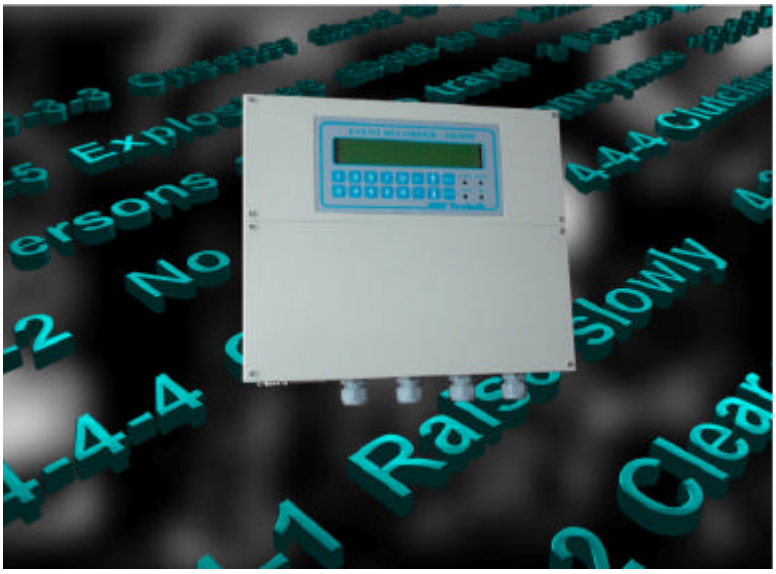
EMS Technik

ER2030
BELL & EVENTS RECORDER

APPLICATION

The recording of Lock-bell signals relative to the changing winder operations, caused by the driver or his equipment, is of primary importance in the management of the productivity and safety of mine shafts.



SYSTEM DESCRIPTION

Rapid strides are being made in applying computers to this task. EMS Technik's Bell & Events recorder (ER 2030) represents state-of-the-art technology in this field with its capability of recording input events simultaneously with their associated belling signals against time and winder drum position. Keeping in trend with modern control philosophies of distributed intelligence with centralised supervision and control, the recorder is designed to operate in a stand-alone mode and with network connection to a central PC.

Each recorder has its own keypad and LCD display interface from which captured events can be viewed and (on request) printed by a local printer. The recordings, captured at a sampling rate of over 100kHz, can also be interrogated from the central PC to be displayed and printed in forms to provide the greatest amount of information that could possibly be extracted from the raw data.

A optional safety feature of the EMS Technik Bell & Events Recorder is its capability of having the mine specifying a series of event sequences with associated belling signals which will cause an alarm or trip-out whenever they occur.

ALARM ANNUNCIATION (OPTIONAL)

Each ER2030 provides two voltage-free output contacts which may be connected to audible alarms or the Winder's control system. These alarms could be provided for sounding inside the particular driver cabin whenever the system detects signal relationships that match pre-defined, abnormal relationships. At the same time the occurrence of the alarm is displayed on the recorder's LCD screen and printed out on the optional printer device. These alarm events are also time-tagged and stored in the Event Recorder's non-volatile event buffer for later reference.

