

M9.1 Data sheet Specific Transmission Module

ATBEG/Vv

Data sheet for STM ATB

| Colophon | |
|-------------|--------------------|
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1 Specific Transmission Module ATBEG/Vv



Figure 1 STM ATBEG/Vv

STMA-78247 - This STM ATBEG/Vv has been developed to be used with any TSI CCS Baseline 3 Release 2 compliant EVC adhering to the standardised Profibus interface compliant with the TSI CCS subsets 035, 056, 057, 058 and 059 (set of specifications #2). The unit has been developed in accordance with EU railway standards as a generic onboard ATP system to be compatible with the ATB-EG requirements from Dutch National Regulations and the ATBVv system description. This STM ATBEG/Vv is suitable for application in any railway vehicle. It is equipped with versatile interfaces for power supply, brake-sensors, external cab-audio and all currently available ATB-EG antenna coils. The designed system lifetime is 30 years.

The STM ATBEG/Vv has been engineered to be the smallest line side replaceable unit. In case of a defect it can be replaced within 5 to 10 minutes. The system does not require any specific configuration, making it a uniform system for any rolling stock vehicle. The vehicle/train specific information is received from the EVC. Because there is no need for periodic calibration, the maintenance costs are minimized. [ Verified]

2 Characteristics of the STM ATBEG

STMA-78246 - Characteristics of the STM ATBEG

| Dimensions | Enclosure (LxWxH) | Installation dimensions (LxWxH) |
|--|--|---------------------------------------|
| | 220 mm (depth) x 70 mm (width) x 132 mm (height = 3HU) | 230 mm x 70 mm x 120 mm |
| Power supply requirements | Supply voltage | Average load |
| Nominal characteristics | 24 – 110 V _{DC} | 20W |
| Interfaces | Type | Connector |
| STM ATBEG <=> <u>ETCS onboard</u> | <u>Profibus</u> | 1 male SubD-9P, 1 female SubD-9P |
| STM ATBEG <=> <u>Analog inputs</u> | ATB <u>antenna's</u> , <u>pressure sensors</u> | 1 male SubD-15P, 1 female SubD-15P |
| STM ATBEG <=> <u>Power and Digital I/O</u> | PSU, digital I/O | 1x DIN41612-F-48P |
| RAMS | | |

[ Verified]

STMA-78250 -

MTBF, excluding protective devices (*), without enhanced power supply circuit: 97.080 hour.

MTBAF, excluding protective devices (*): 92.085 hour.


MTBF, excluding protective devices (*), with enhanced power supply circuit (**): 189.602 hour.

(*) protective devices, i.e. over-voltages protection, is excluded as the fault rate of those components depends on the frequency with which over-voltages are caused by the vehicle. In case of the absence of over-voltages the impact on the MTBF is negligible.

(**) in the current design the a redundant power supply module is foreseen. However due to the use of a shared input filter most power supply faults still lead to a failing unit. Separating the input filter will therefore significantly enhance the MTBF.

(***) The MTBF is defined as the mean time between failures leading to unavailability of the system. The MTBAF also takes failures into account which don't cause unavailability but require exchange of the system.

The STM ATB doesn't require preventive maintenance, nor vehicle specific configuration.

The STM ATB is classified as a SIL3 system. [ Verified]