



## SEFAR-BZS Wireless communication system for mine rescuers in action

 Certificate: ATEX



**Base station**

**Use:**

SEFAR-BZS is used as a rescuer connection for rescuers taking actions in gas explosion hazard areas or in closed underground areas (tunnels, mines).

It makes communication possible for up to 5 members of the rescue team with the base station placed out of the hazard area. The communication system consists of three main parts: Base station (ZS), Antenna and Rescue station (ZSt).

**Communication system description**

The base station is a box. There are ON/OFF and volume controls, loudspeakers, output to connect the antenna, input to connect the supply voltage, input to connect the microphone and input to connect the head set on the front of the box. The antenna output is in version I (M1) [Ex ia] I. The box includes control electronics, an accumulator and a charger. The box is designed as a case made of plastic and aluminium compounds. Its use in the underground mine environment is allowed with dispensation by the Czech Mining Authority.

The antenna consists of a special coaxial cable that is reeled on a cable drum to be handled and transported easily. The electronics of the drum includes signal amplification, route branching and/or terminator of the made route. The length of the cable reeled on the drum is 200m. A route of the total length up to 5km can be made from the individual drums. One cable end is terminated with a connector to connect to the base station or to the previous drum and the other end is connected to the electronics in the drum. The other input into the electronics is realized by a connector placed on the drum cover.

The rescue station consists of a small box with the following elements: ON/OFF & volume controls, emergency signal switch, LED signalling that the station is ON and/or the emergency switch is ON, microphone and antenna. There is a loudspeaker placed on the front of the station. The rescue station is supplied from an accumulator unit that provides 10-hour operation.

The rescue station is in the transmission and reception modes all the time. The base station is in the reception mode all the time, also during the transmission period.



**Rescue station**



**Cable drum**

**Technical parameters:**

Base station SEFAR-BZS-A:

Model	I (M1) [Ex ia] I
Supply voltage	Accumulator 12VDC/24Ah
Input	15W
Ambient temperature	0°C to +40°C
Humidity	max. of 95% w/o cond.
Protection level	IP 54
Dimensions	400 x 450 x 170 mm
Weight	13kg

Rescue station, SEFAR-BZS-C:

Design	I M1 Ex ia I
Nominal supply voltage	7.4V
Operational voltage	5.5-8.4V
Consumption	200mA
Accumulator	2200mAh
Ambient temperature	0°C to +40°C
Humidity	95% without cond.
Protection level	IP 65
Dimensions	70 x 175 x 45mm
Weight	630g

Cable drum, SEFAR-BZS-D:

Design	I M1 Ex ia I
Cable length	200m
Number of drums, max.	10
Ambient temperature	0°C to +40°C
Humidity	95% without cond.
Protection level	IP 54
Dimensions	470 x 400 x 235mm
Weight of the drum with cable	20kg

**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.**