

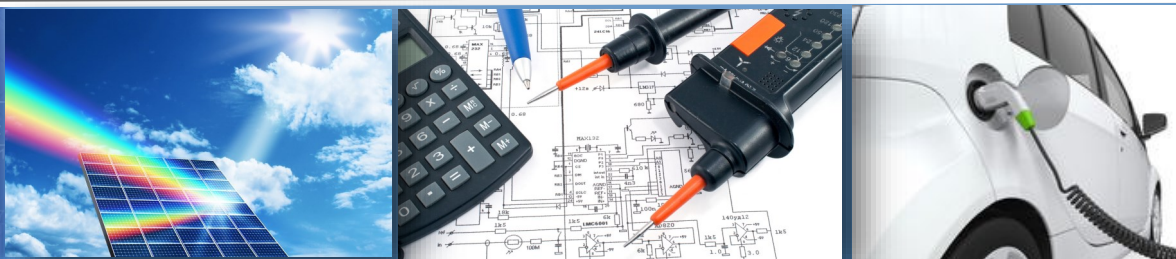
# DESIGNER IN POWER ELECTRONIC SOLUTION

**MAKING**  
IT POSSIBLE TOGETHER



Ydetec Electronics

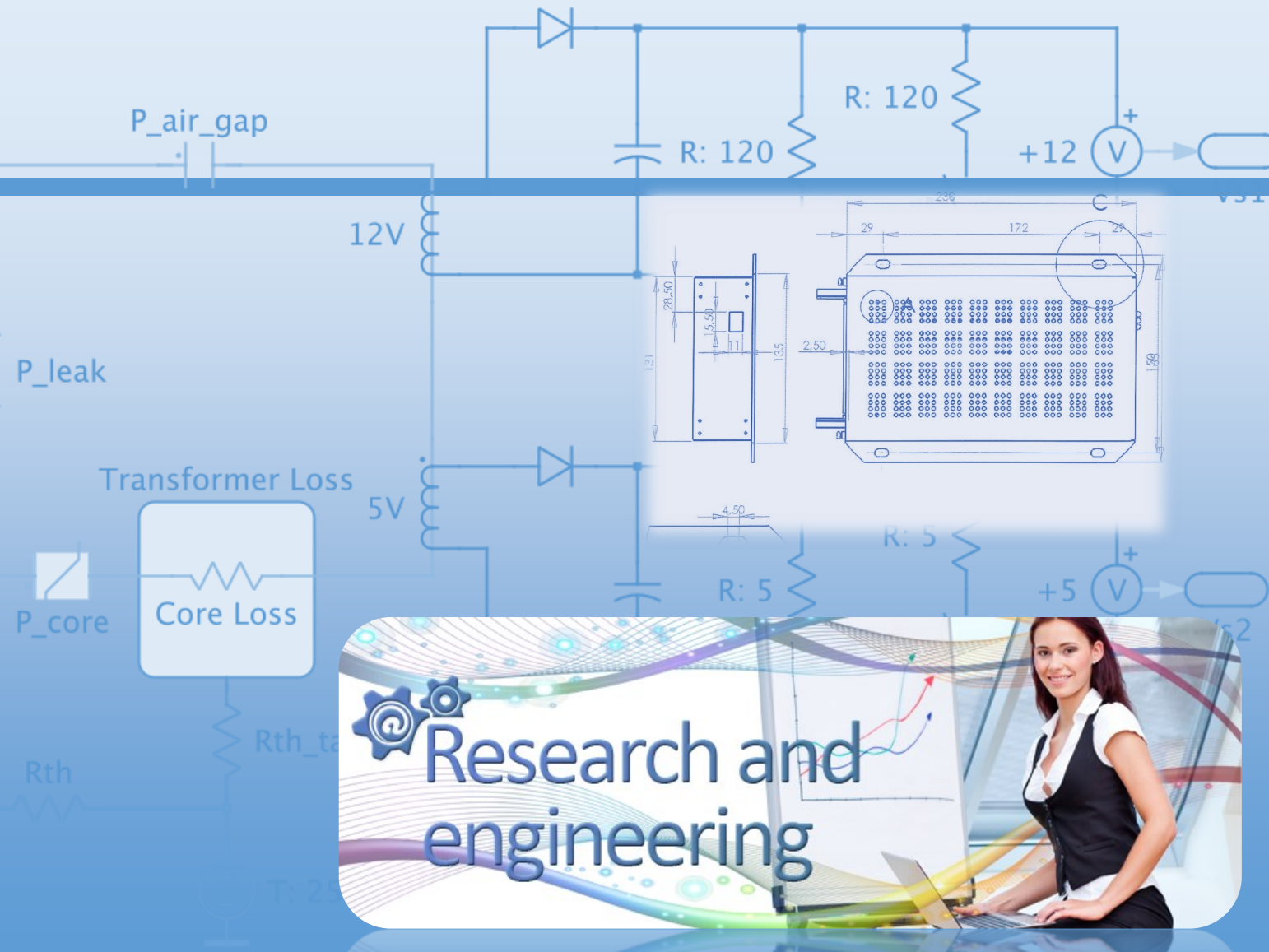
Your partner in integrated power  
management solutions.



