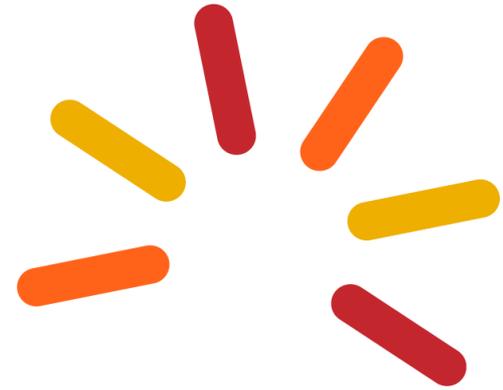# SCHROFF Overview

Competencies and Product Offering

nVent

nVent

A LEGACY OF INNOVATION. A NEW DAY FOR OUR INDUSTRY.

WELCOME TO THE FUTURE OF CONNECTION AND PROTECTION

At nVent, we believe that safer systems ensure a more secure world.

We connect and protect our customers with inventive electrical solutions.

BUSINESS SEGMENTS

Enclosures
Equipment Protection
Electronics Protection

Thermal Management
Building Infrastructure Solutions
Industrial Heating Solutions

Electrical and Fastening Solutions
Electrical Solutions
Fastening Solutions

30M+
nVent enclosures currently in use globally

1B+
Feet of self-regulating heating cables installed worldwide

100M+
ERICO CADWELD exothermic welding connections installed worldwide

nVent Overview

A LEADING PORTFOLIO OF ELECTRICAL PRODUCTS

CADDY   ERICO   HOFFMAN   RAYCHEM   SCHROFF   TRACER

400+ Patents

9,000 Global workforce

One nVent

Global customers

Local capabilities, and localized solutions

80+ Manufacturing, service, sales and distribution centers

Positioned to serve fast-growing economies

nVent

SCHROFF: Leading-Edge Electronics Protection

➢ **Tailored Solutions, Reliable Protection**

➢ **Global Support**

➢ **SCHROFF Products for Advanced Solutions to Protect Your Mission-Critical Electronics and Communications.**

➢ **The Infrastructure You Need, When You Need It.**

ELECTRICAL AND FASTENING SOLUTIONS
CADDY   ERICO

ENCLOSURES
HOFFMAN   SCHROFF

THERMAL MANAGEMENT
RAYCHEM   TRACER

nVent

SCHROFF: Who We Are

| SCHROFF | INDOOR AND OUTDOOR CABINETS ▶ | | EMBEDDED SYSTEMS ▶ | | SUBRACKS, CASES AND ACCESSORIES ▶ | |

- ➢ **Leader in providing high-quality protection solutions for a wide variety of electronic design challenge**

- ➢ **Large selection of standard 19" products, plus the broadest array of modification options and customization capabilities**

- ➢ **Offering world-leading electronic packaging**

- ➢ **Components and systems – within 19" and beyond**

nVent

SCHROFF: Where we manufacture

VANCOUVER

SAN FRANCISCO

CHICAGO
BOSTON

DALLAS

SAN DIEGO
ATLANTA
WARWICK

MOSCOW

HEMEL HEMPSTEAD
WARSAW

BETSCHDORF
STRAUBENHARDT

LAINATE
ISTANBUL

DUBAI

BANGALORE

XI´AN
BEIJING

SEOUL
SHIN-YOKOHAMA

QINGDAO
OSAKA

SHENZEN
SHANGHAI
MEIWA

HONG-KONG

SINGAPORE

● Sales Offices
🏭 Production Sites

nVent

6

SCHROFF

Industries

INDUSTRIES

ELECTRONICS

ICT
(INFORMATION AND COMMUNICATIONS TECHNOLOGY)

MEDICAL

INFRASTRUCTURE

SCIENTIFIC & LABORATORY
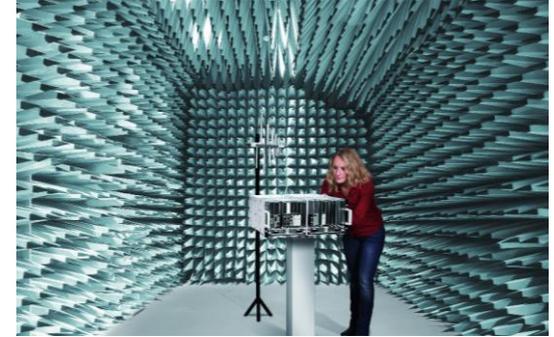
SECURITY & DEFENSE

DATA CENTER SOLUTIONS

INDUSTRIAL

nVent

Our Products Meet Your Unique Needs

- ➤ **A comprehensive platform based product range**

- ➤ **Standard products as well as modified and individually customized solutions**

- ➤ **Shock and vibration protection**

- ➤ **High level of RFI shielding on board, subrack or rack level**

- ➤ **Board level components, such as**
  - Front panels, handles, board retention or plug-in units

- ➤ **Next level mechanics**
  - Subracks, cases and cabinets

- ➤ **Small form factor case for single board computing**

- ➤ **Supporting electronics**
  - Backplanes, power supply units, fully wired and controlled systems

ELECTRONICS

Our Products Meet Your Unique Needs

➤ A comprehensive and innovative, platform-based product range

➤ Standard products as well as modified and individual customized solutions

➤ High performance CompactPCI Serial and MicroTCA Systems for sophisticated medical applications

➤ High level of RFI shielding on board, sub rack or rack level

➤ Shock and vibration protection

➤ Mobile or stationary racks and cases

➤ Small form factor cases for single board computing

MEDICAL

Our Products Meet Your Unique Needs

- ➤ **Active membership in MicroTCA.4 and AdvancedTCA for advanced physics specification work**

- ➤ **Outstanding cooling performance on system, subrack and cabinet level**

- ➤ **World leading signal integrity on Schroff 100G xTCA backplanes**

- ➤ **Excellent EMC shielding on system, subrack and cabinet level**

- ➤ **Dedicated xTCA system offering for advanced physics applications**

- ➤ **Complete solution: from single components to integrated systems up to fully integrated cabinets**

Cooperation with DESY in the Helmholtz Validierungsfond project "MTCA.4 for Industry" (HVF-0016)

