

Antenna Interface Type AANT01-1



Order information

Name	Type	Part No.
Antenna Interface	AANT01-1	133 420 01 01 AX

- Component part of MR90 radio system
- Decoupling of RF signals
- Amplification of RF signals
- Explosion protection category / mode: I M1 Ex ia I

Usage and Function

The antenna interface type AANT01-1 is part of the intrinsically safe underground radio system MR90. The AANT01-1 has an additional voltage controlled input to adjust the RF output power. The equipment is designed for operation in hazardous areas. The interconnection with other electrical equipment must be tested and certified separately. The antenna interface AANT01-1 is located between the antenna of a mobile radio device and the RF transmit and receive modules. It serves to decouple and amplify the RF signals in transmit and receive direction.

On the top-side 4 coaxial jacks are available for the connection of each two RF transmitters and receivers in maximum. The connection to the 12 V power supply is provided by a 4-pole plug-in terminal. The "TX" signal of the RF transmitter module can be connected to a 2-pole plug-in terminal when the transmit amplifier of the AANT01-1 shall be switched on by the microphone (PTT) pushbutton or a signal key. In all other cases this terminal must be short-circuited. With this the antenna interface is continuously activated in the transmit direction. The coax antenna feed is connected to a sheath clamp.

An additional coaxial jack "TEST" for setup und test purposes is available on the top-side of the interface.

The antenna interface AANT01-1 amplifies the RF signals of up to two RF transmitter modules and leads it via a

transmit/receive splitter to the antenna for radiation.

The AANT01-1 has an additional voltage input (DC, 0V – 5V) to lower the RF transmit power. This input will be connected to the URSSI output of the corresponding RF receiver type HFE.. of the data transmission channel. The connection is made by a 2-pole stranded wire leading out of type AANT01-1 antenna interface and pre-assembled with a two-pole socket for direct connection to the type HFE.. RF receiver. A receive signal strength of over 100µV (URSSI ≥ 3V) decreases the AANT01-1 transmit power to avoid an overload of the remote station's corresponding RF receiver in case of very good transmission circumstances.

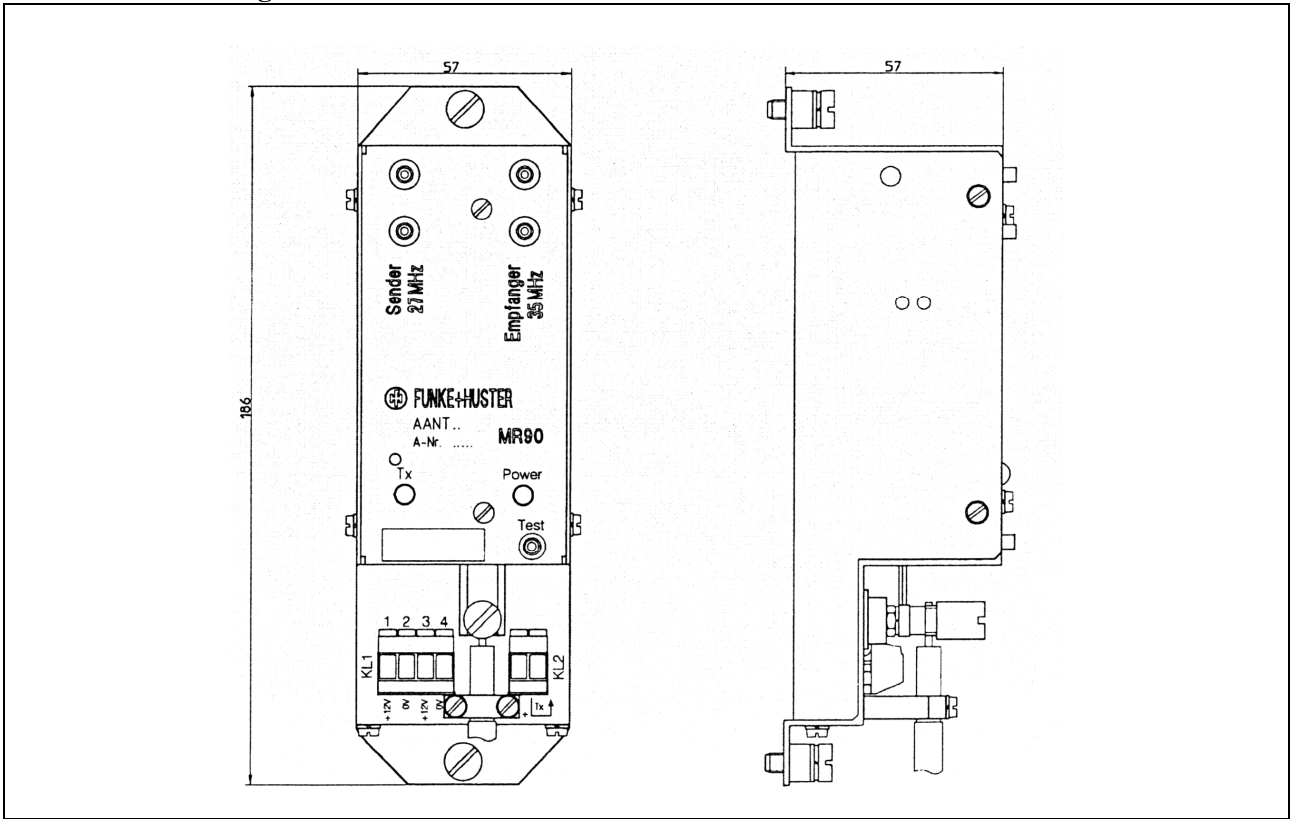
In receive direction the transmit/receive splitter filters the RF signals of the receive band and leads it via an attenuator and band-filter to an pre-amplifier. With two coaxial jacks the signals are led to up to two RF receiver modules. The interface contains two LEDs. The LED "Power" indicates the availability of the 12 V supply voltage, the LED "TX" shows that the transmit amplifier of the interface is active.

