

i/i Coupling Module Type iKO02

Order information

Name	Type	Part No.
i/i Coupling Module Type iKO02	iKO02	133 620 02 AX



- **Interface connection of MR90 fixed radio station to LF trunk line**
- **Internal amplifier with low-pass filter and equalizer**
- **Explosion protection category / mode: I M1 EEx ia I**

Usage and Function

The intrinsically safe LF i/i coupling module type iKO02 is used to connect a multiple of MR90 radio base-stations (hotspot stations) as relay stations to a 2-wire LF trunk-line. This line provides the voice communication between control room (e.g. permanently manned operator desk) via base stations to the mobile stations or portable radios of the MR90 system. The radio signals between base stations and mobile stations / portable radios are coupled via a standard MR90 leaky-feeder cable or in case of building up short-range hotspots with antennas.

The electronic of the i/i coupling module is placed on a PCB assembled in SMT technology and built into a sheet-steel housing. The connection to the LF interface NFT01-1 is made by one of the two 6-pole plug terminals on the iKO02. A 4-pole plug terminal provides the connection to the LF trunk-line.

The LF coupling module iKO02 contains an unidirectional amplifier with low-pass filter and line equalizer for a maximum cable length of 15 km (PE-isolated cable, diameter = 0.8 mm). The amplification direction is switched over by an internal LF control logic with speech-detector (LF relay-station -> mobile station or mobile station -> LF relay station).

The built in low-pass filter has a cutoff frequency of 5.5 kHz. It serves to suppress out band noise and to limit speech bandwidth.

The control-logic switches the direction of the LF amplifier, depending on state of speech detector and mute-signal of the base station speech channel RF receiver and determines the activation of the RF transmitter by the "Son" signal.