SCIENTIFIC & LABORATORY

nVent

Our Products Meet Your Unique Needs

➤ **Flexible, complimentary platform-based products to support infrastructure and improve energy efficiency**

➤ **Server and colocation cabinets**

➤ **Aisle containment solutions**

➤ **Cooling solutions for high density computing**

   • Row, rack and direct to chip cooling with up to 750kW heat dissipation

➤ **Intelligent power distribution units**

   • Metered, switched or remotely controlled PDUs

➤ **Monitoring solutions to remotely control access and environment**

DATA CENTER / IT

nVent

Our Products Meet Your Unique Needs

➢ **Standard product platform solutions based on open standards**

➢ **Solutions for harsh environments including IP protection, EMC shielding, thermal management and seismic resistance**

➢ **Schroff played a leading role in defining the ATCA and MicroTCA specifications (PICMG)**

➢ **High speed ATCA, MicroTCA and CompactPCI backplanes and systems**

➢ **Open Compute and Storage Rack based on OCP standards**

➢ **Indoor and outdoor cabinets with a wide range of thermal management options**

➢ **Small form factor cases for single board computing**

ICT

nVent

Our Products Meet Your Unique Needs

➢ **Modular product platforms for stationary and on-vehicle applications**

➢ **Standard products as well as modified and individually customized solutions**

➢ **High level of shock and vibration protection**

➢ **Certified and tested for safety and security**

➢ **High level EMC shielding available**

➢ **Subrack-based and conduction cooled rugged system solutions**

INFRASTRUCTURE

Certified for

BN411002	JEC61587-1
BN411003	JEC 48 D
NFF61005	EIRENE FRS 7.0
NF60002	EIRENE SRS 15.0
EN 50 155	

nVent

Our Products Meet Your Unique Needs

- Modular product platform as the basis for customer specific requirements (COTS)

- High shock and vibration resistance from board level through systems up to cabinets

- MIL 901D cabinets, cases and rugged subracks for land, sea and air missions

- Card-Lok™ and Wedge-Lok™ retainers for circuit board heat removal and retention

- VME, VXS, VPX, CompactPCI & Rugged MTCA systems

- Backplanes and power supplies with conformal coating

- Outstanding EMC characteristics

DEFENSE & AEROSPACE

PICMG®
Open Modular
Computing Specifications

MEMBER
VITA
Open Standards, Open Markets

nVent

Our Products Meet Your Unique Needs

➢ **Standard product platforms or customized designs**

➢ **Cabinets and subracks made of steel or aluminum**

➢ **Cooling options include fans, air conditioners and water-cooling solutions**

➢ **Embedded Systems based on VME, CompactPCI and MicroTCA**

➢ **Backplanes and power supplies for industrial automation**

➢ **Integration: mechanics, electronics, electrical, climate control**
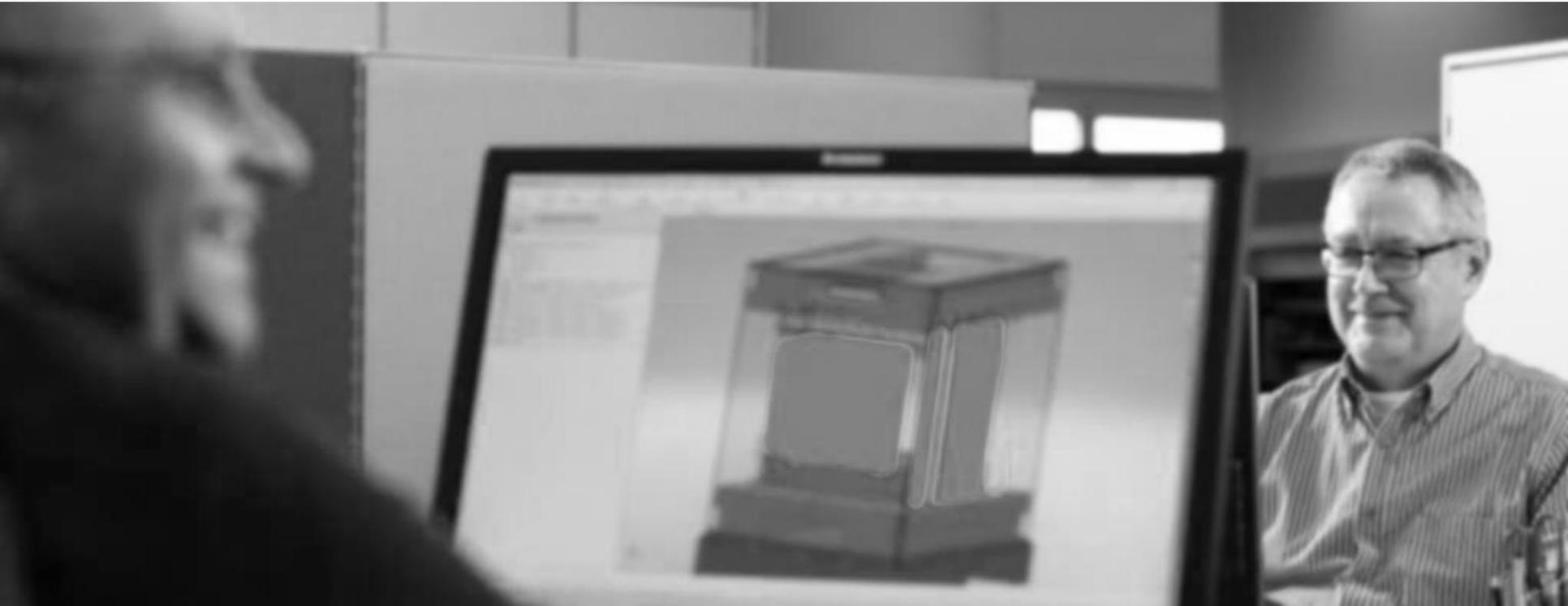
➢ **Small form factor cases for single board computing**

INDUSTRIAL

SCHROFF Product Portfolio

SCHROFF Product Portfolio

PRODUCTS FOR Non-19" APPLICATIONS

SCHROFF's small form factor product line offers a variety of cases, components, cooling solutions and accessories to enclose and protect non-standardized or standardized boards, such embeddedNUC™, Mini-ITX, ATX and others.