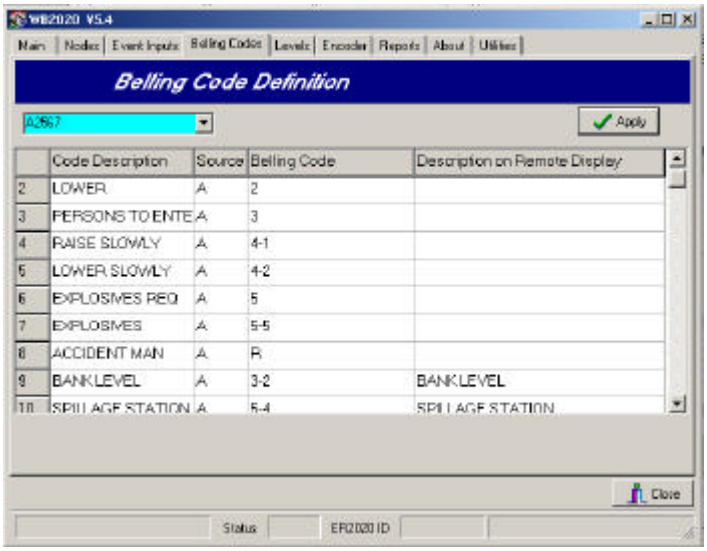
SYSTEM CONFIGURATION

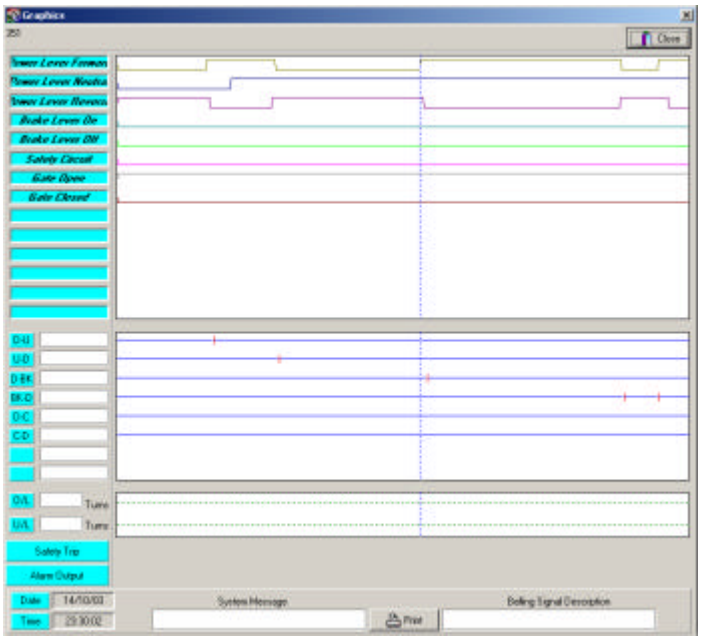
The Event Recorder is configured with the aid of a personal computer connected to the Local Area Network port of the recorder. Input signal descriptions, acceptable Belling Codes descriptions , Position Information descriptions of the different levels in the shaft, rotary encoder mounting and resolution information, etc. is downloaded from the PC. In an on-line network configuration this information can be downloaded over the network to the different Event Recorders

OPERATING PROGRAMME SUITE

The Windows® Operating Programme Suite supplied with the Event Recorder needs to be installed on the network PC or any other PC that is going to be used to configure the Event Recorder. The software provides the following user interface:

- Multi-level Password protection scheme which ensures only authorised Read only or Read/ Write access to the system.
- A system configuration programme which provides for both off-line as well as on-line configuration changes. Under this programme the user can label as well as scale each specific input to each of the ER2030's on the system.
- Through a menu driven programme the user may perform on-screen analysis of selective time intervals of captured data in order to observe the time relationship of the different signals. He may then select a hard copy of data which occurred in the selected time intervals, as shown on the screen.





SPECIFICATION SUMMARY

Hardware

Event Inputs : 10/8/6 - Opto-isolated.
Events Inputs : +8 (Optional) - Opto-isolated.
Encoder Synchronisation Inputs : 2 - Opto-isolated.
Belling Inputs : 4/6/8 x Belltronics - Opto-isolated.
Rotary Encoder Inputs : 2 - Opto-isolated.
Relay Outputs : 2
Communication Ports : 1xSerial & 1xParallel ports
: 1 x Ethernet port
Non-volatile memory : 32 Mbytes
Operator Interface : 4x40 character LCD display & Keypad

Functional

Stand-alone and network modes
Automatic belling code recognition
All events time and drum position stamped
Recording Period : 7 days (7x24 Hours)
Pro-active decision making (Option)
Local and remote report generation
Local and remote event display (Current & historical)

For further information, please contact :

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