## Your partner for electronic solutions

### CONTENTS

- Diodes & Thyristors + modules
- IGBT's
- Resistors
- Capacitors
- Transformers & inductors
- Thermal engineering
- 19" Mechanics
- Housing
- Plastic housing
- Electromechanical devices
- EMC
- Integration
- on-board equipment
- Cabling
- Flat wires & shunts
- Filters
- Suspension elements
- Consultancy & audit
- Research & Development



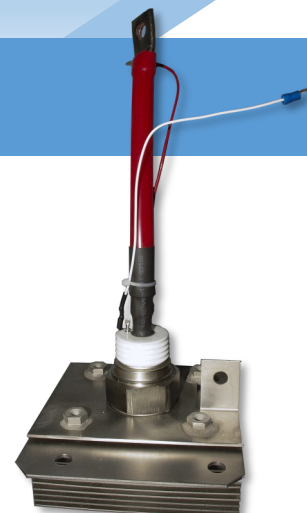




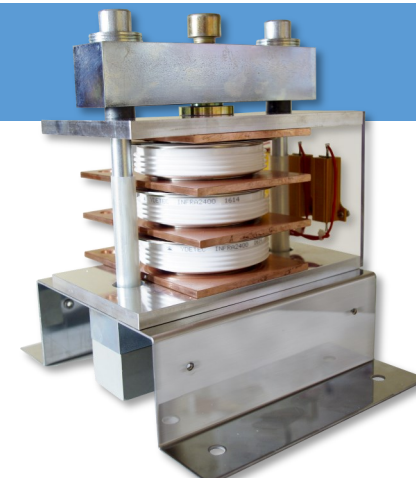
## Power semiconductor Devices



High power semiconductors



IGBT modules - Low Medium and High power



Integrated solutions

High quality level semiconductors in presspack or stud housing.

Power modules thyristors and diodes

High power semiconductors for industrial applications

Drivers and controllers

Upgrade and obsolescence program full compatibility

Each device tested before delivery

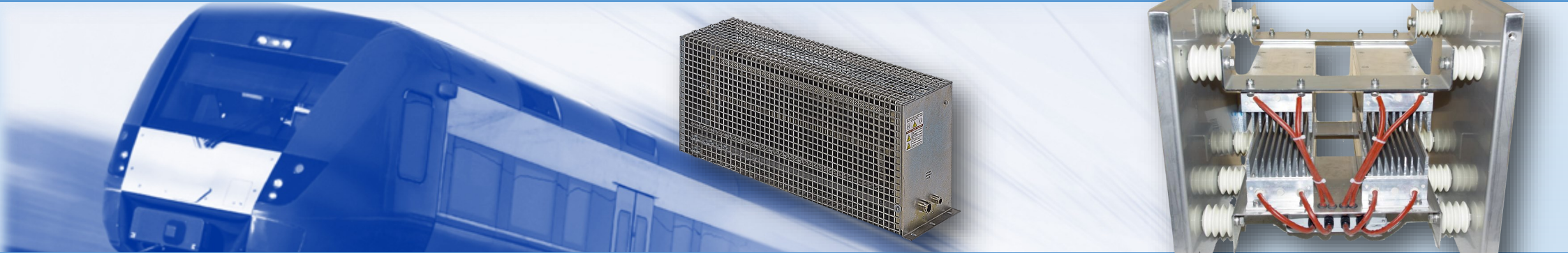
### Features

- Capsule type diode & thyristor
- Stud type devices
- Power module, bridge Rectifier
- Solid state relay
- Switching power supply
- Integrated and custom solutions
- Range from 0.5kW to several MW
- Multipurpose application like renewable energies, transportation, power supplies, welding, medical, ...
- Custom made production
- Drivers & controllers
- Accessories, clamps, ....