The **SCHROFF COM System** for type 6 COM express modules a complete solution includes a COM module, COM Carrier, integrated in a case with cooling and power supply.

PRODUCTS FOR 19" APPLICATIONS

CABINETS: Floor standing cabinets provide water, dust protection, RFI shielding and secure access to house subracks, rack-mount cases or embedded systems

SYSTEMS: Combination of protective housing with a backplane, a power supply, cooling provision and shelf management; defined to international standards such as CompactPCI, VME , AdvancedTCA, MicroTCA
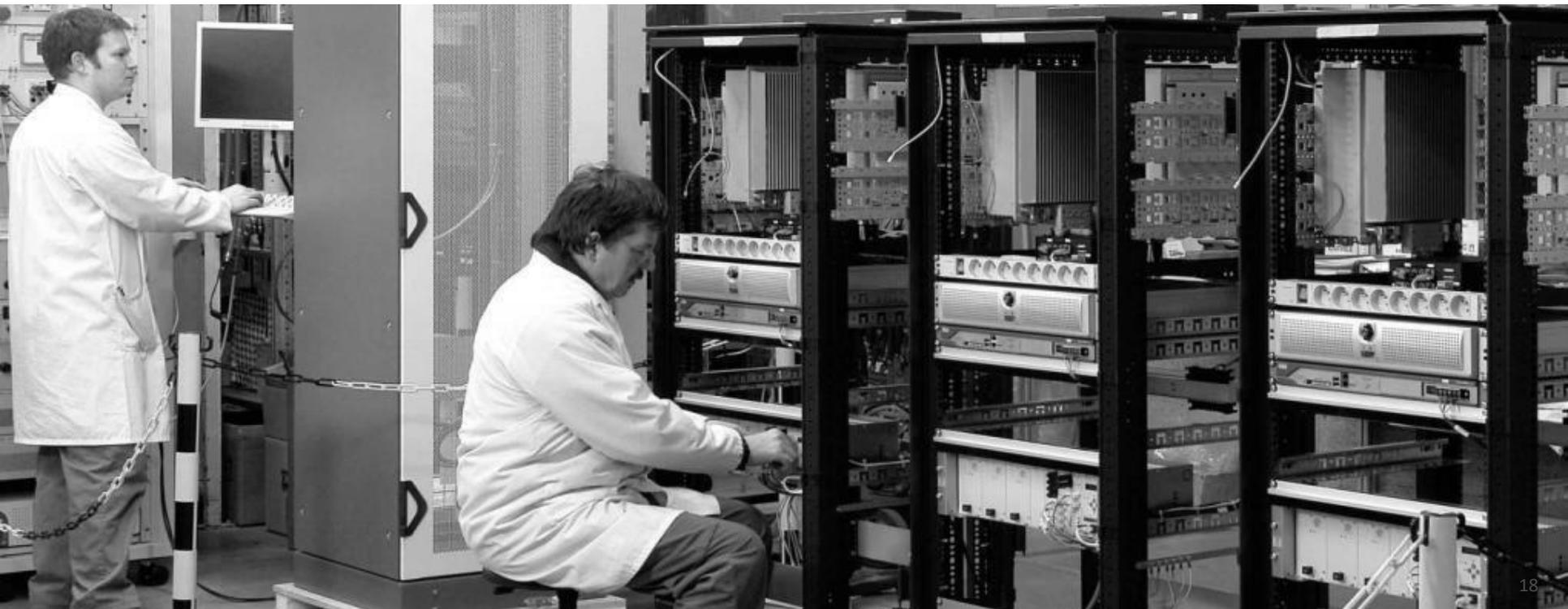
SUBRACKS AND CASES: Subracks or table-top, rack mount or portable cases accommodate PCBs. Standard-based designs facilitate interconnection of backplanes, power supplies and PCBs

BACKPLANES and ACCESSORIES: Handles, front panels, plug-in units and front element accessories to complement euroboards in 19" applications.
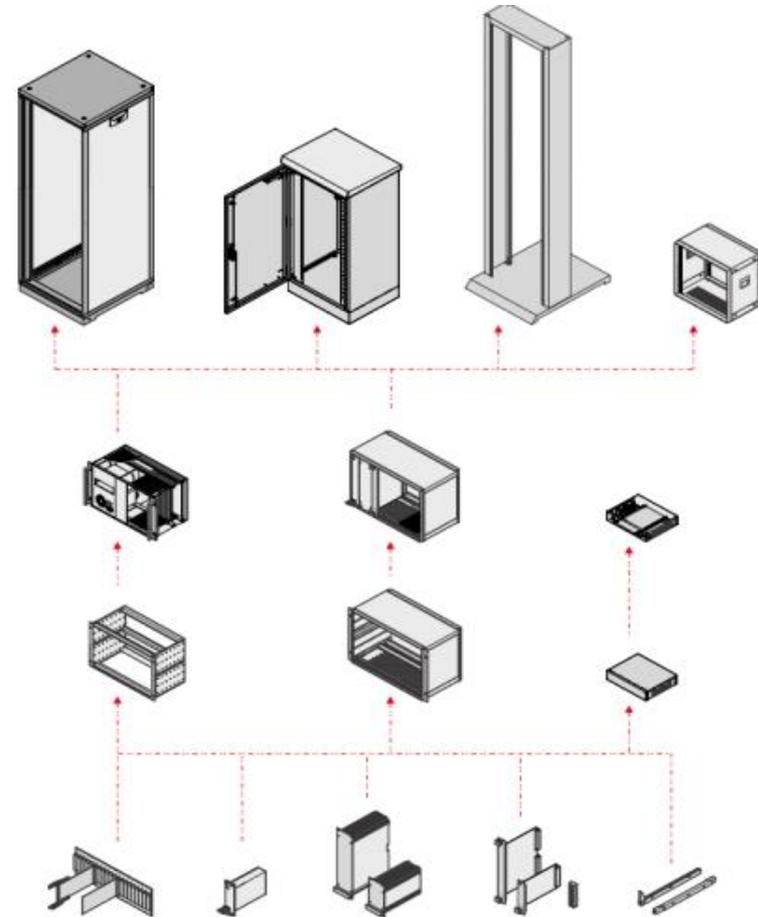
SCHROFF Cabinets