Construction

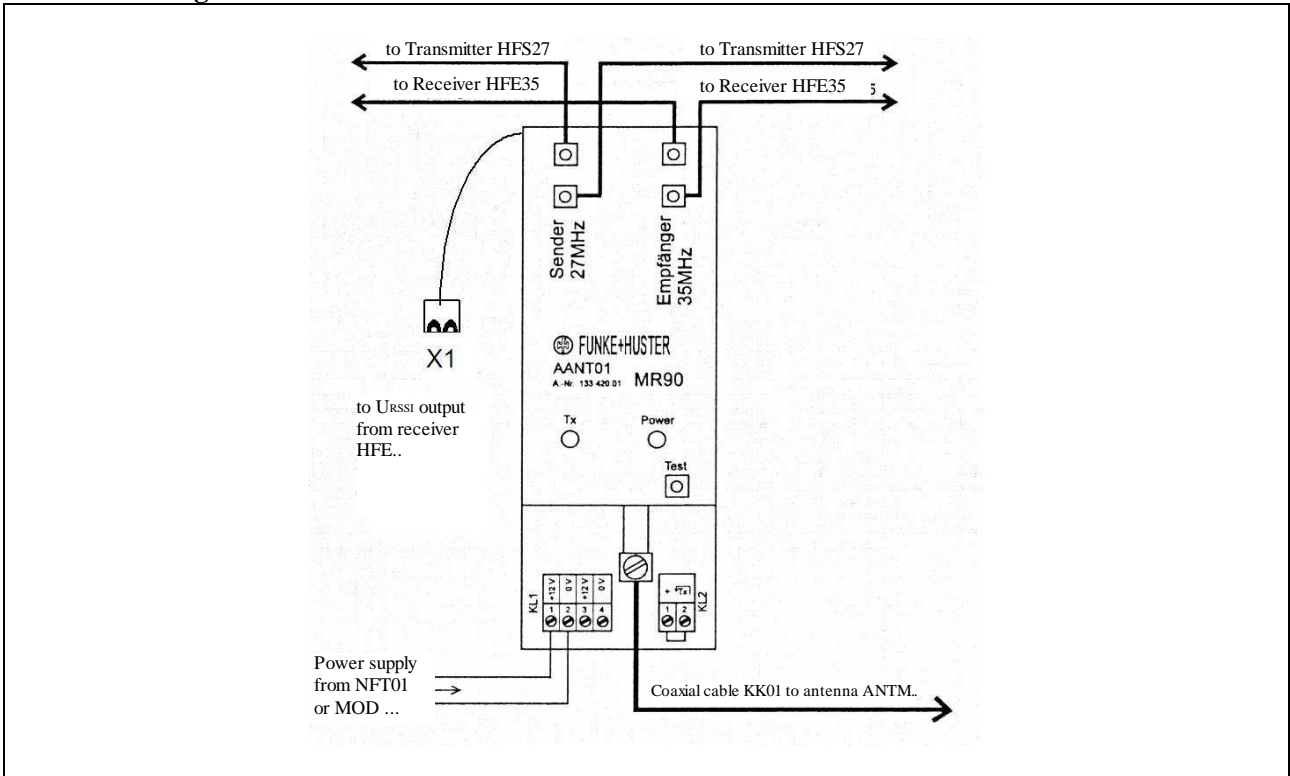
The interface PCB is built into an angled sheet-steel profile housing. The interface is fastened with two captive screws in the housing bottom on the mounting plate of the radio station.

