

The following standards of the train industry are applied to products of GSP Sprachtechnologie.
(Please note potential functional differing limitations within quotations)

General train system guidelines

DIN EN 50155 (2008-03): Electronic equipment used on rail vehicles

Environmental conditions

Temperature class T3 according to DIN EN 50155:

Ambient temperature during operation: - 25°C / + 70°C

Relative humidity according to DIN EN 50155

(for externally-situated components):

Yearly average up to 75 %, 30 days a year 95 %, occasionally up to 100 %

Vibration and shock according to DIN EN 61373 (1999-11):

Broad-band random vibration and shock, category 1, class B

Electrical operating conditions

Voltage supply according to DIN EN 50155:

Minimum voltage 0.7 Un, maximum voltage 1.25 Un,
voltage fluctuations, interruption, surge

Electromagnetic compatibility (EMC)

according to DIN EN 50121-3-2 (2007-07): wiring- and field-related interference
emission, interference immunity (burst, surge, ESD, fields, wiring)

CE conformity

with the directive 2004/108/EC, complying with product standard specification DIN EN 50121-3-2

Further requirements

Preventive fire protection

Use of fire-resistant, self-extinguishing halogen- and PVC-free materials.

Compliance with DIN 5510 part 1 (1998-10) and part 2 (2009-05), fire protection class 3,

Dielectric test according to DIN EN 50155:

For 24 V DC voltage supply: insulation resistance measurement with 500 V,

Electric strength test with DC 750 V for 1 minute

Protective measures in relation to electrical hazards in compliance with DIN EN 50153 (2003-07):

- in particular, protection against direct and indirect contact (chap. 5 & 6) e.g. through insulation or earthing

Protective layer

- for printed circuit board assemblies in compliance with DIN EN 50155

RoHS-compliant

- according to the German Electricity Act (ElektroG) and the directive 2002/95/EC