Multi Purpose Electronics Cabinets

- ➢ **Varistar**

  - Robust welded steel frame cabinets with high load rating, available with and without front door

  - Comprehensive range of high-protection options including IP20 and IP55, EMC shielding, seismic, MIL 901D and liquid cooling

- ➢ **Novastar**

  - Esthetical bolted aluminum frame cabinets with high functionality and flexibility

  - Application versatility - ranging from audio-video, broadcasting, laboratories, instrumentation and control

- ➢ **Eurorack**

  - Bolted aluminum frame cabinets

  - Configuration flexibility including IP40 ingress protection, 800 mm width, universal frame and EMC shielding options

- ➢ **Labrack**

  - Open frame 19" rack for laboratory applications

Flexible platforms for a variety of applications

nVent

Outdoor Cabinets

The redesigned Outdoor Modular Cabinet is a flexible and reliable solution to ensure the smooth and dependable functioning of sensitive electronics in outdoor environments, and is specifically tested and certified for outdoor trackside railway applications.

➤ IEC 61969-3 and EN 50125-3 for protection against environmental conditions

➤ EN 50125-3 for shock & vibration (1-3 m from the rail)

➤ EN 60529 for ingress protection up to IP55

➤ IEC 61587-2 and IEC 61969-3 for Seismic Bellcore Zone 4

➤ EN 50125-3 for wind resistance (180 km/h)

➤ EN 1627 and EN 1630 for vandalism protection

➤ EN 50121 for electromagnetic compatibility

➤ IEC 61969-2 for coordination dimensions

➤ IEC 60068-2-75, IEC 62262 and IK 10 for impact/hammer test

nVent

Shielded and Ruggedized Cabinets

- **Varistar Seismic**
  - Earthquake-resistant cabinet up to Bellcore Zone 4
  - NEBS compliant plinth
  - Optional EMC-shielding

- **Varistar MIL**
  - Shock and vibration resistance for demanding environments
  - Tested to MIL 901D
  - EMC shielding to avoid electromagnetic interferences

- **Varistar EMC**
  - High performance in RFI shielding up to 60dB at 1GHz
  - Pre-configured, shielded cabinets with perforated doors and cable entry accessories
  - Test reports available in many different configurations

Flexible platforms in rugged environments

nVent

Datacom and ICT Cabinets

➢ **Varistar Server Cabinets**

- Wide range of preconfigured, configurable and customizable server cabinets in various dimensions and colors
- Comprehensive range of accessories and cable management options

➢ **Varistar Colocation Cabinets**

- Wide range of preconfigured, configurable and customizable colocation cabinets with 2, 3 or 4 compartments
- Fully separated compartments with dedicated, protected cable channels
- Comprehensive range of accessories and cable management options

➢ **Varistar Aisle Containment and Air-Water Heat Exchangers**
- Aisle containment separates warm and cold areas for maximum cooling efficiency
- Liquid cooling provides highly efficient heat removal from IT equipment
  - RackChiller In Row
  - Rack Chiller Rear Door (active and passive)
  - Cooling Distribution Units

Cutting-edge cabinets and cooling capabilities

nVent

Communication Cabinets

- ➢ **Etsirack**
  - Metric frame for public and private telecommunication networks
  - Supports chassis dimensions according ETS 300119

- ➢ **Outdoor Rack**
  - Broadband access, traffic control or track-side applications
  - Maximum protection:

- ➢ **On-Board Rack**
  - Durable frame to support 19" electronics in transport applications
  - Lightweight solution for a secure, durable and reliable installation
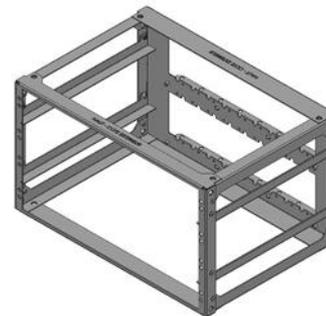
Tailored cabinets for unique applications

nVent

Cabinet Cooling

- ➢ **19" Fan trays**
  - For cooling components and assemblies in 19" cabinets
  - High airflow rate for efficient heat dissipation
  - With axial or radial fans
  - CE-approvals

- ➢ **Heat exchangers**
  - To increase the cooling capacity in data centers or to provide cooling redundancy
  - Cooling capacity up to 750kW
    - Passive/active rear door heat exchanger
    - Rack integrated active heat exchanger
    - In-row heat exchanger
    - Direct-to-chip cooling
  - Optional remote monitoring

**Efficient space utilization, efficient cooling**

nVent

Power Management and Monitoring

- ➢ **Power Distribution Units (PDU)**

  - • Basic PDUs, optionally with switch or circuit protection functionality

  - • Intelligent PDUs for remote metering and monitoring as well as optional remote switching on rack level, circuit level or even outlet level

- ➢ **Monitoring**

  - • Monitoring devices for single cabinets or cabinet rows, with a broad range of plug-and-play environmental sensors
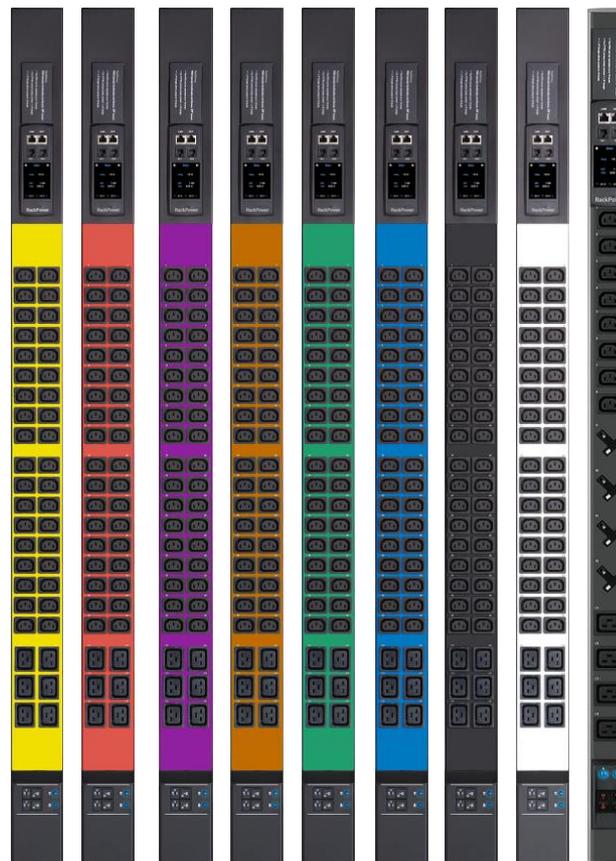
Power under full control

