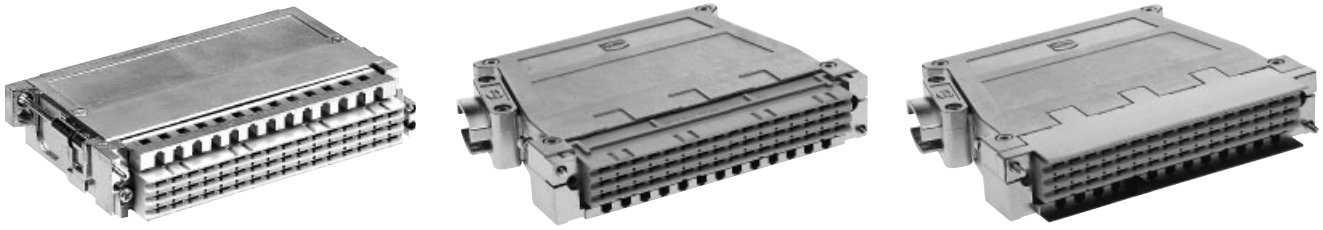
EMC housing



EMC with HARTING connectors

HARTING offers metallised D 20 housings and full metal housings for EMC connectors according to IEC 60 603-2. Its strong EMI characteristics and metallised fixing elements offers optimal shielding and grounding.

The connection of the cable braid to different types of connector housings, as well as the influence of the connector itself on EMC characteristics of an instrument application, were analysed in regard to **the shielding effectiveness against electromagnetic radiation.** The shielded signal data lines of a railway application were carried via two eurocard pcb´s installed into a 19”-rack. The fixing of the cable braid was realised with different HARTING D 20 housings.

The application including the connectors was then exposed to RF signals, transient bursts and electrostatic discharges.

The standard plastic housings showed minimal EMC performance. The EMC performance of metallised and full metal housings showed significant improvements.

One advantage of metallised housings is their reduced weight (40 grams compared to 180 grams of a full metal housing). Therefore, minimal interference is applied to the pcb in applications where strong vibration is occuring. The HARTING housings are comparatively light through the use of metallised plastic.

The main advantages of a full metal housing are improved cable braid fixing, easy mounting and robustness.

In general, one should keep in mind that an unshielded cable entry leads to loss of the shielding against electromagnetic interference.

“A high-resistance interruption of the cable shield (e.g. by using “pigtails” via twisted stranded wires of the cable shield) may affect the EMC performance and therefore cause unacceptable effects to the electromagnetic environment.”

These housings are applied in electronic installations of the railway vehicles of the GERMAN RAILWAY. They are also recommended for stationary installations of the GERMAN RAILWAY (see norm BN 74016, part 1 of December 1989).