

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

## Ribbon cables and twin conductors

- ✓ All grid sizes / single & multi coloured
- ✓ Solid or Flexible – screened

## Flat circular conductors

- ✓ UL/CSA approval

## Data and Communication Technology

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

## 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

# Metal Processing

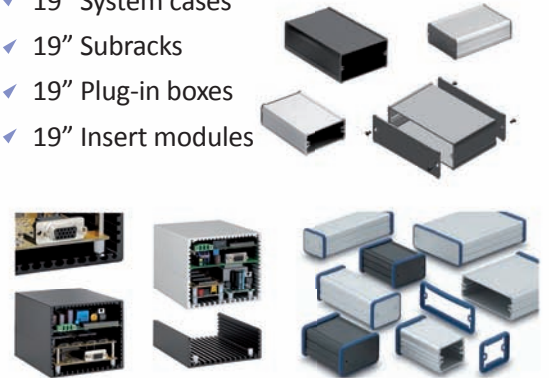
## Thermal management

- ✓ 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



## Cases

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



## Services

### Precision Machining

Fischer Elektronik offers a wide range of processing options, especially for decorative applications. All standard cooling heat sinks 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, high light 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.

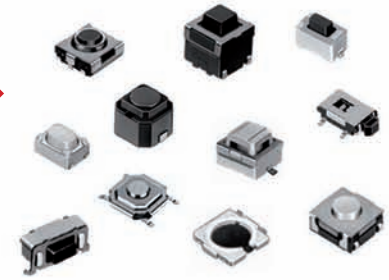
Espacially Laser inscriptions are of outstanding quality and ensure good, permanent legibility, even in the case of letter sizes below 1mm and under the influence of solvents.



# Control Devices

## TACT Switch<sup>TM</sup>

TACT Switch<sup>TM</sup> products have a proven record for incorporation into electronic devices that demand high reliability in terms of contact stability, operating temperature range and lifespan. A total of 49 different models are available. Besides compact, low-profile designs and excellent durability, have board parameters best suited to the need, offering different operating forces, feel, directions of operation and mounting methods. TACT Switch<sup>TM</sup> products can be found to match a wide range of applications for mobile devices, audio-video equipment and home appliances, to industrial, healthcare, medical and automotive equipment.



## Detector Switches

ALPS has long catered to diverse needs in motion and position detection, including the stringent requirements for automotive applications. Alps applies the rich experience and know-how acquired over the years to make further progress in terms to size, thickness, long life and detection accuracy.

## Slide Switches

Space-saving slide switches are in increasing demand due to the small size of mobile devices and other equipment. Alps has applied precision processing and design simulation technologies acquired over the years to optimize the contact shape, contact pressure and mechanism structure of its slide switches in its ongoing bid to improve reliability and ease of use.

## Push Switches

Alps' push switches can be configured with long travel, for a sure and satisfying operating feel and locks for mechanically maintaining switch status. Main applications extend from AV equipment to automotive products like map lamps. Alps offers push switches compatible with a board rating range from weak to medium currents. Many varieties are available allowing for different directions of operation (vertical or horizontal etc.), numbers of poles, contact structures and sizes.

## Rotary Switches

These are multi-position switches used for switching between circuits and are the Alps' oldest type of switch. A number of varieties are available to cater to different applications.

## Potentiometers

Wide Alps offer contains rotary and slide potentiometers with selection of size, operating direction, single or double output, nominal resistance or taper type. Pro-audio versions available.



## Encoders

Alps has expanded the scope of applications for its encoders from audio equipment to automotive products and household appliances. A broad line-up of encoders is available including long-life metal shaft types with minimal shaft play, insulated shaft types with excellent cost performance, ring types with many inner and outer diameter varieties, and compact hollow shaft types for surface mounting. Two types of output are available: incremental or absolute.



## Multi control devices

Alps offers two different types of multi-functional control devices. One is the variable resistance type, which has an excellent space factor and enables continuously variable operation. Choices include whether to have a metal or insulated lever, and whether to include a lever return mechanism and a center push function. The other is a switch type, consisting of a push switch with a multi-directional control switch.



