RINGLINE 2 CHANNEL DIGITAL TIME DELAY TRANSMITTER

WITH DIAGNOSTICS - RLTXS2TD

Call us (NSW) 02 4255 4300
(QLD) 07 4952 4001

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Features

- Integrates time-delayed trips into the Ringline Safety function
- Easy configuration (hard-wired) of auto/manual resetting
- Push button 'override' function to facilitate re-alignment work or diagnostic operation (manual reset mode)
- Intrinsically Safe (Ex ia I)
- Built in surge / lightning protection
- Programmable addresses and time-delay
- Diagnostics provides trip discrimination
- Single output mode minimises consumption of Ringline addresses

Detailed information

The Ringline RLTXS2TD 2-channel Time-Delay Transmitter with diagnostics is designed to monitor limit switches or other safety devices in processes where a time delayed response to an input is desired. The transmitter output changes to the trip state only after a change-over (C/O) input switch has been operated continuously for the programmed time interval. Typical applications include conveyor belt drift switch and blocked chute switch monitoring.

Each transmitter monitors up to two C/O switch inputs and provides a single failsafe output on the Ringline bus for use in the switch mask of a Ringline Safety Card. Additionally, there is a diagnostics address that can be used to detect "touches" and discriminate between the inputs. This means that time-delay inputs can control the Ringline safety function outputs to achieve safety integrity that cannot be easily matched using normal PLC monitoring. The device can be configured to reset immediately when the fault has cleared by tying the 'Auto' input to common, otherwise the device requires a 'Manual' reset using the override input after a trip (see Operation). If channel two is unused, then it can simply be wired to the healthy position by tying the orange wire to the black common, ensuring that the yellow wire remains open circuit.

When Address 2 on the programmer is set, this address is used for the diagnostic function. The A channel is tied to the operation of input 1 and the B channel is tied to input 2. The diagnostic channel works by setting the channel bit to on every scan the transmitter detects a touch.

Intrinsically safe applications require a minimum housing protection of IP54 and at least 500V isolation from earth for monitored interlocks.

Applications

Typical applications include conveyor belt drift switch and blocked chute switch monitoring. The transmitter can monitor up to two C/O switch inputs and can provide a unique failsafe output in the Ringline system for each, or create a single output for any trip. This means that time-delay inputs can control the Ringline safety function outputs to achieve safety integrity that cannot be matched by normal PLC monitoring. Reset can be either 'Auto' or 'Manual' after a trip (see Operation).

Operation

Trip: Whenever the changeover contacts of a transmitter input are tripped, a timer runs for that input. If the inputs remain tripped for the 'programmed' (0 - 20 sec) period the Ringline dual channel output will change from healthy [A Ch=On, B Ch=Off] to the tripped state [A Ch=Off, B Ch=On]. If the Ringline address is assigned to control a system 'Safety Card', the Safety Function outputs will trip in response. If the input recovers prior to tripping, this resets the delay timer.
Auto Mode: If the Auto input (violet) is tied to Common (black) when the transmitter tripped, the output address will return to 'healthy' (1:0) immediately, once the tripped input returns to the healthy state. **Manual Mode:** If the violet wire is not connected, a trip will 'latch' and require a local manual reset to return to healthy. The local reset / override can operate in either mode by holding (>1s) the override input (pink wire) to black. This forces the Ringline address assigned to the tripped input to the healthy state (1:0), allowing the equipment to be operated under observation. This operation has a 2-minute timeout that can be restarted by releasing and re-asserting the pushbutton. If the override input is released and not re-asserted (<1s) the transmitter will revert back to normal operation (based on the status of its inputs and the programmed time delay). The override function requires push to run but precludes permanent jamming of the pushbutton.

Programming

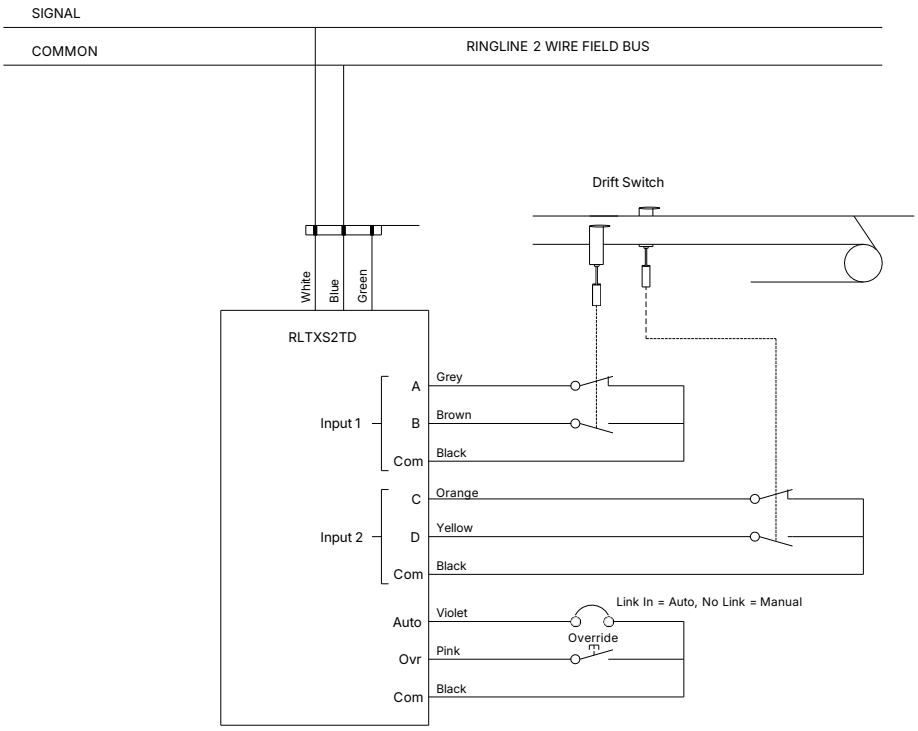
CONFIGURATION MODES – set using Ringline Programmer	PROGRAMMER PARAMETERS		
	ADD1	ADD2	DELAY
Input 1 (Grey-Brown) and **Input 2** (Orange-Yellow): Trip @Addr X, Diagnostics @Addr Y	X	Y	0...20
Input 1 (Grey-Brown) and **Input 2** (Orange-Yellow): Trip @Addr X, Diagnostics Off	X	DISB*	0...20

*DISB is located between the highest & lowest address option on the Programmer.

Technical Specifications

Power supply	7.4V RMS from the Ringline field bus
Input	1 or 2 voltage free changeover contacts
Output	1 or 2 Addresses, encoded onto the Ringline field bus
Addressing	Electronic transfer via Ringline Programmer
Operating Temperature Range	-30 — +75 ºC
Dimensions	70 (w tabs) / 50 (w body) x 30(h) x 25(d) mm Ø3mm mounting holes - 60mm apart
I.S. Certification	Ex ia – IECEx TSA 08.0031X

Diagram



Conveyor Belt Drift