SCHROFF Subracks and Cases

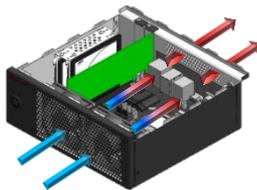# Small Form Factor Solutions

Innovative Enclosures

- Various designs:
  - Interscale: Interlocking sheet metal design for easy assembly and integrated EMC protection

  - More to come…
- Customized sizes, cutouts

Cooling solutions

- Fans
- Flexible heat conductors
- Heat sinks

- **Peripheral Components**
  - Power supplies
  - Power switches / LED indicators
  - HDD brackets

- **Mounting Accessories**
  - Wall, desktop, and din rail mounting brackets

Innovative products, combined with simple-to-use design tools, enable designers to quickly create customized solutions to enclose and protect their standardized or non-standardized small form factor boards.

More than just a box…customizable solutions to enclose and protect SFF boards

nVent

Subracks and 19" Rack-Mount Chassis

➤ **EuropacPRO**

- Designed to the latest international standards, supporting today's embedded electronics
- Superior protection through upgradeable RFI shielding and high shock and vibration performance
- Tailored versions to diverse environments -such as laboratory, industrial, railway/mobility and security/defense

➤ **MultipacPRO**

- Designed to accommodate and protect boards horizontally
- Aluminum version for appealing esthetics or sheet metal for economic design
- Easily modified and tailored to various of sizes

➤ **Inpac**

- Durable 19" chassis
- Flexible design for standard board formats or individual solutions

Wide range of platforms tailored to your needs

nVent

19" Table-Top and portable Cases

➢ **RatiopacPRO / RatiopacPRO Air**

- Versatile case with range of dimensions, individual colors and cut-outs/modifications. Multiple EMC shielding and advanced cooling options

- The ideal platform for tailored solutions – 19" rack mount, portable, table top or tower

➢ **PropacPRO**

- The robust case, for 19" compatible or custom electronics assemblies

- Upgradeable with EMC shielding and mobile accessories

- Ideal for mobile or table top applications

➢ **CompacPRO**

- Light and reliable design

- Optimized for portability (no EMC shielding)

- Nicely featured design alternative to PropacPRO

- Most price sensitive version

- For 19" components or individual electronics assemblies

Multiple designs for various applications

nVent

System Case or Wall Mount Case

➤ **Comptec**

- While the previous product lines are designed to house electronic boards, Comptec integrates complete subracks or subrack-based systems

- Steel version accompanied by a lightweight aluminum version for mobile applications

- Ideal for transporting or downsizing standard subrack systems

➤ **Epcase**

- Wall mounted case with hinged side panels for easy access to rear of the installed subracks or systems

Simple subrack installation and easy access

nVent

SCHROFF Systems
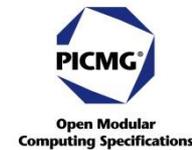
Open Standard System Platforms

➢ **AdvancedTCA**

- Systems and components available worldwide in a variety of configurations, from low profile 2- to 6-slot chassis to large-capacity 14-slot models
- Up to 100 G data transmission and 450W per board
- Full Advanced Mezzanine Card (AMC) accessory program

➢ **MicroTCA**

- Modular high speed systems; from small form factors to pico cube, desktop up to 19"
- Supporting MicroTCA.0, MicroTCA.1 and MicroTCA.4

➢ **COM Express Type 6**

- Carrier board for COM Express type 6 modules
- A modular design allows additional modules to be added, including fieldbus, Mini PCI Express, XMC and other modules

Leading in technology, leading in variety

Open Standard System Platforms

➤ **CompactPCI, CompactPCI Serial and CompactPCI PlusIO**

- Wide range of CompactPCI based systems, either off-the-shelf or configured upon demand within 10 days

- Robust mechanics, effective heat dissipation and RFI shielding

- CompactPCI PlusIO hybrid systems for easy technology upgrade

- Power supply either ATX or 19" pluggable

➤ **VME, VME64x and VXS and VPX**

- Wide range of VME based systems, either off-the-shelf or configured upon demand within 10 days

- Robust mechanics based on 19" chassis, table-top cases or tower systems.

- Power supply either ATX or 19" pluggable

MEMBER
VITA
Open Standards, Open Markets

PICMG
Open Modular
Computing Specifications

Leading in technology, leading in variety

nVent

Open Standard System Platforms

- ➢ **PXI Express System**
  - Tailored & customized solutions for small and medium quantities
  - Modular solution, with tested and validated components including switches, bridges, clock modules
  - Mechanics, power supply, cooling capacity, air flow path or slot configuration can easily be adapted to customer requirements
 - Minimizes development costs and time to market

- ➢ **COM System**
  - A modular design allows additional modules to be added, including fieldbus, Mini PCI Express, PMC, XMC
  - Complete solution that combines a COM module and hard drive in a conduction cooled case and a power supply
  - Carrier board for COM Express type 6 modules
  - Customized system design tailored to application-specific requirements
  - A system solution available for delivery that can be integrated, tested, verified and certified on request
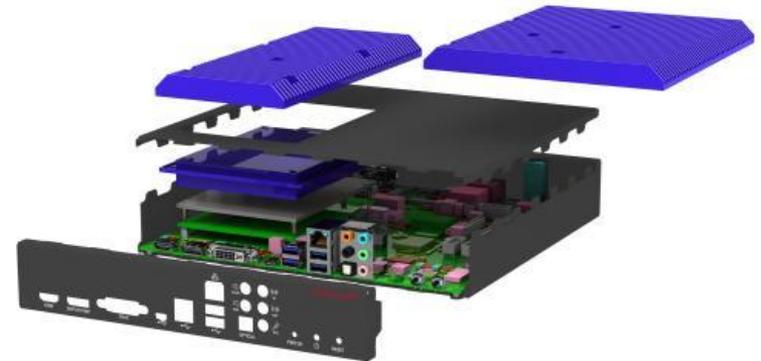
Leading in technology, leading in variety

