

ARES-5/E

Seismic-acoustic system for
rock-burst hazards assessment

TECHNICAL DATA

- ✓ Number of measuring channels
- ✓ Transmission mode
- ✓ Maximum transmission range
- ✓ Bandwidth of the sensor
- ✓ Sensor parameters

- ✓ Sensor type

- ✓ Supply mode of the underground
intrinsically safe part
- ✓ Maximum sampling frequency of
seismic-acoustic signals
- ✓ Processing dynamics of the signal
- ✓ Sampling frequency of envelope excursion
- ✓ Processing dynamics of the envelope
excursion
- ✓ Results visualisation
- ✓ Casing protection degree of the underground
part of the system

8 (maximum 64 for 8 surface stations)
natural, by current
10 km
28 ÷ 1500 Hz
omnidirectional velocity measurement with
sensitivity 8,66 V/m/s ±15%
SP-5.28/E

central, intrinsically-safe from the surface, 32 V ±1 V

10 kHz, 4kHz* * - for station with REX5-LAN card

54 dB, 96 dB* * - for station with REX5-LAN card
250 Hz
48 dB

PC with Windows system
IP 54

Functions:

- Detection of seismoacoustic signals using signal envelope excursion or raw signal
- Amplification and filtering of seismic-acoustic signals near the sensors (N/TSA-5.28/E underground transmitters)
- Analogue transmission of amplified seismic-acoustic signals to the surface station of ARES-5/E
- Determination of the parameters of seismic-acoustic signals
- Detection and multi-channel recording of seismic-acoustic events with GPS-based time synchronization
- Simplified location of selected seismic-acoustic event
- Determination of the distribution of conventional energy of seismic-acoustic events and the activity of their appearance
- Data processing, visualisation and archiving according to the valid instruction in the range of the seismo-acoustic method of rock-bursts assessment

EC-type examination certificate:

KDB 06ATEX070
KDB 06ATEX071
KDB 06ATEX069

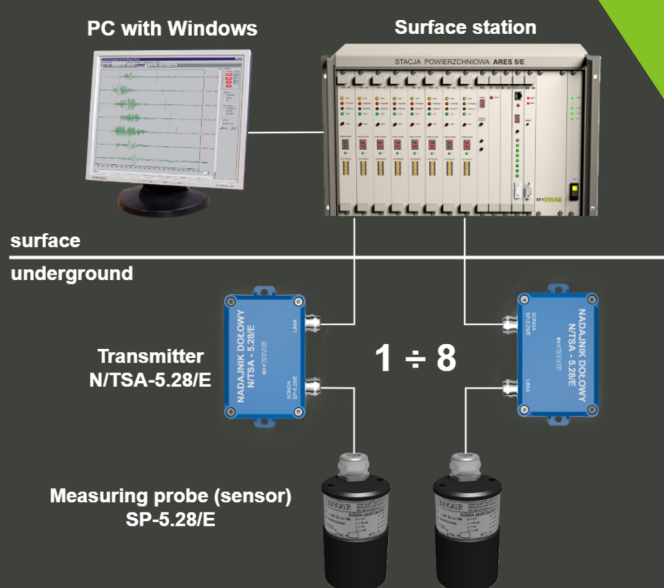
Protection in explosive atmospheres:

according to ATEX directives by intrinsic safety
Surface station: I (M1) [Ex ia Ma] I
Sensor and transmitter: I M1 Ex ia I Ma

Conformity marking: **CE**

ARES-5/E

Seismic-acoustic system for
rock-burst hazards assessment



Assessment of
rock-burst
hazards in the
longwall area

- Designed for rock-burst hazardous mines
- Can be used in places with methane explosion hazard
- Seismic-acoustic monitoring in particularly hazardous areas (longwalls)
- Assessment of rock-burst hazards according to the principles of the seismic-acoustic method of rock-burst hazards assessment



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