# Wirewound resistors—Brake resistors—High power Resistors



Wirewound resistors

High power resistors in heatsink or grid housing

Brake resistors - Heaters - shunts

High level resistors for railways and industrial applications.

Custom made production.

High power resistors manufactured in aluminium cases or heatsinks. Resistors banks in cabinets. IP level resistors

Heaters

Custom manufacturing according to drawing or datasheets.

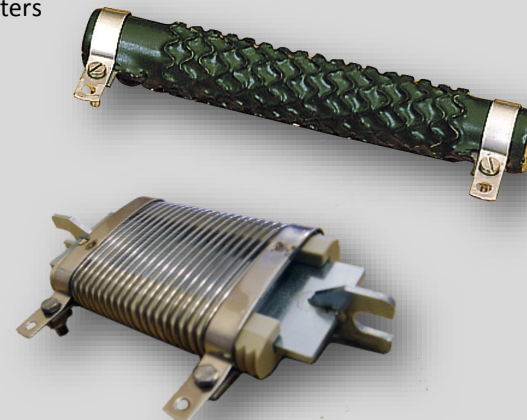
Brakes and crane applications..

## Features

- Vitreous enamelled resistors
- Cemented resistors
- Very high power & low cost
- Railways applications and know-how
- From 20W up to 75kW



- Resistors for motor braking for inverters
- Heaters for air-conditioning
- All type of brackets
- Housing following datasheets





$$\frac{1}{C_{Tot}} = \frac{1}{C_1} + \frac{1}{C_2} + \dots + \frac{1}{C_{N-1}} + \frac{1}{C_N}$$



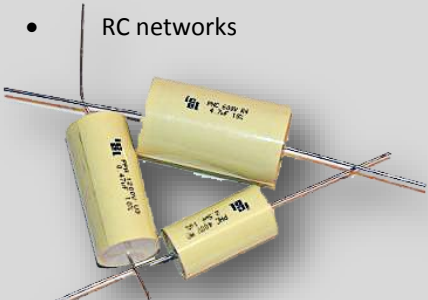
## Capacitors



### Film Capacitor

Film capacitors for general applications in electronics. Low power switching applications, HF coupling and decoupling, filtering, timing, ...

- Metallized Polyester or Polypropylene film capacitors
- AC & motor run capacitors
- RC networks



### Aluminium Capacitor

Electrolytic aluminium capacitors with high capacitance levels. Used for filtering functions for converters, electrical backup systems, power for discharge circuits or for motor supercharging.

- Axial or radial solder case
- Screw terminals
- HV, up to 145°C working temp
- Extra long life capacitor
- High capacitance (22000µF - 460V)
- Custom production



### Power Capacitor

High quality power capacitors for power electronic applications

DC/AC capacitors 10nF > 30mF, 100V > 100kV, 10A > 1000A

Traction, drives, pulse pwr, automotive, other (etc)

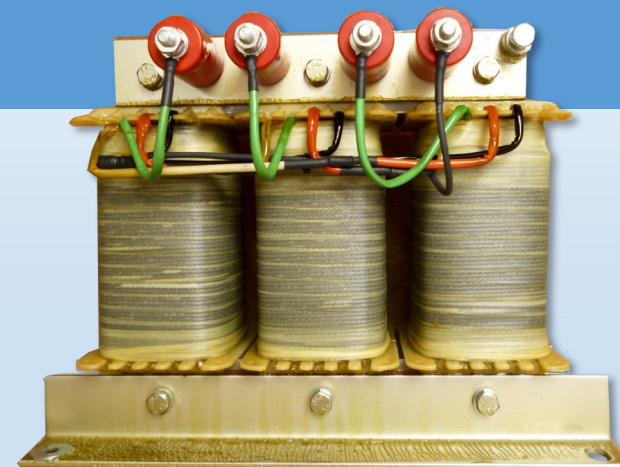
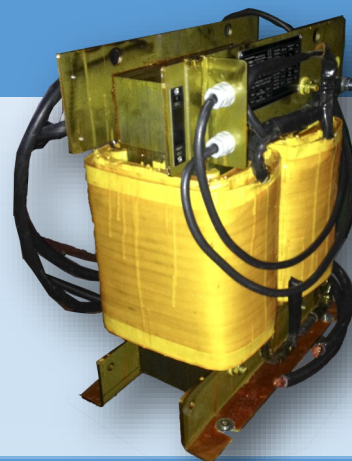
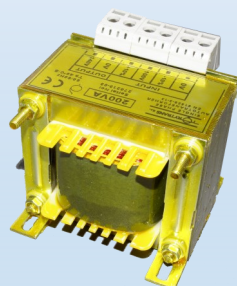
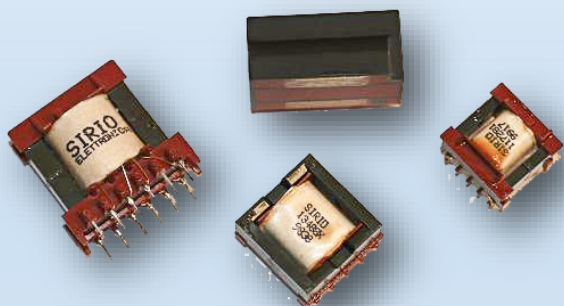