Open Standard System Platforms

➢ **Computer and Storage based on OCP**

- The infrastructure of the new Schroff ServCite Rack is specifically designed to meet the next-generation requirements of the telecom industry

➢ **Key features:**

- Server based architecture
- Designed to meet telecom requirements for temperature range and shock and vibration needs
- High grade of flexibility of processing power or storage capacity
- Highly reliable system, hot swap possibility for all FRUs
- Rack Agent for hardware management
- Advanced thermal performance
- Accessories like rear door cooler or electronic door locks

A new generation of speed, storage and data processing capacity

Rugged Enhanced Systems

➢ **Titan COTS VME64x system**

- Based on Schroff's rugged subrack
- Created for shock levels up to 25g at 3g vibration

➢ **Titan Rugged Enhanced Chassis**

- Forced Convection or Conduction Cooled, built to be rugged and reliable as well as lightweight and compact
- For shock and vibration levels exceeding 25g
- Available in high IP ratings

Maximum protection, minimum time to market

nVent

Power Supplies

- ➢ **19" Power Supplies**
  - • We have a broad range of AC/DC and DC/DC linear regulators, switch mode PSUs and converters, single, dual and triple in a range of 8W to 180W

- ➢ **Open Standard System Power Supplies**
  - • Pluggable or open frame in AC/DC or DC/DC for VMEbus, VME64x, CompactPCI, MicroTCA

- ➢ **Services**
  - • Standard products from stock as well as modified and individual customized solutions
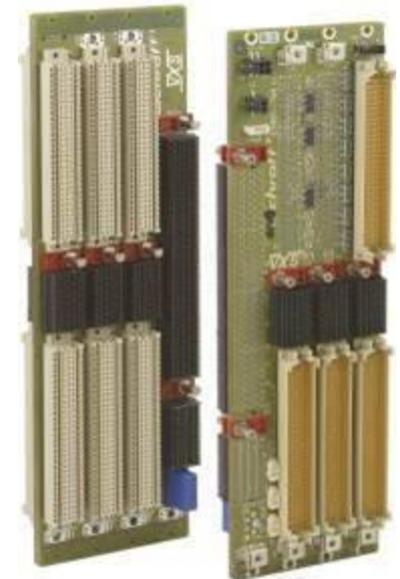
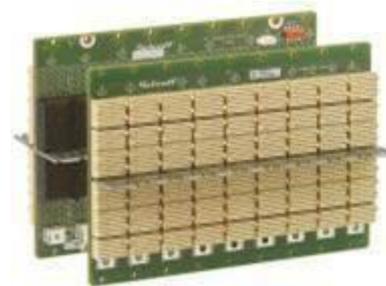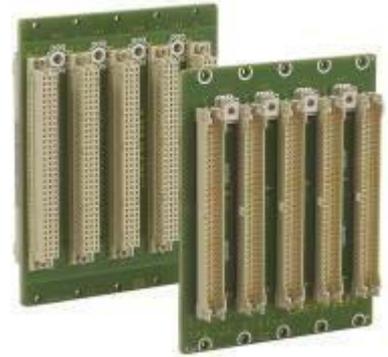## Rapidly customized, rapidly delivered

nVent

Backplanes & Test Adapters

➤ **Comprehensive standard backplane program including**

- CompactPCI, CompactPCI Serial, CompactPCI PlusIO
- VME, VME64x, VPX, VXS
- Power backplanes
- Universal backplanes
- Test adapters

➤ **Services**

- Standard backplanes from stock (48 h)
- Development and production of customized backplanes
- Conformal coating
- Individual modification
- Tests and certification

Rapidly customized, rapidly delivered

nVent

Hardware platform management

- ➤ **Providing management of HW/SW platforms**
  - Local and remote access at chassis and board level
  - Monitoring power and cooling, logging events, inventory control and recovery

- ➤ **Hardware**
  - Shelf Management Mezzanine
  - Reference Schematics
  - Starter Kit (Reference Carrier)
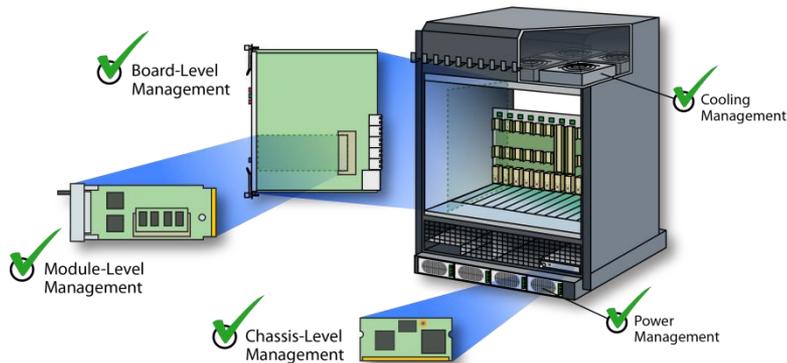
- ➤ **Software**
  - Firmware for
    - Shelf Manager (ShMC)
    - Fan Tray (CU EMMC)
    - Power Supply (PM EMMC)
    - Boards (BMC)
    - Hardware

  - Hardware Platform Management (HPM)
    - For PPS Management Products (Firmware Update Solutions)

  - Firmware Services:
    - Modifications
    - Customization
    - Maintenance

Management Solutions for Open Standard Platforms

SCHROFF Board Level Components

# Front Panels and 19" Plug-In Units

- ➤ **Front panels**
  - Front: resistant to scratches, finger prints and environmental forces
  - Rear: conductive for shielding performance
  - Express modification service
  - Digital printing for complex, multi-color designs (aluminum only)

- ➤ **Plug-in units**
  - Static handles for low insertion/extraction forces
  - Cantilever extraction handles for moderate force
  - IEL/IET handles for CompactPCI and VME64x applications with high density connectors and high extraction forces
  - Heavy load XL with extraction forces up to 1500 N for VPX system etc.

