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SIGNAL LINE SYSTEM

P/N – RLCONV

COMPACT RINGLINE EMERGENCY STOP AND PRE-START ALARM CONTROLLER

DESCRIPTION:

The RLCONV is a compact DIN rail mounted Ringline distributed Emergency Stop and monitoring system combined with a pre-start alarm controller in one enclosure. RLCONV is designed to provide distributed emergency stopping for conveyors or machinery that is affordable, safe, simple and reliable. The unit also provides a Pre-start Alarm function, and field device monitoring (analog & digital) via Modbus RTU Slave for PLC or SCADA acquisition.

The RLCONV unit can interlock up to 40 distributed emergency stop devices to a control circuit while monitoring 40 other field devices. RLCONV provides power for, and receives data from, Ringline Transmitters via its two-wire field bus (conservative range = 4km radius). Each emergency stop device is connected to two input channels (A & B) of a field Transmitter via electrical interlocks. The RLCONV unit continuously monitors the status of each field Transmitter, ensuring that all 'A' and 'B' channels remain healthy. The two Safety Function Outputs (K1 & K2) will remain de-energised unless the state of all field Transmitter channels is correct and all other safety checks are satisfactory. The unit internally stores the last 10 system stoppages.

Transmitters supported include 2 and 6 digital input, plus various analog input modules, including earth fault detection and condition monitoring units. RLCONV can also support relay receiver units installed anywhere on the two-wire circuit to receive signals from any other point/s on the circuit. RLCONV can transmit two output commands to such units e.g. Sequence Tripper / Sequence next conveyor (via 2 x 24V inputs).

RLCONV can also support up to 40 Ringline pre start alarm units to provide a distributed audio and visual pre-start warning. The alarm system can also be used to provide visual confirmation of isolation or 'all healthy'.

Use of a local display (RLDISP2) shows the operational status of the system and provides a communication path to networks and PLC's (Modbus RTU Slave standard). Other communication protocols are possible via an Anybus® plug in module – contact Ringway to discuss options.

FEATURES:

- **Simple, robust and functional.**
- **Redundant Outputs – Redundant Microprocessors**
- **Compact** and highly functional for small footprint.
- Combined **Pre-start Alarm and Emergency Stop** control.
- **Cost effective.**

- 24Vdc supply voltage and **lower field voltages for safety.**
- **4 km radius coverage over two wires.**
- Fully self contained.
- Safety logic and compliance with **AS4024.1 and AS1755.**
- Dedicated local display option with **stoppage history.**
- 40 emergency stop points.
- 40 pre start alarm points.
- 40 analogue and/or digital field device/condition monitoring points (minimum).
- 2 dedicated **digital transmission channels built in.**
- **Bus earth fault monitoring** capability
- **Pre Start Alarm Confirmation** and adjustable duration.
- Will operate with or without a PLC

APPLICATIONS:

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

BRIEF TECHNICAL SPECIFICATIONS:

Power Supply: 24V dc
Voltage Output: 'Ringline' 7.4V RMS DC
 'Pre Start' 24V dc
Dimensions: 110mm (W), 75mm (H), 110mm (D)
Communications: Modbus RTU Slave
Control Outputs: 2 x 24V dc Sourcing (Safety Function)
 1 x 24V dc Sourcing (Pre start confirmation)
Control Inputs: 2 x 24V dc (Pre Start sound, Pre Start - Isolation Indication)
 2 x 24 V dc (Transmit on 63 A/B and / or 64 A/B)
Operating Temp Range: -20 → +75 °C
Dimensions: 100(w) x 75(h) x 110(d) mm