**DUCATI** energia





## Transformers & inductors



Inductive components

Transformers - Inductors and Harmonic Filtering

Special Production

Wide range of standard transformers,  
Many different purposes and applica-  
tions.

Renewable energies, Energy quality and saving, Hospitals, rail-  
ways, Marine, Offshore, Installations and Switchgears, Adverse  
environment, Signaling, Elevators, Power Electronic, Electrocoa-  
gulation, Oil & Gas, Lighting, and Others

High quality products, designed and manufactured  
under the customer's requirements.

IP00—IP54

Max voltage 6kV

### Features

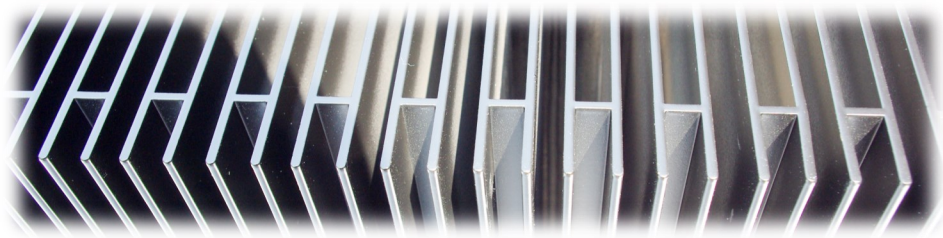
- Main transformers
- Pulse transformers
- Toroidal inductors
- Current transformers and mea-  
surements applications
- 50:60Hz current transformers

- Toroidals 15VA - 20kVA
- Single phase 10VA - 100kVA
- Three phase 250VA - 2000kVA
- Inductors

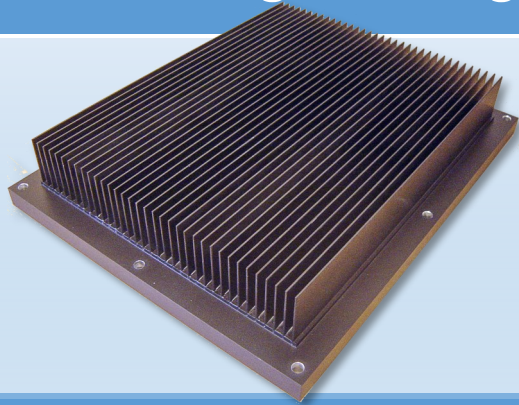
Single or Three phase - Direct current - Magnetic  
cores - Vanishing - Tropicalized - Encapsulate and  
customized assembly - Terminals or busbar connection







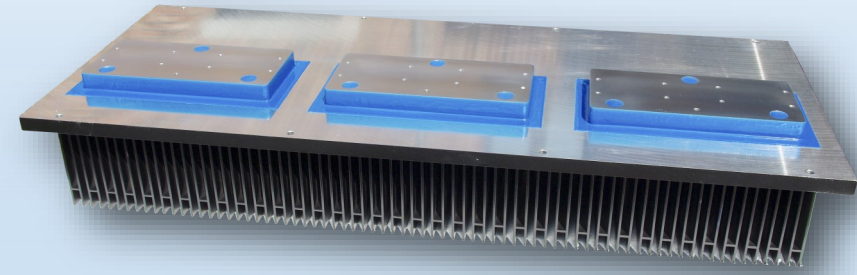
## Thermal Engineering



Aluminium - Copper Heatsink



Isolated heatsinks



Isolated heatsinks

Extruded profiles and assemblies for high temp operating systems. Improved heat transfer to the environment. Every power levels and every shapes

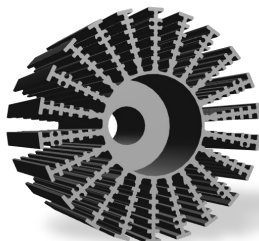
Insulated epoxy heatsinks and IGBT insulators. Good thermal performances combined with excellent dielectric properties (up to 12kV, testing)

All insulated heatsinks are 100% tested and certified.

