

Programmable Communication, Lock Out  
Indication and Signalling System



Solus Pullkey



CLOIS 3000



BMA



Tail End Unit



Cadlock



Lock-out

- **A user programmable signalling and control system utilising 4 conductors for both signals and communications**
- **Up to 25 intrinsically safe loudspeaker amplifiers**
- **Non-handed self identifying keys**
- **Up to 127 individually monitored and identified unit positions**
- **Remote telemetry RS232/485 interface**
- **Applicable to all types of conveyors, rope haulages and other plant**

CLOIS 3000 is a flexible signalling and control system for conveyors, haulages and other plant.

The system console comprises an intrinsically safe enclosure which houses the microprocessor controlled signalling circuitry and a telemetry interface. A Power supply and Pilot relays are housed in a separate flp or XP enclosure.

In addition to the console a system can include remote amplifiers (BMAs), and various types of lock-out and signal keys as shown in the block diagram on the reverse of this data sheet. A Tail End Unit terminates the system cable.

The system is extremely flexible and may be used as a control system in mines and tunnels for all types of conveyors and haulages.

The system provides tone signalling, emergency trip, loudspeaker communications and two monitored pre-start alarms.

The standard system provides transducer monitoring facilities for up to eight line-proved digital inputs. In addition to the pilot outputs, the console has facilities for up to four intrinsically safe relay outputs and one analogue output for unit position indication.

System status is broadcast with voice synthesised messages whenever a status change takes place.

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#### TECHNICAL SPECIFICATIONS

##### LOUDSPEAKER COMMUNICATION FACILITIES

The system is equipped with the BMA (Battery Mini Amplifier) loudspeaking intercom system.

The console is fitted with an H12VDC power supply and an intrinsically safe loudspeaker amplifier fitted with a rechargeable battery and handset.

Up to 24 BMA intrinsically safe loudspeaker amplifiers can be connected to the console.

The audio system can be extended to the surface or to other communications systems.

##### CONSTRUCTION

The console consists of a metal enclosure housing the I.S. equipment. A separate XP enclosure contains the H12DC PSU and Pilot relays. The two are connected by a suitable cable.

The main intrinsically safe enclosure contains the electronic circuitry on a single PCB. This compartment has a hinged front door on which there is an LCD, start and stop switches, local

remote selector switch, and intrinsically safe amplifier.

##### DISPLAYS

The console is equipped with an LCD to show the status of the system, including the signalling system and transducer inputs.

##### APPROVALS

USA  
MSHA IA-18453

#### NOTE

Outside of Europe new units can be purchased.

Within Europe these items are only available for spares and repairs

