



# Mechanical Services

An overview of the systems from  
MTS Systemtechnik GmbH

**CNC milling technology**



Concepted and build in Germany.

# // Content



Your partner for customised solutions -  
„Development, Production & Service“  
all from a single source.

// High frequency technology  
// EMC technology  
// CNC milling technology

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# // About MTS Systemtechnik

## **Tailor-made solutions for high frequency technology, EMC, electronics and mechanics**

Our customers include manufacturers of highly sensitive equipment in the market segments of mobile communications, telecommunications, aerospace, defense, medical, automotive and electronics. Our devices, systems and components are used worldwide by leading, internationally active companies.

For over 25 years, MTS Systemtechnik stands for state-of-the-art technology, absolute reliability, discretion, transparent processes and certified quality according to DIN EN ISO 9001.

With about 50 employees we develop and manufacture individual and high-quality devices, systems and components „Made in Germany“, as well as customer-specific products.

Our electronic products include coax relays, attenuators, power splitters, systems for the distribution of LF-, video-, RF-signals, RF matrices, assembled coax cables, etc. complex switching and distribution tasks in the high frequency range have made us a leading manufacturer of relay switching units, air interface emulators, power splitter units and matrices.

For the mobile radio and telecommunications industry we supply customised shielding boxes, air interface emulators for various test scenarios and smart antenna simulators.

With our modern CNC production centre we manufacture customer-specific precision milled parts for the aerospace, optical and high-frequency industries.

The distribution of coaxial connectors from IMS Connectors and the assembly of coaxial cables complete our product range.



**Systems for the distribution of LF, video and RF signals in the fields of tele- and satellite communication and radio surveillance**



**Production of mechanical components for the aerospace, optical and high-frequency industries**



**Development and production of active and passive components for high frequency technology**



# // Range of services

## CNC Milling

As a competent partner for the electronics, aerospace and optical industries, we manufacture precision milled parts with high requirements. We are specialized in the machining of light metal alloys, non-ferrous metals, plastics and magnesium. Direct data transfer makes it possible to shorten reaction times.

- // Modern machining centre in 5-axis CNC technology
- // Traversing paths (5-axis): X 600mm, Y 450mm, Z 450mm
- // Complex multi-sided machining

Prototypes, single parts and small series (up to 5000 pieces) are a matter of course for us, therefore we are able to respond quickly to your wishes.

Our machine park currently includes 3- and 5-axis machining centers as well as a CNC engraving machine.

To round off our range of services, we work closely with various surface companies and can therefore supply you with all types of surfaces, such as Chromital (RoHS/WEEE-compliant), electroless nickel, anodised (in all common colours), chromate (on request), lacquered, powder-coated, screen printing, under-anodised printing and much more.

On request, the products can be completely assembled and equipped by us.



## CAD Construction - CAM

Our CAD department can convert your sketches and designs into high-quality technical drawings (3D representation) in a short time with the help of the most modern 3D CAD programs (SolidWorks).

Complex assemblies and/or individual part drawings belong to the scope of processing. Colour output up to DIN A0 is no problem.

With the help of a modern CAM program we are able to guarantee a fast conversion of external and own design data (various data formats possible) to our machine control.

The constant updating of our CAD and CAM programs is a matter of course for us. In-house technical sales and the Internet guarantee customer proximity.

## Customised products

For our numerous customers we produce precision milled parts with high requirements according to specifications. Our standard products are also processed according to your wishes, e.g. front panels, rear panels, housings and cassettes can also be offered with mechanical processing, i.e. with bores, threads, cut-outs and cut-outs e.g. for plugs, fuses, switches, LEDs, DC feed-through filters etc.

Many drilling patterns and standard cut-outs required for the installation of commercially available components are stored in our CNC machines and can therefore be called up quickly.

Surface treatments, inscriptions with screen printing or engraving are also possible.



## RF shielded enclosures

- // for electronics, RF microwave technology (PCB clamp mounting)
- // with variable board support edge (PCB screw mounting)
- // hybrid housing with inch dimensions
- // for the installation of TO8 thin film / thick film modules Highest quality materials for extended life-time and high test appearance.



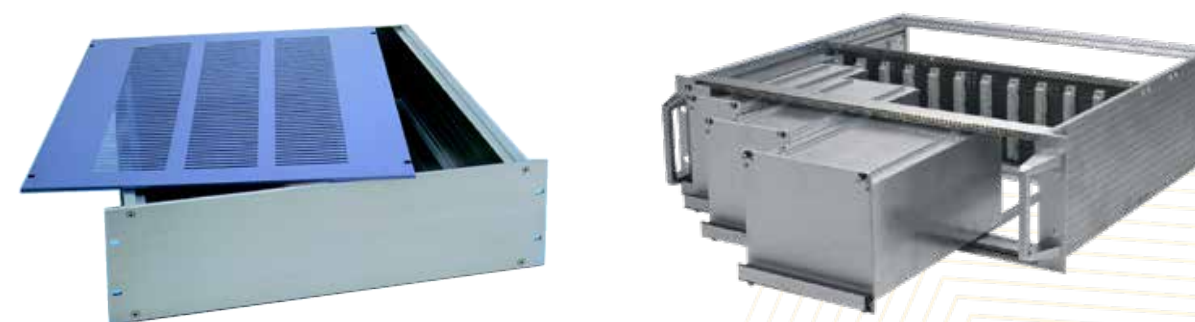
## Structural enclosures

- // made of rectangular tube with lid and base in various designs
- // manufactured in width and depth according to customer specifications; the height is optionally 1 HU, 2 HU, 3 HU or 4 HU