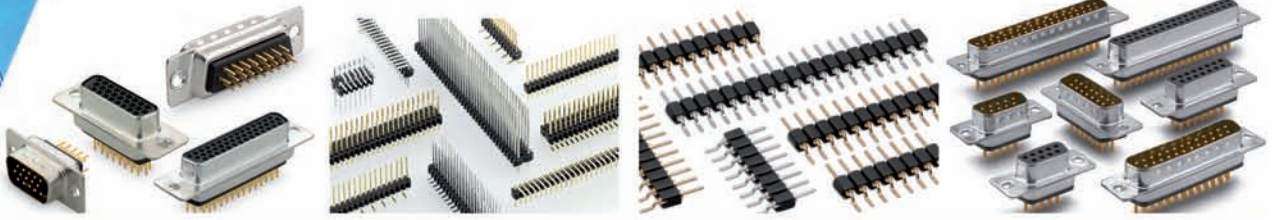
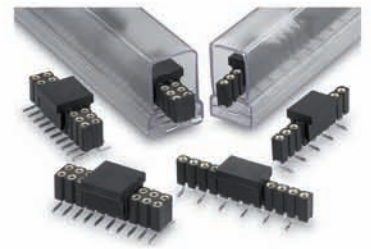
## Power Switches

Alps' power switches provide excellent safety and reliability. Contact technology acquired over the years is applied to optimize contact pressure and develop contact structures that degrade little over time. New value is also added to reflect the latest trends among the end products A number of varieties are available to cater to different applications.

# Signal Connectors

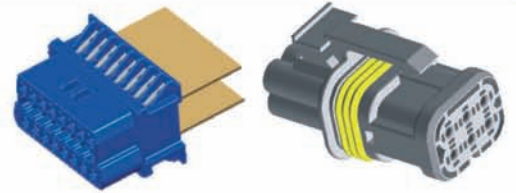


- ✓ PCB connectors - male and female headers, contact strips
- ✓ IDC connectors male & female headers, one & two rows
- ✓ D-SUB connectors
- ✓ DIL, PGA, PLCC, transistors sockets
- ✓ Flat ribbon cables



- ✓ Automotive connectors
- ✓ RAST connectors

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



Global Connector Technology

## SIM card connectors

- ✓ hinged
- ✓ push-push
- ✓ retainer
- ✓ dual SIM
- ✓ SIM + uSD combo



## Memory SD & uSD card connectors

- ✓ hinged
- ✓ push-push
- ✓ push-pull



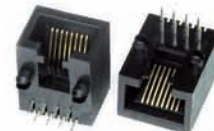
## USB 2.0 & 3.0 connectors

- ✓ Micro USB
- ✓ Mini USB
- ✓ Full size USB
- ✓ A, B, AB types available



## Modular Jack connectors

- ✓ 4-8 positions
- ✓ 4-8 positions loaded
- ✓ right angle or vertical
- ✓ THT or SMD style



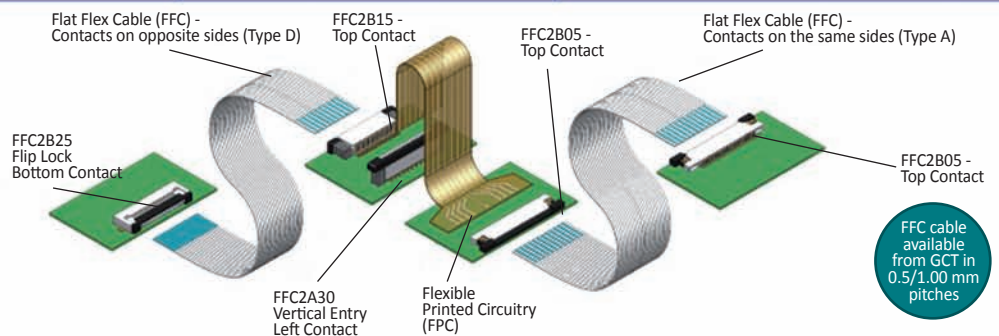
## Board-to-board connectors

- ✓ 0.8, 1.0, 1.27, 2.0, 2.54mm pitch
- ✓ headers, elevated headers, sockets, elevated sockets
- ✓ horizontal, parallel, perpendicular
- ✓ THT or SMD style



## FFC connectors & cables

- ✓ 0.3, 0.5, 1.0mm pitch
- ✓ side or top entry
- ✓ top or bottom contact
- ✓ side or flip lock



FFC cable available from GCT in 0.5/1.00 mm pitches



- ✓ Wire to PCB connectors
- ✓ Wire to wire connectors
- ✓ Solderless Terminals and Splices
- ✓ Flat Ribbon Cables
- ✓ Control cables
- ✓ Stranded wires
- ✓ PCB to PCB connectors



- ✓ SPRINGCON - spring clamp terminal blocks
- ✓ RIACON - screw type terminal blocks
- ✓ PLUGCON - headers for SPRINGCON & RIACON
- ✓ IDCON - IDC terminal blocks
- ✓ X|SYNERGY - RJ45 connectors dedicated for harsh environment - up to IP67





# Industrial Circular Connectors



## Circular connectors

- ✓ Multipole Low & High Voltage connectors
- ✓ Coax Low & High Voltage connectors
- ✓ Triax connectors
- ✓ Fiber optic connectors
- ✓ Fluid / Gas connectors
- ✓ Hybrid connectors
- ✓ Tools and accessories



