



SEFAR-AB1- System of Wireless Communication in Coal Mines

 Certificate: ATEX, UK, Po



Technical parameters:

Certification	ATEX, IM1, IM2
Frequency	160-175 MHz
Max. number of amplifiers between two Gos	19
Maximal attainable distance in the direct line	18 000m
Maximal length between two amplifiers	350m
The distance of the hand station from the aerial, range	max 50m
Type	VLCY-ZAM
Impedance	50 ohm
The colour of the casing	Black

Use:

The radio-controlled connecting system of SEFAR AB1 is intended for the wireless voice connection of workers in underground mines with the environment where there is a high risk of methane or coal-dust explosion by means of the SEFAR C hand radio station.

By means of this system, it is possible to create a global coal mine radio network either for the connection between a head hitcher in the cage of a mining elevator machine and a hoist-man in the hoist room of the mine, or for the connection among workers along belt conveyors, or for the communication between an engine driver and service staff or a mining dispatcher.

Having connected a headphone adapter, which shall be fixed on a commonly used mining safety helmet, you can employ this system in very noisy environments.

Description:

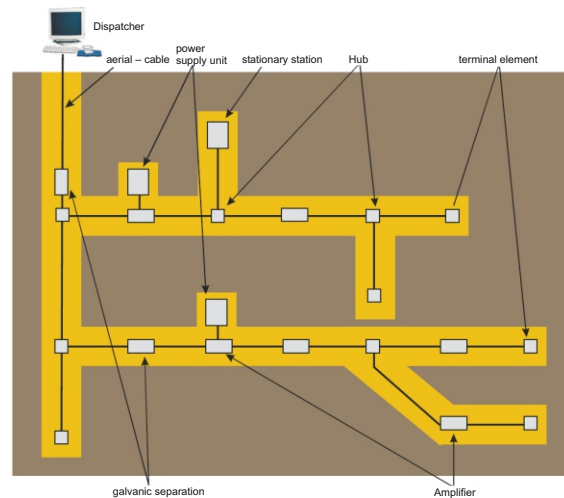
The SEFAR AB1 system is constructed in order to satisfy hard conditions of the mining environment. As it has been mentioned above, it is intended for vocal loud communication. The data transfer is in the stage of preparation. The fundamental element of the system is a concentric coaxial cable (the VLCY-type), which works as an aerial in the system. The system operates in the frequency of 172 Mhz.

The SEFAR C hand radio station serves for the actual voice communication. The main device in the system is the SEFAR B1 stationary station, to which the aerial is plugged in. The stationary station can be placed, for example, on the upper level of the shaft. From this place, it is connected through a galvanic separator and a converter with a dispatcher on the one side, and, on the other side, it is lowered and fixed in the shaft of the mine, with a branch which is installed on each level and that, by means of branching modules, can be further branched.

In order to get a sufficient signal for the connection, the SEFAR LZ line amplifier is inserted into the aerial in every 350 m, and the SEFAR Z power supply unit is installed for every 10 or 19 amplifiers. Every branch must be terminated with a terminal member of the KC 01 type. If we want to branch the aerial into branches, it is necessary for us to insert the SEFAR R branch joint into the aerial network.

In order to secure intrinsic safety, then it is also required to insert a divider, the SEFAR GO amplifier in order to galvanically divide the power source from the particular units of SEFAR Z.

The connection between the hand radio station and the aerial cable can be established within the maximum distance of 50 m from the aerial. The specific distance depends on ambient conditions. The hand radio stations are equipped with a "blocking" switch. When the switch is activated, the stationary station will carry out a disconnection of an auxiliary contact, by means of which it is possible to block any function of the respective device.



The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.