## 19" technology

- // RF-tight milling cassettes for insert carriers according to DIN 41494/T5, inside and outside dimensions of euroboards
- // RF-shielded profile cassettes for insert carriers according to DIN 41494/T5, depth of eurocard or depth according to customer requirements
- // 19" subracks and 19" empty enclosures, also with improved shielding attenuation



## Handles series GRS / GRA

The handles of the GRS series are made of ground, polished and high-gloss chrome-plated round steel with 8 and 10 mm diameters.

The aluminium handles of the GRA series are available with a natural anodised surface as standard. The handles are also available in black anodized.





# // Surfaces

Our housings are available in various surface treatments.

## Surface structure (pretreatment)

T = barrel finishing (vibratory finishing)

G = blasted

P = polished (on request)

C = frosted

## Surface refinement

R = raw (without chem. refinement) RoHS compliant

A = yellow chromated (Alodine 1200)

W = colourless chromated (Alodine 1500)

N = electroless nickel plated (solderable) RoHS compliant

C = ChromitAl (Surtec 650) RoHS compliant

E = colourless anodized RoHS compliant

EF = coloured anodised (colour selectable) RoHS compliant

G = gold-plated RoHS compliant

S = silver-plated RoHS compliant



## Explanation of the surfaces

T = trowalised

Standard surface structure for all catalogue series, unless otherwise specified. The surface of the housings is finished using vibratory finishing technology. The housings are trowalized (mechanically deburred).

P = polished (manual)  
decorative surface

G = blasted  
matt finish, decorative. Recommended for subsequent nickel plating

C = chemically pickled, matt finish

Chemical nickel-plated  
Standard layer thickness 8-10  $\mu$   
Even layer thickness distribution over the entire surface. The surface is solderable.  
(soldering behaviour depending on layer thickness)

Anodizing  
Aluminium parts are anodized. Decorative surfaces, but electrically non-conductive.

Alodined (chromated)  
A = yellow alodined  
W = white alodined

ChromitAl (Surtec 650)  
RoHS compliant replacement for Alodine 1500

## Accessories

### Miscellaneous / Divers

DC feedthroughs

Teflon insulated DC feedthroughs in various designs.

DC feedthrough filters

A feedthrough filter prevents RF signals from entering or leaving the RF housing via the power supply.

Ground Pins, GP series

Brass tinned ground pins, solderable passivated, in two different versions.

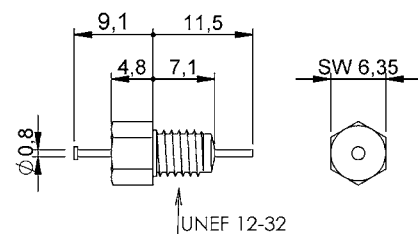
Blanking plug, series BST

Made of aluminium, three versions

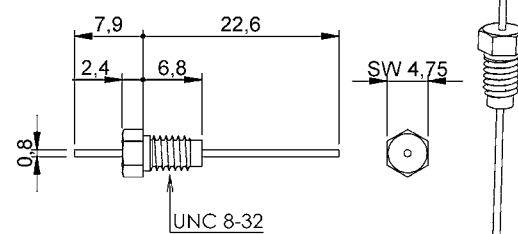
Solder lugs, series SL

brass, silver plated

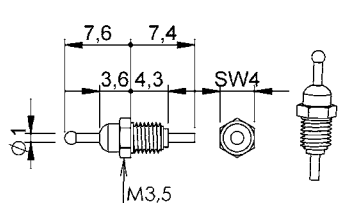
Modell DF2  
46.13.0014



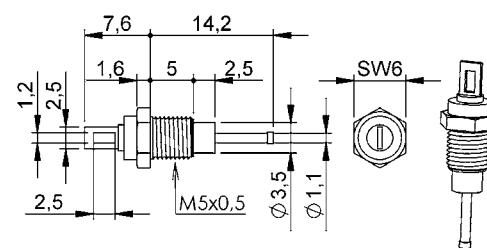
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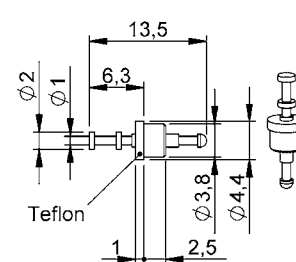
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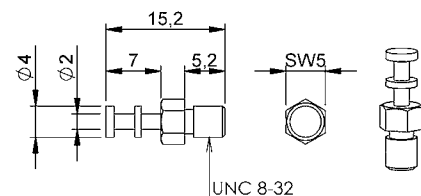
Modell D2  
46.13.0017



Modell Kf1  
46.13.0010



Modell GPBS3  
23.00.1335



Modell GP1-50  
19.90.0348