\*excluding Turkey

## Cable Assembly Solutions

- ✓ Design assistance and validation
- ✓ Prototyping for customized cable assembly solutions
- ✓ Engineering expertise in various assembly and termination techniques (Overmolding, Heat shrink, potting)
- ✓ Advanced in-process testing to ensure optimum reliability
- ✓ Full control and responsibility over the complete assembly including connector, cable and termination
- ✓ Integration with third party connectors

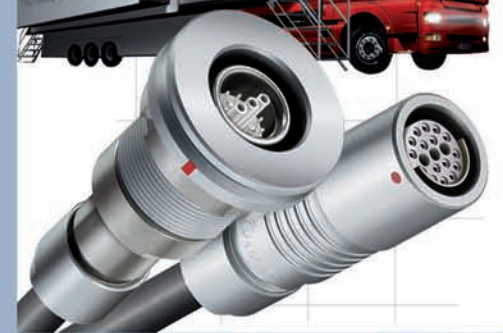


## Specific Application Connectors & Solutions










Military

Broadcast

Medical



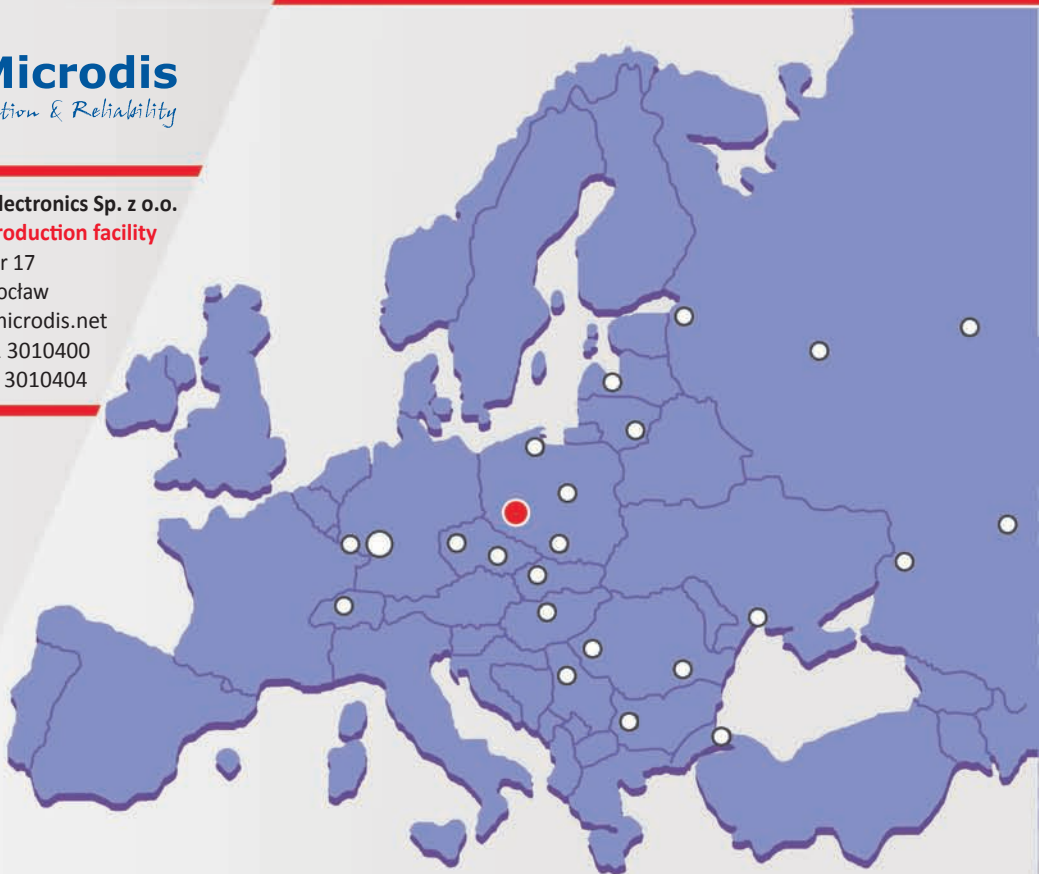


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- ASROCK
- NEXCOM
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- MEDER
- GLOBAL CONNECTOR TECHNOLOGY
- FISCHER CONNECTORS
- JST
- LEAR
- MEDIKABEL
- METZ CONNECT
- MECAL
- EPSON
- ALPS ELECTRIC
- FISCHER ELEKTRONIK
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- STANLEY ELECTRIC
- VISHAY
- TAIWAN SEMICONDUCTOR
- ISOCOM

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 GSM, UMTS modules  
 RF ISM, Bluetooth, ZigBee modules and transceivers  
 OEM modules: Bluetooth, ISDN  
 RFID systems and transponders  
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 SIM-Holders, memory card connectors, USB connectors  
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 switches, encoders, potentiometers and printers  
 heatsinks, connectors, 19" and case technology  
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