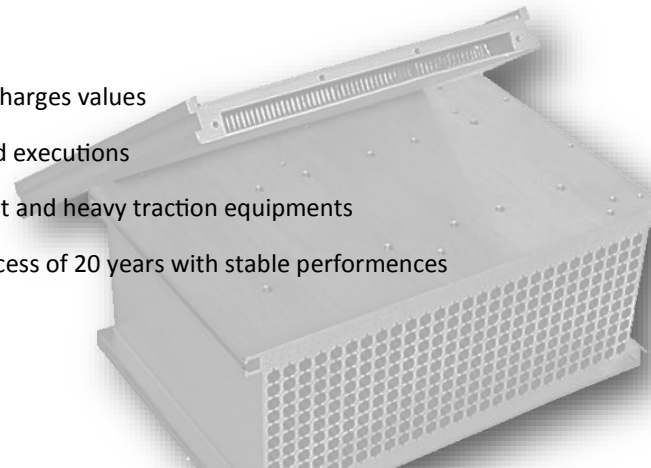
Ventilation and cooling blowers for traction motors, braking resistors, transformers, convectors and air-conditioning.

Centrifugal, Centraxial, mixed flow configurations

- Aluminium or copper heatsink.
- Surface finishing Alodine 1000 1200
- Black or colored anodizing
- Barrel finishing
- Raw
- Sandblasting
- Painting



- Up to 12kV
- Low partial discharges values
- Custom-tailored executions
- Suitable for light and heavy traction equipments
- Reliability in excess of 20 years with stable performances





## *Metallic constructions - 19 inch cabinets and enclosures*

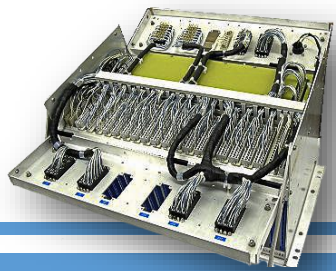


### **Features**

*Autonomous structures such as racks, frames (cabinet without housing), technical desks, consoles, employed as receptacle for electronic or electrical equipment.*

*Possibility of EMC shielding. IP protection. Reinforced structure for rollingstock applications*





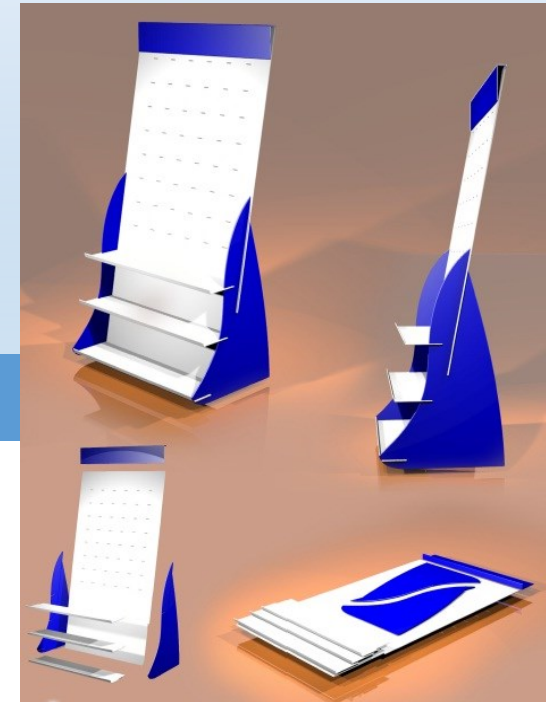
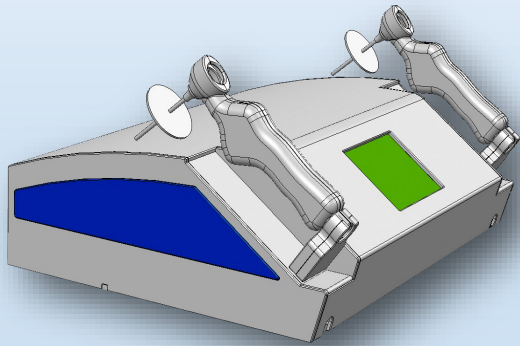
## 19 inch housing - Racks and subunits



### Features

- 1U to 9U format
- Housing and punching following 3D or datasheet
- Painted or natural anodized material
- Different depths
- Rollingstock ready
- Framework in stainless steel
- From 1U to 45U
- Standards NFC 20150 and 20151, IEC 297 and DIN41494
- Different widths and depths
- welded, steel skinplates