- ➤ **Handles, connectors and front-element accessories**
  - Can be ordered separately
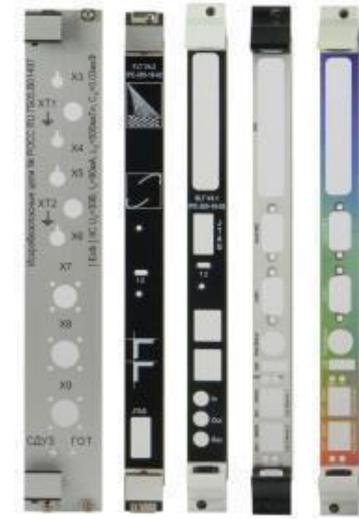
Wide range of products with a variety of options

nVent

Cassettes or "Frame-type" Plug-In Units

➢ **Cassettes and plug-in units with surrounding frame for mechanical protection and RFI shielding of individual PCB boards with the following options:**

➢ **Non-Shielded**
- sheet metal
- with rear panel for connector cut-outs

➢ **Non-Shielded/Shielded**
- sheet metal
- with rear hood

➢ **Shielded**
- aluminum tube
- rear panel with or without connector cutout

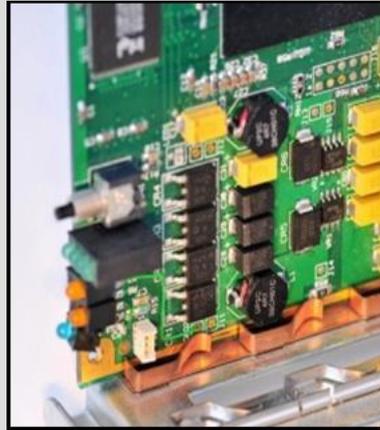**Scalable degree of protection**

Retainers

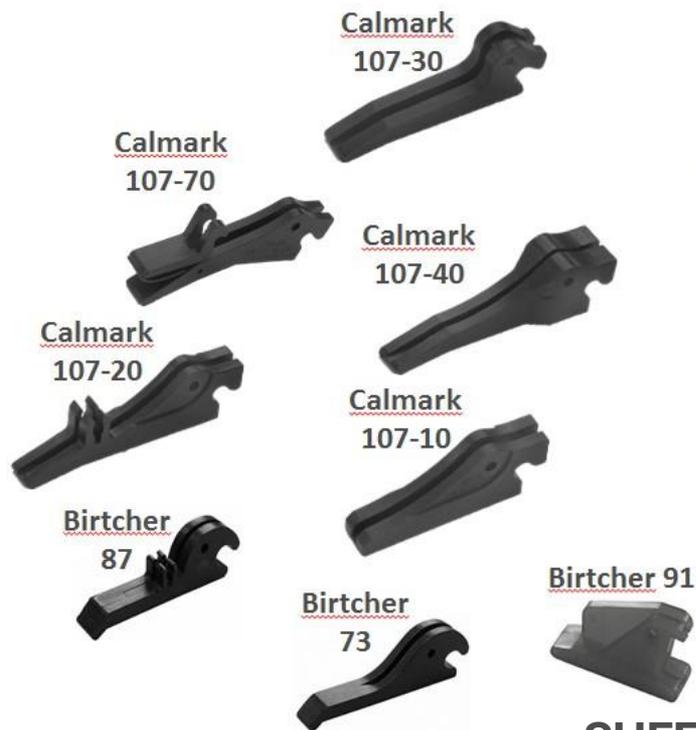| Card Guides	Retainer/PCB Tainer	Lok-Tainer	Card-lok /Wedge lok Wedge Tainer
➤ Guidance, but no board clamping ➤ Nylon material	➤ Guidance, but no board clamping ➤ Sheet-metal design ➤ Non cold-wall application	➤ Board clamping for moderate shock and vibration ➤ Sheet-metal design ➤ Non cold-wall or cold wall application	➤ Board clamping for rugged, heavy shock and vibration ➤ Sheet-metal design for cold-wall application ➤ High clamping force and heat dissipation

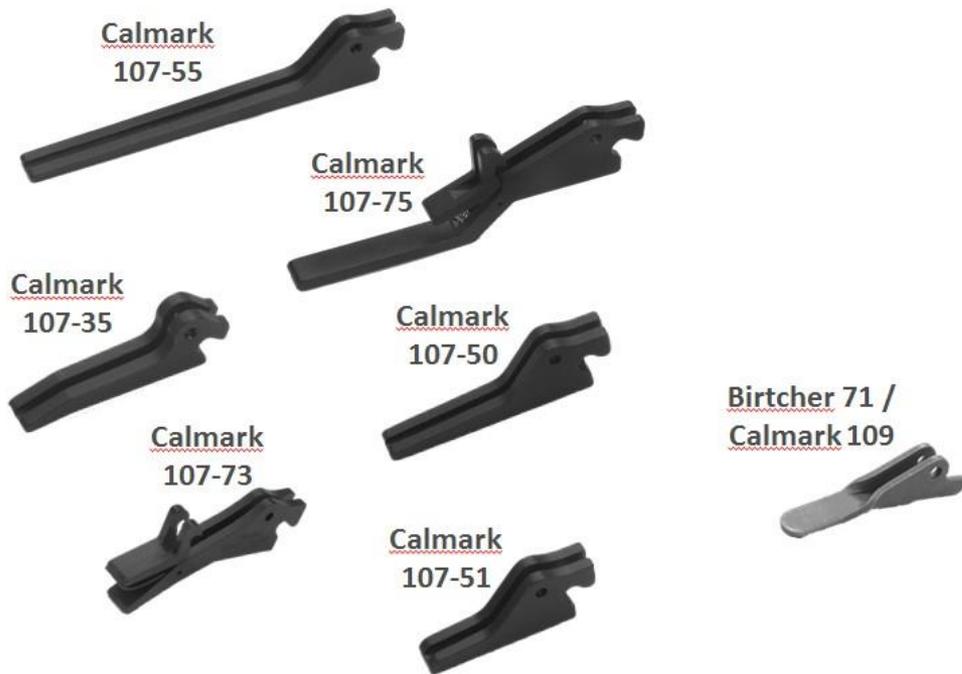**Relative Cost and Performance (clamping force & thermal transfer)** →

