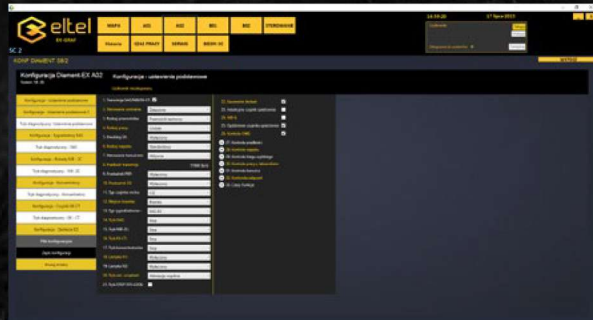


The EK-GRAF system enables:



Displaying information about the operating status of individual devices



Remote change of device configuration parameters



Keeping statistics and generating reports



Archiving of events



Diagnostics of devices



Preview from the cameras of the video monitoring system



EK-GRAF VISUALIZATION SYSTEM

The EK-GRAF visualization system is software designed for visualization of production processes as well as configuration and control of devices in automation systems.

The EK-GRAF system can be used to visualize:



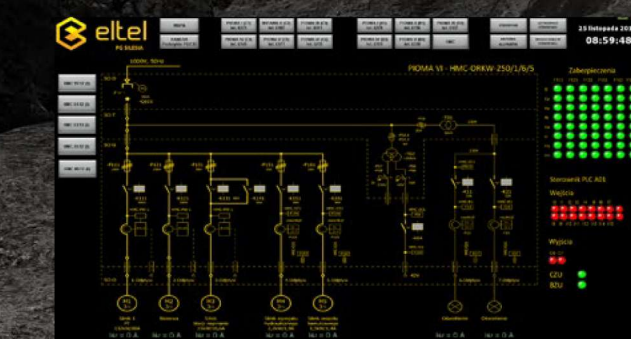
Control systems for belt conveyors
DIAMENT type



Longwall complexes



Pump and fan control systems



Devices such as switching stations, transformer stations, frequency converters

CONTROL SYSTEMS IN UNDERGROUND COAL MINES



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BELT CONVEYORS SYSTEM

The system enables control of belt and scraper conveyors for haulage of the excavated material by local and central control, connection to local controllers of the sensors controlling the operation of monitored conveyors, acoustic signaling before start-up, loudspeaker communication and emergency shutdown from any place along the conveyor route.

The devices used in the system are of intrinsically safe construction, in accordance with the ATEX directive. In combination with the EK-GRAF system, we get the possibility to control and monitor the operating conditions of conveyors during haulage remotely.

BELT CONVEYORS SYSTEM



DIAMENT-2200EX controller for controlling belt/scraper conveyors



Intrinsically safe power supply EZI-15X..W/15X..W with double output



SAG-EX acoustic signaling device with EWA-M emergency switch



EWA-D emergency switch



EK-KAM CCTV camera with visible or infrared light



Intrinsically safe EK-DISPLAY for displaying images from CCTV cameras



Central controller - BIZON-SC modular device of the haulage control system

BELT CONVEYORS SYSTEM



BIZON type modular device ensuring cooperation with the control system of the longwall complex



EZI-15X..W intrinsically safe power supply with data transmission module



SAG-EX acoustic signaling device



EWA-D emergency switch



EK-OKO camera with FullHD image resolution



EK-PC computer for viewing images from CCTV cameras and operation of the EK-GRAF industrial process visualization system

LONGWALL SYSTEM

The system provides loudspeaker communication, acoustic signaling before the start-up of the longwall complex equipment as well as the possibility of emergency stop by use of the emergency switches installed along the scraper conveyors.

The devices used in the system are of explosion-proof construction, intrinsically safe or flameproof, in accordance with the ATEX directive. In combination with the EK-GRAF system, they enable remote switching on and controlling the operating status of machines and devices.

LONGWALL SYSTEM

PUMPS AND FANS

Control systems for pumps and fans are based on BIZON modular intrinsically safe devices. They enable control and supervision of the operating parameters of complex dewatering and ventilation systems of mining excavations. In combination with the EK-GRAF system, they enable remote switching on and controlling the operating status of machines and devices.

FANS



BIZON type modular device (for FANS) - execution according to customer needs, control algorithm adapted to the process being operated and to the connected devices and sensors



BIZON type modular device (for PUMP) - execution according to customer needs, control algorithm adapted to the process being operated and to the connected devices and sensors

PUMPS



ASo-3 warning signaling device



EZI-15X..W intrinsically safe power supply with data transmission module



Auxiliary panel PP