## Plastic Housing - Displays - Dashboard



Unmolded made to measure electronic enclosure –  
plastic housing – plastic enclosure – plastic casket

### Features

#### No mold plastics

- No tooling charge / No mold
- Low engineering charges
- Low and medium runs
- Easy and cheap modifications
- Flexibility for improvement



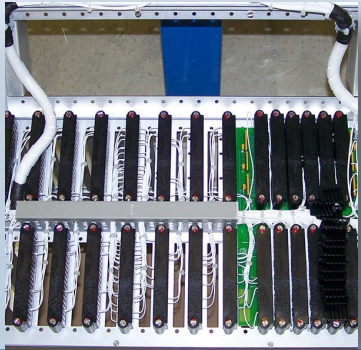
*This is just an idea - no physical model  
designed to get ideas - improve it as time*



Croquis ➔ 3D-render ➔ Prototype ➔ Series

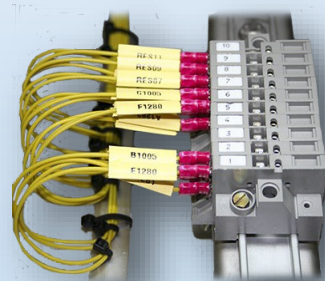
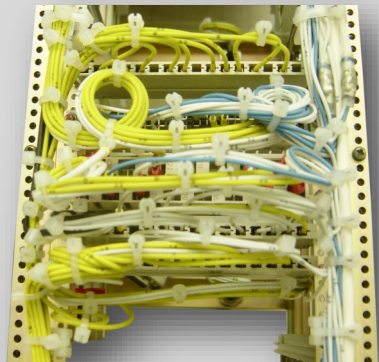


## Wiring, cabling, connect & integration

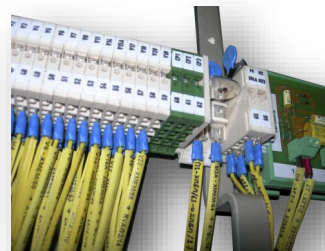


Integration

- Cables, harnesses, looms, assemblies
- Integration of systems, racks, shelters



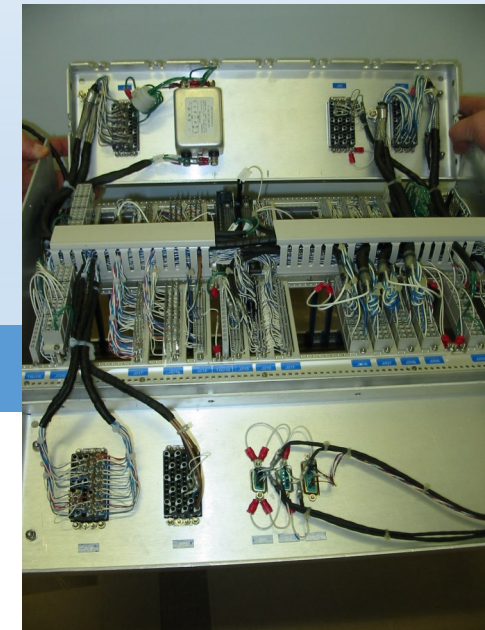
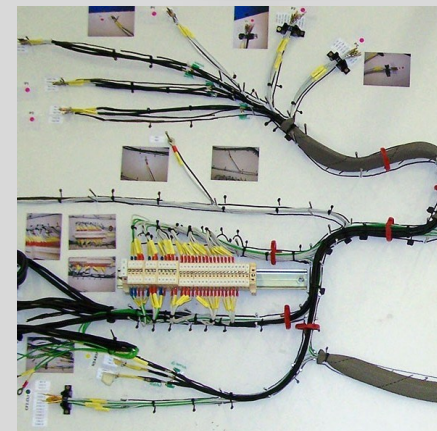
Wires



- Preparation of cables and kits
- Wrapping
- Cutting, crimping
- Marking
- Maintenance & Retrofit



Connect



## Filters & Vibration technology

»YDETEC proposes a complete range of elastomeric anti-vibration mounts to isolate noise, shock and vibrations ; to allow machine isolation and to protect the environment.... »



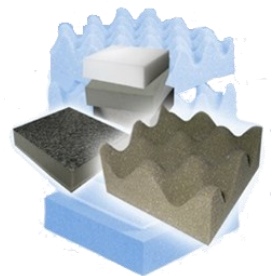
Suitable for heavy weight and high temperature  
Stainless steel mesh body Custom shapes  
Corrosion free