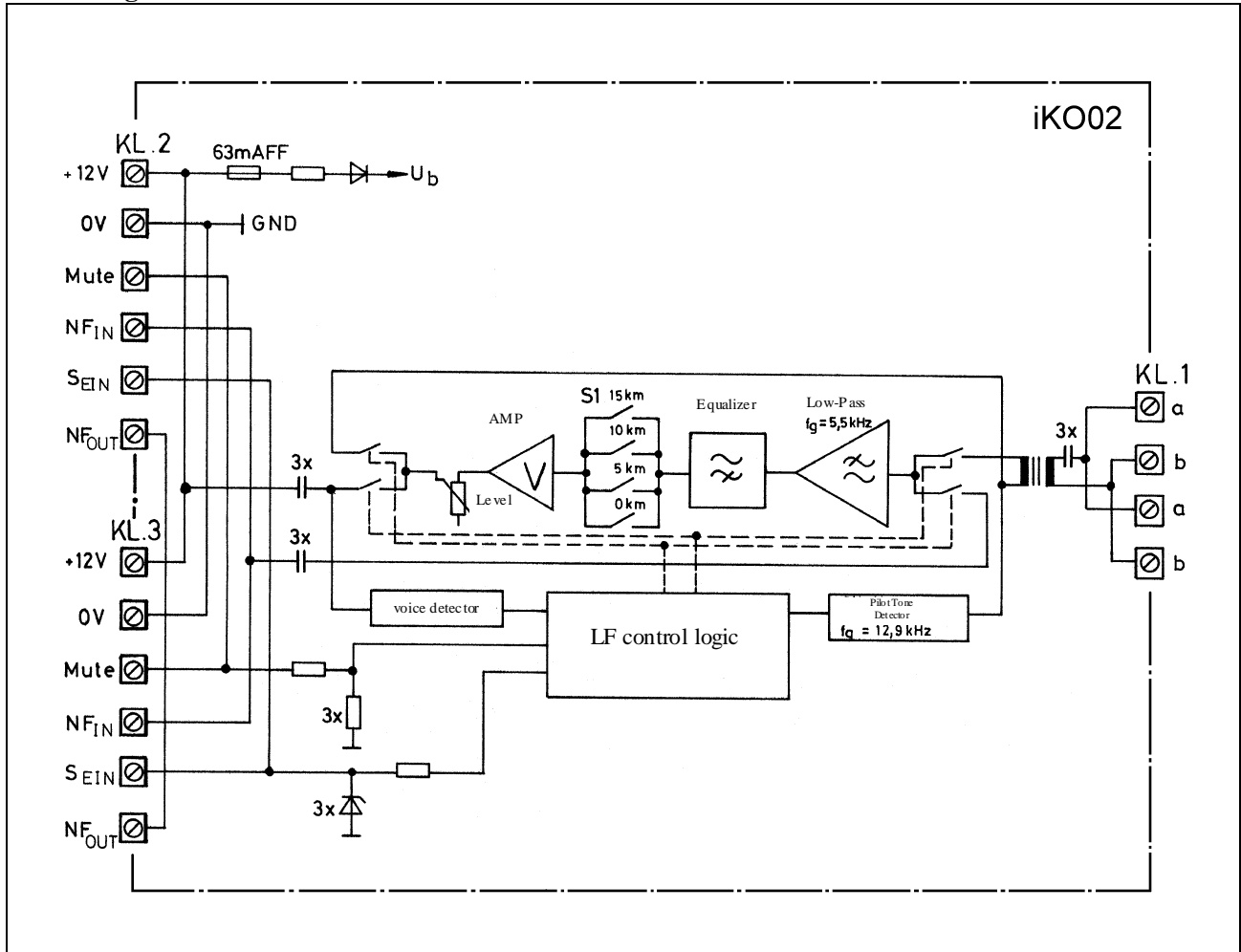
Construction

The PCB of the LF i/i coupling module iKO02 is built into an angled sheet-steel profile. Guide rails fix the PCB to the profile. The module iKO02 is fastened with two captive screws in its bottom to a mounting plate with corresponding drill holes.

The external circuits are connected to plug terminals on the top of the module. A potentiometer available on the top-side of the housings profile adjusts the amplification to compensate the line attenuation. A 4-fold DIP switch is used for the line length equalization setting. As an option a 35 mm DIN mounting rail can be assembled on the top-side of the housing profile.

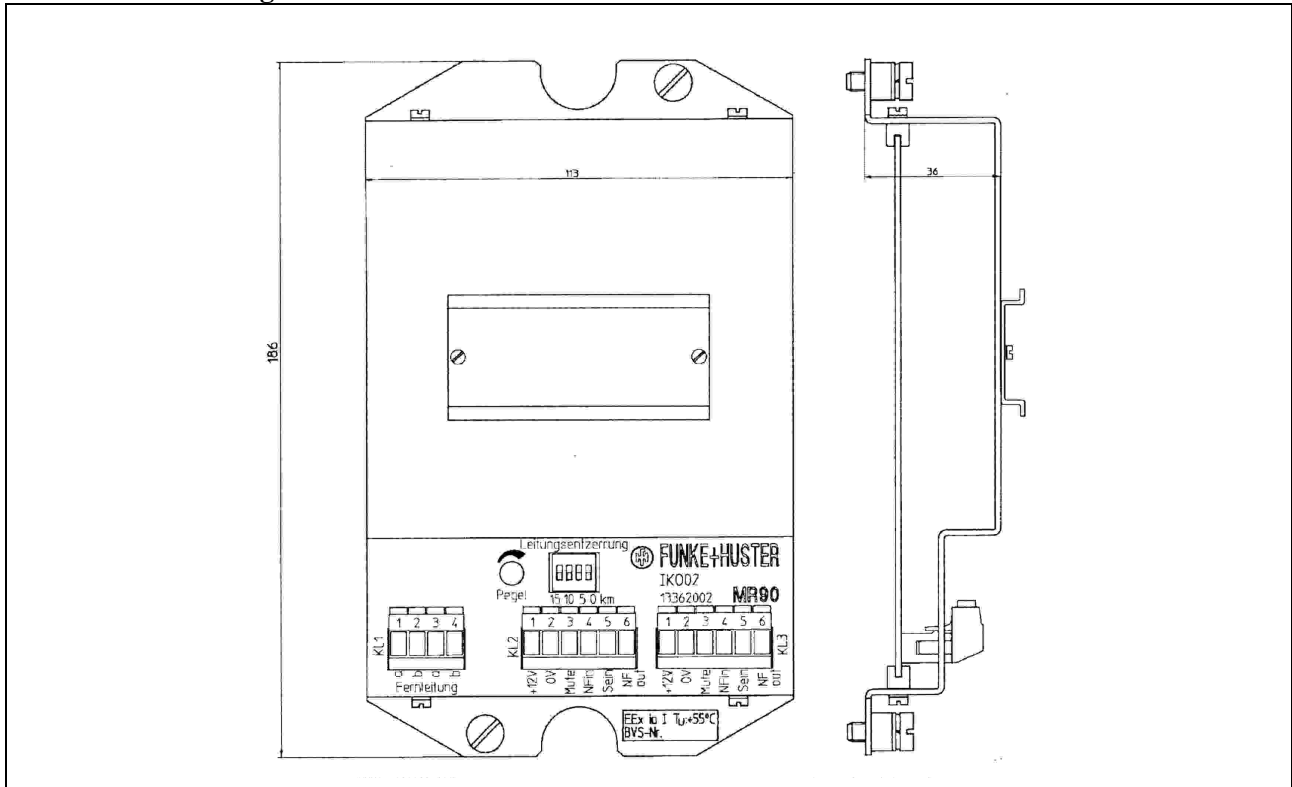
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Block Diagram



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Dimensional drawing



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