



RINGWAY

2-WIRE TECHNOLOGIES

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I.S SIGNAL LINE SYSTEM

P/N – RLINESYS

Ex ia – AUS Ex 3501x



RINGLINE INTRINSICALLY SAFE DISTRIBUTED EMERGENCY STOP SYSTEM

DESCRIPTION

The heart of the Ringline system is a rack housing the power supply, safety monitoring electronics, output permissive interlocks, a local display port and the PLC communications interface. The rack is the source of the 2-wire field circuit (Ringline) that can be run out for distances up to 12km. Up to 90 field transmitters (RLTX2) can be connected in parallel to this field circuit. Each emergency stop device is connected to the two channels (A & B) of a field transmitter using one normally closed interlock (A channel) and one normally open interlock (B channel). The status of each field transmitter is continuously monitored, requiring all 'A' channels to remain closed and all 'B' channels to be open. **Three independent microprocessors control four separate output relays** to close **two separate output permissive circuits ONLY IF** the logical state of all field transmitter channels is correct and all other safety checks are satisfactory. This process interlocks the status of all distributed emergency stop devices to the control circuit of the machine under control in a failsafe manner. A local display connected to the control rack indicates the operational status of the system. The display features a 'stop history', which continually updates (and permanently stores) the last 10 Ringline stoppages. Plant required to operate in sequence with the conveyor or plant under control can receive a 'run signal' signal remotely over the 2-wire field circuit via a two-channel relay receiver unit (RLISR2).

FEATURES

- **Simple, robust and effective.**
- **Up to 12km** coverage over two wires
- Self contained – **no IS power supplies - no barriers – no boosters.**
- Safety logic & compliance with **AS4024.1 Cat 3 & AS1755** independently verified.
- Dedicated display with **stoppage history.**
- Effective **low cost communications** with any PLC.
- **Analog transmission** and reception for condition monitoring.
- Easy implementation of additional failsafe functions such as **remote whole current isolation.**

APPLICATIONS

1: Conveyor / Machinery Distributed Emergency Stopping

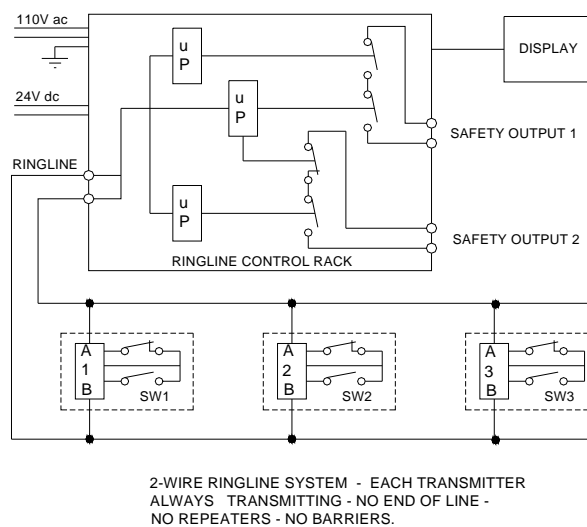
Ringline can be used on any conveyor or machine that requires a distributed network of emergency stop switches or devices to be interlocked to a control system in a failsafe manner. Ringline has a history of reliable performance since 1996 as an emergency stop signal line and remote whole-current isolation controller for conveyors up to 6klms long in harsh environments. Any Ringline transmitters that are not allocated to the safety function can be used to provide blocked chute, belt tracking, bearing monitoring or any other remote PLC input requirement.

2: Hazardous Area Applications – Ex ia

Ringline is intrinsically safe and ideal for hazardous area applications such as coal mines, dusts & sewerage.

3: Condition / Environmental Monitoring

Signals such as temperature, pressure, flow, gas levels etc can be gathered centrally from a wide area (12 km radius) and / or can be shared with any number of PLCs over the same area. Monitors available include line powered temperature transmitters (8-bit resolution) and 4 way 0-20mA (or 0-2V) signal transmitters (10 or 12 bit resolution). The 0-20mA transmitters can interface to other powered transducers. Each analog signal consumes only 1 Ringline channel out of 192!



BRIEF SPECIFICATIONS:

No. of Points: Up to 90 x Emergency stop (2 channel) + 12 channels **or** 192 single channels.

Supplies: 110V ac + 24V dc

Output: 7.4V RMS (intrinsically safe - Ex ia)

Display: Powered via DB9 communications cable.

Comm's: Digital multiplexing; Modbus; DF1.

Dimensions: Control Rack = 265mm (H), 200mm (W), 190mm (D).

Display = 140mm (H), 160mm (W), 45mm (D).

Transmitter = 30mm x 50mm x 25mm.