Droplet separation technology  
Automotive solutions  
Knitted wire mesh on rolls



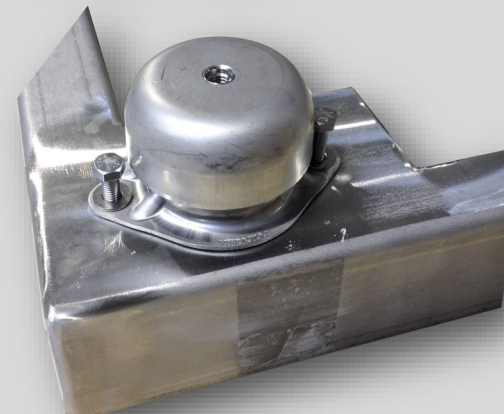
- Elastomer Mounts
- Metal mounting
- Flexible bushes
- Accoustic foams



### Filter with heating function

Equipment for rolling stock vehicles for filtering and drying purpose

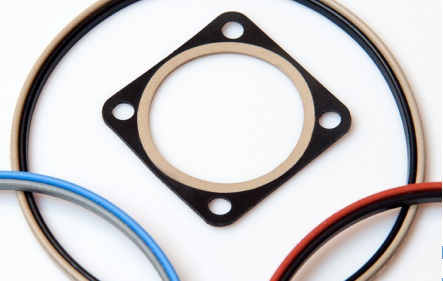
MESH FILTER + HEATING WIRE



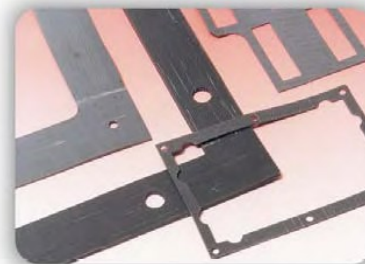
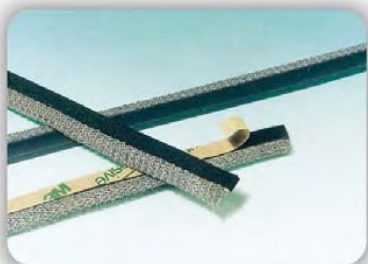
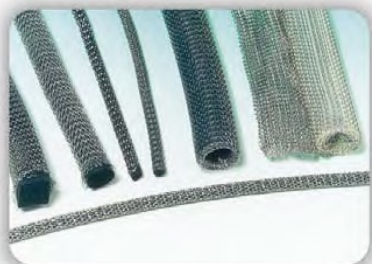
### STEEL CUSHION

Vibrachoc have a range of all steel mounting whose essential element is the « steel cushion » made from woven stainless steel wire and compressed. Steel mountings have considerable mechanical strength as well as high damping characteristics in the...





## EMC - EMI/RFI Shielding solutions



*ElectroMagnetic Compatibility (E.M.C.) is the ability of an equipment to operate in its electromagnetic environment without being disturbed, and without disturbing neighbour equipments or radio services by ElectroMagnetic Interference (E.M.I.).*

### Features

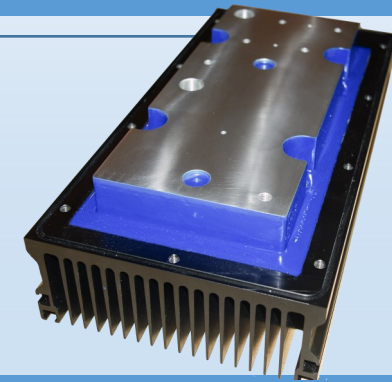
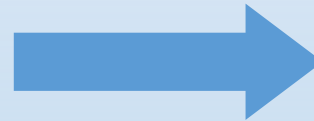
- Linear seals
- Sheet gaskets
- Cable shielding
- Aperture shielding
- Miscellaneous
- RF & Microwave absorbers

*Depending on the application and the intended environment, shielding techniques can be used for :*

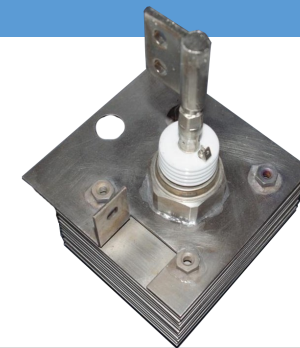
- *reducing the electromagnetic field emitted by an equipment, to make it compliant with the radiated emission norms,*
- *- reducing the ambient electromagnetic field received by the circuits inside an equipment, to make it compliant with the radiated immunity norms,*
- *- building a screen around a cable pair or bundle,*
- *- improving the electrical continuity between cable shields and equipment chassis, to facilitate the shield current circulation and optimize the shield performance,*
- *- improving the electrical continuity and equipotentiality of the different ground references, chassis and metallic parts of a given system or site, without necessarily resorting to a six-sided enclosure.*

