

Flexible Enclosure Solution For Harsh Environments

PROTECTION OF SENSITIVE ELECTRONICS UP TO IP67



The die-cast aluminium enclosure from **nVent SCHROFF** offers robust IP protection up to IP67, is EMC shielded, as well as shock, vibration and corrosion resistant.

It can be configured for electronics with standardized or customer-specific form factors. The enclosure is complemented by the expertise of **nVent SCHROFF**, which includes innovative solutions for PCB fixing, cable management and optimized cooling concepts.



CUSTOMER-SPECIFIC DESIGN FOR EVERY APPLICATION



Configuration of a Flexible Enclosure Solution

Design includes 15 standard dimensions that can be mechanically modified to fit a variety of applications.



Optimal Heat Dissipation Concept

Convection and conduction cooling enables heat dissipation via the enclosure itself and can be adapted to the respective application.



Protection of Electronics in Indoor and Outdoor Applications

- Railway & Transportation
- Telecommunications
- Test & Measurement
- (I)IoT



Simulations & Tests

Thermal simulations, IP or EMC tests ensure the design functionality.



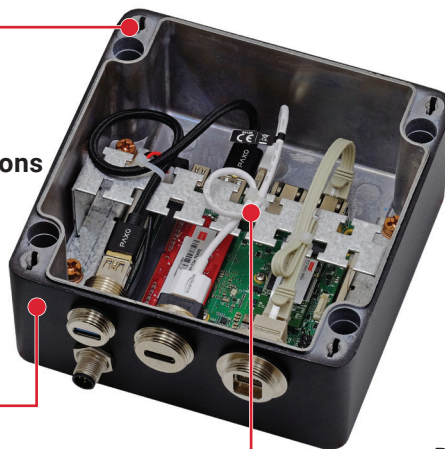
Aesthetic Enclosure Design

The enclosure can be finished with powder coating, screen printing or digital printing. Colors have a high resistance to environmental conditions or chemicals.



Development and Integration of Electronic Components

Customer-specific solutions including cabling, boards (e.g. COM Carrier) and integration services.



The product shown above is an EMC-protected enclosure with the dimensions 160 x 160 x 90 mm and has an integrated embedded NUC™ board.



Available in a Wide Range of Dimensions

- 15 different sizes from 50 x 45 x 30 mm to 600 x 310 x 180 mm

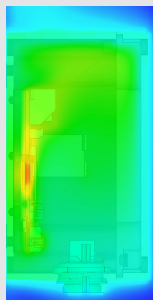
High Resistance to Environmental Conditions

- Up to IP67 according to EN 60529
- Temperature range of the enclosure from -55 to +125°C (-67 to +257°F) depending on the configuration
- Corrosion resistance: Sharpness A (EN 62208/9.13.2.1) and sharpness B (EN 62208/9.13.2.2), depending on coating

Reliable Protection Even in Harsh Conditions

- Protection from external mechanical impacts: IK09 according to IEC 62262
- Shock and vibration resistant according to EN50155 (testing in progress)

THERMAL SIMULATIONS & EMC-TESTS



Temperature (°C)

68
61.67
55.33
49
42.67
36.33
30

At **nVent SCHROFF**, thermal simulations are used in the early phase of product development in order to equip enclosures with an optimal cooling concept suitable for the application.

Test Setup with Conduction Cooling (pictured left):

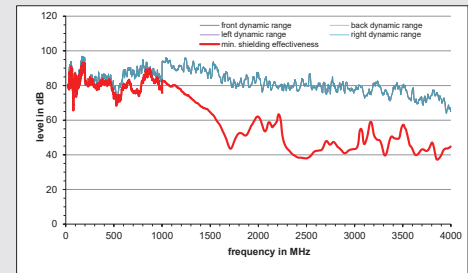
- Processor: Intel® Core™ i7, 10th generation processor (mobile)
- Power dissipation of the processor: 15 W
- Ambient temperature: 30°C (87°F)
- Mounting the housing on an insulated wall
- Housing Size: 160 x 160 x 90 mm

Excellent EMC Properties

The integrated EMC shielding ensures reliable operation of the electronic components built into the enclosure.

Tested with an enclosure size of 330 x 230 x 110 mm for a frequency range from 30 MHz to 4 GHz.

Shown on the right is the worst case scenario, which could be further improved by mechanical modifications.



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