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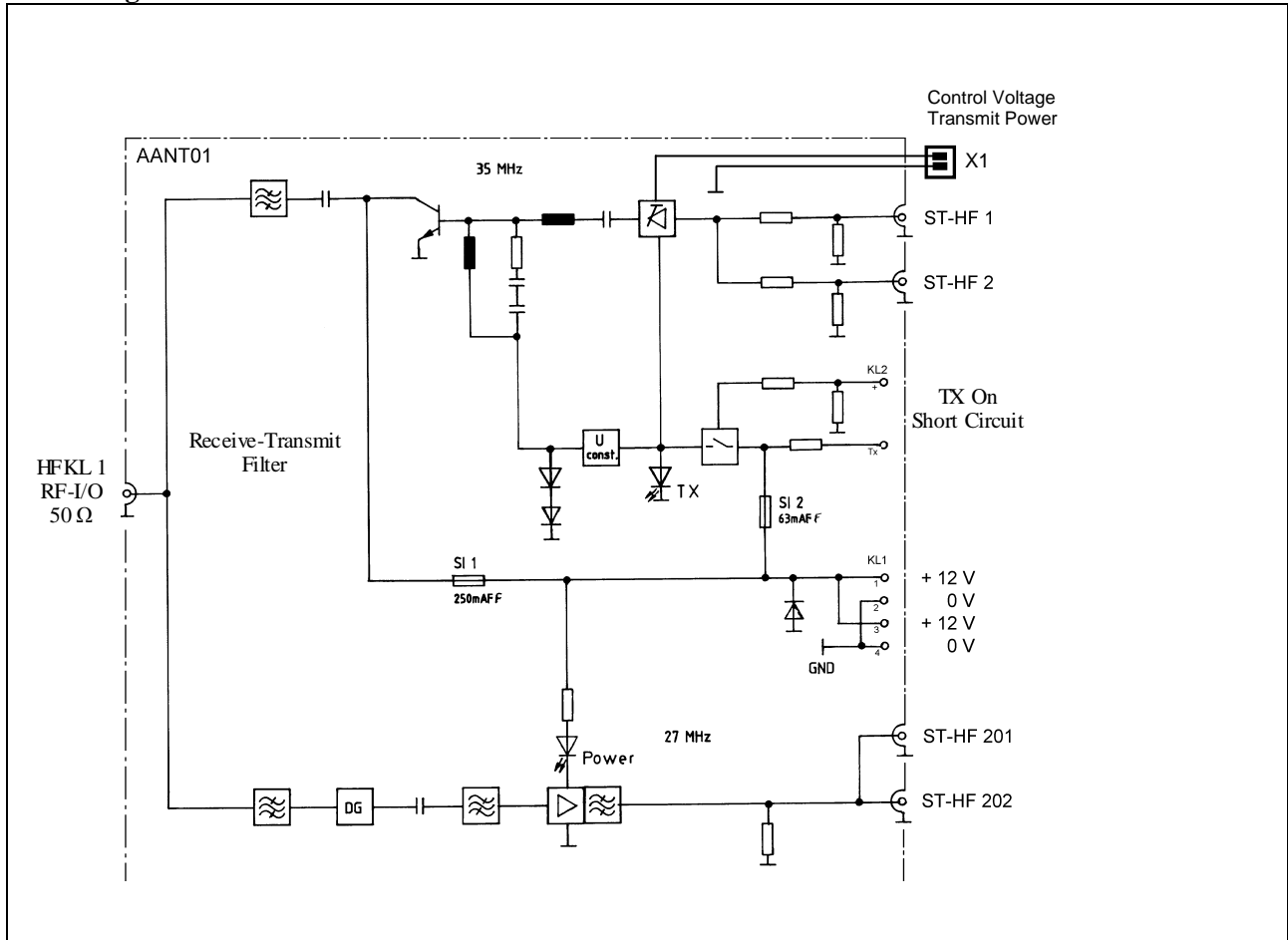
Dimensional drawing



Connection diagram



Block diagram AANT01-1



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