Scalable degree of protection and conduction cooling

nVent

PCB Inserters / Extractors

NYLON

ALUMINIUM

Calmark 107-55

Calmark 107-30

Calmark 107-70

Calmark 107-40

Calmark 107-75

Calmark 107-35

Calmark 107-50

Birtcher 71 / Calmark 109

Calmark 107-20

Calmark 107-73

Calmark 107-10

Calmark 107-51

Birtcher 87

Birtcher 91

Birtcher 73

SHEET METAL

COLD WALL

Different material, different applications

nVent

SCHROFF Competencies and Service

Integration

Level 1
MECHANICAL COMPONENT
•Fabricate piece parts

Level 2
MECHANICAL ASSEMBLY
•Install piece parts into enclosure

Level 3
ELECTRO-MECHANICAL ASSEMBLY
•Install fans, cables / harnesses and passives
•Build box with minimal wiring

Level 4*
ELECTRONIC ENCLOSURE ASSEMBLY
•Install power supplies, complex cable assemblies, backplanes and thermal

Level 5*
TOTAL INTEGRATION WITH ACTIVE SOFTWARE
•Installation of software to operation units
•Functional testing and documen-tation

Level 6*
COMPLETE INTEGRATION INCLUDING LOGISTIC
•Fully operational system
•Distribution and logistics support

* Only on request / project related

Digital Empowerment for Faster Results

Digital Empowerment for Faster Results

➤ **INSTANT PRICING - Get the right price at the right time!**

Simplify and optimize our customers' workflow

Prices on our website for standard and configured products - without any registration or log-in!

Net prices are available for registered customers - Even faster! Find & Manage your projects in your personal account.

➤ **LIVE CHAT – Communicate with our experts in real time!***

Send and receive messages, or attachments, in real-time, FASTER than an email response!

Check it out on our website, by clicking on the red icon on the bottom right of the page

Our available Technical Experts are ready to help you to find the product or solution you need!

*Live Chat is currently available on the German and French website.
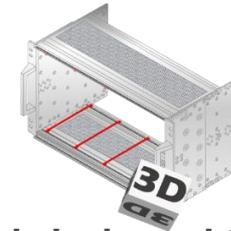
➤ **ONLINE CONFIGURATORS – Try our 3D configurators without registration !**

Interactive 3D configurators, easy to use and fully reliable

Design Your solution and receive the CAD model instantly

Current available Configurators :

For Electronic Cabinets (Novastar & Varistar) , Front panels, Wegde locks and Subrack

www.DigitalEmpowerment4FasterResults.com

# Digital Empowerment for Faster Results

➤ UPLOAD MANAGER

Modify components in YOUR CAD system and attach (upload) to changes to your configuration saved in your project list.

Add cut-outs, text, graphics or change the color directly in our online configurator or download the CAD Model and customize it in your own CAD system. Then upload the modified CAD model to your personal project list.

In addition other files can also be attached (uploaded) to a configuration, for e.g. print data, further requirements or specifications.

This option is only available for configured products and for registered users.
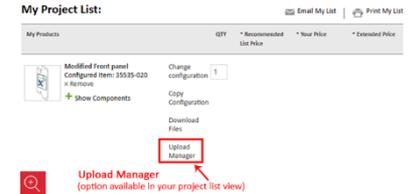
➤ 3D PRINTING
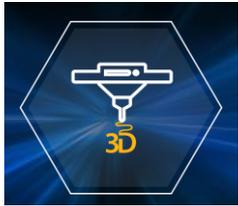
Download the STL file from the online configurator, which supplies the geometrical information of three-dimensional data models for creating a model with a 3D printer.

Print instantly and locally your modified front panel on YOUR 3D printer and validate the dimensions your design.

By using your own 3D printer, you'll receive the data at no cost; no license fees will be due

➤ INSTANT QUOTE - A SIMPLE WAY TO DELIVER WINNING PROPOSALS!

create proposals and custom quotes in minutes

From basic information and in just a few clicks, you can receive an instant quote and save time.

Will be available in 2019

Creating Standards: ONLINE CONFIGURATORS

ELECTRONICS CABINETS
Novastar

Aluminum frame cabinets with attractive design, ideally suited for :

• General electronics,

• Test & measurement,

• Audio/video broadcasting applications.

ELECTRONICS CABINETS
Varistar

The modular concept ensures the highest flexibility on a single platform. The welded frame and robust steel profiles allow the greatest range of applications :

• Data Centers,

• General Electronics,

• Transportation,

• Naval, Telecommunication,

• Security & Defense.

FRONT PANELS

Front Panels serve as the installation and the protection of the Printed Circuit Board in a subrack and a case and offer respective I/O options.

• Aesthetic front panel for mounting into 19"enclosures

• Test & Measurement

• Railway

• Advanced Physics

• Industrial

• Automation

PCB ACCESSORIES
Wedge loks

Thermal Performance

• High Performance Retainers

• Security & Defense

• Aerospace

• Railway

Go 2 Novastar Configurator

Go 2 Varistar Configurator

Go 2 Frontpanel Configurator

WedgeLoks

nVent

Performance & Development Testing

Mechanical

Airflow

Thermal

Water

Refrigeration

Dust

nVent

AGENCY TESTING

➤ **UL and CSA Certified Lab Compliant with ISO 17025**
  - UL 50, 50E, 746C, 484, 1995, 1863
  - CSA C22.2 No. 94.1, 94.2, 117

➤ **NEMA 250**

➤ **Telcordia GR63 & GR487**

➤ **IEC 60529 (IP ratings)**

➤ **CE**

➤ **Approved to MIL-STD-901**

**Global Test Locations
(USA, Germany, Brazil, China)**

SCHROFF
Leading-edge Electronics Protection

World-leading electrical solutions

nVent