# Retrofit & Obsolescence

## 1. FOLLOWING SAMPLE



## 1. FOLLOWING DATAS

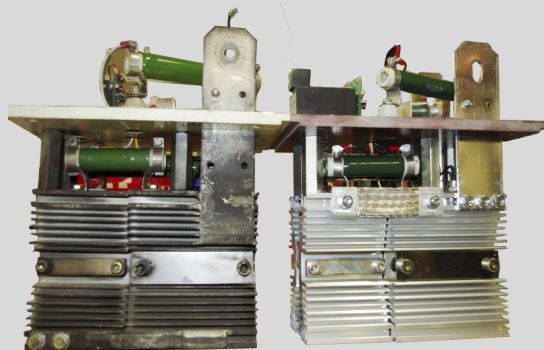
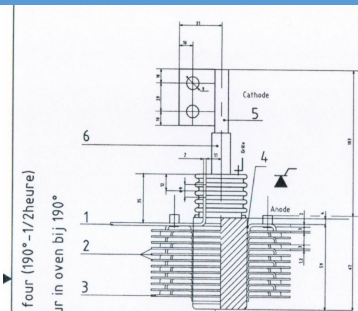
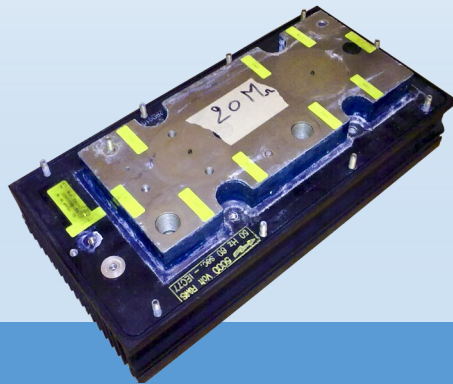
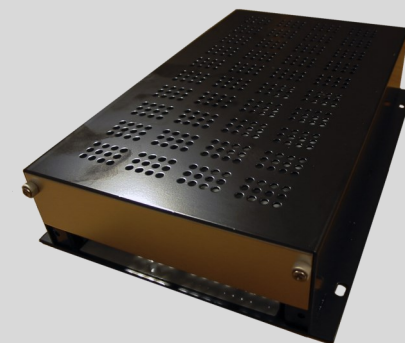


## Mixed solution:

Sourcing + customer's stock + engineering

=

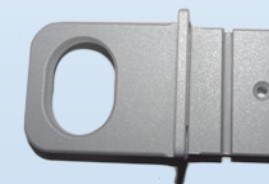
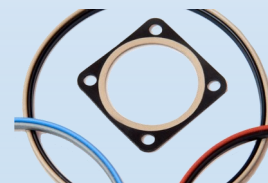
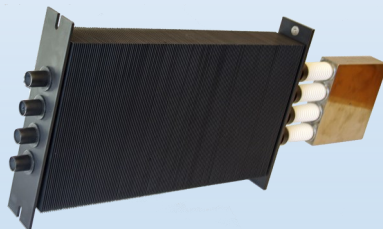
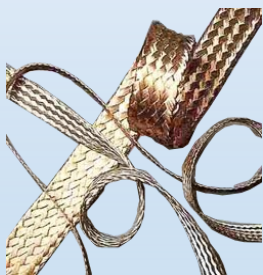
New device plug and play with actual technology and reability!







## Accessories—Miscellaneous



- Shunts & flat braided contacts
- Heating foils and probes

- High voltage fuses
- Isolators
- Heaters
- Seals

- Front panels & printing
- Tools
- Machining
- Others

### References



THALES



ALSTOM

Keolis

Electrabel  
GDF SUEZ



Short Form Catalog

Product range



*Your partner for electronic solutions*

**Ydetec Electronics s.p.r.l. - Rue J. Gutenberg 17 - 1402 Nivelles - BELGIUM**

**Tel: +32 (67) 347.900**

**[www.ydetec.be](http://www.ydetec.be)**

**Fax: +32 (67) 649.372**

**email: [info@ydetec.be](mailto:info@ydetec.be)**



Ydetec Electronics,  
your partner in integrated  
power management solutions.

We put our 25 years  
old experience in industry and  
railways at your service

