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RINGLINE 4 - CHANNEL ANALOG TRANSMITTER

P/N RLTX4AN_020MA

DESCRIPTION:

This Ringline transmitter is designed for slow change condition monitoring over distance using minimal power. Suitable signals include temperature, pressure and gas levels, etc. It will transmit up to four, 4 to 20mA signals over the Ringline system with 12 bit resolution. The transmitter is compatible with both Ringline 128 and Ringline 192 systems. Each analog input signal is addressed to a single Ringline channel (192 channels available), using the Ringline programmer. Any input signal addressed above the maximum channel value (96B) is disabled.

The input current sensing resistors may be removed for the transmission of 0.4 to 2-Volt signals.

The signal update rate is approximately every 2.5S for a 192 channel system and 1.7S using 128 channels.

FEATURES:

- **Simple, robust and functional.**
- Low power consumption (20mA)
- Powered from same supply as the transducers being monitored (12 – 24V DC).
- Signals retrieved via 'Modbus' (standard) or other serial interface to PLC
- Monitoring distances up to 8km in any direction over two-wires
- High accuracy delta/sigma converters used
- Optical isolation between power supply and Ringline bus
- Continuous monitoring in power loss situations (requires U.P.S.).
- Signals may be monitored or retrieved centrally or at multiple points.

APPLICATIONS:

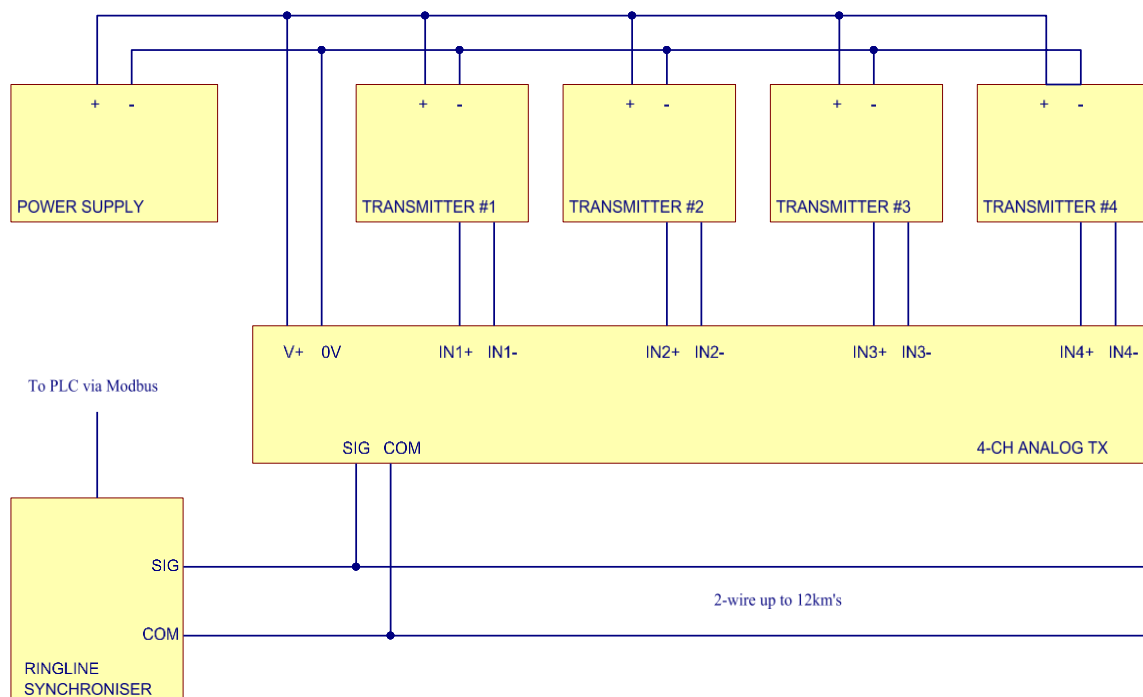
The transmitter is intended for remote sensor monitoring. It has advantages where monitoring points are spread over wide areas or in small groups over several locations. It also offers a low cost alternative to distributed PLC monitoring.

For users of the Ringline emergency stop system, unused channels may be used for analog monitoring without compromising emergency stop functional safety.

The main application is for wide area condition monitoring of slow moving process variables. Transmitters can be installed anywhere on the Ringline bus up to 7km from the Ringline Synchroniser (up to 12km on 666Hz system). Any transducer that produces a 4 to 20mA signal may be monitored via the two-wire network (Ringline). The method of decoding the analog signal/s (from Ringline) will be dependent on the users' requirements. The standard Ringline serial interface is Modbus RTU Slave, but other protocols are available depending on the Ringline system being used. The assignment of Ringline addresses to the 4 input signals can be nominated on ordering or may be set / reset using a Ringline Programmer – see following page.

BRIEF TECHNICAL SPECIFICATIONS:

Power Supply:	10V – 24V DC @ 20mA - may be battery backed.
Dimensions:	100mm (W), 75mm (H), 110mm (D).
Isolation from Ringline:	Opto coupler 5,000 volt
Input Range:	0 to 20mA (note 4mA = 20% of FSD)
Resolution:	12 bit - 0 to 4095 decimal
Analog Inputs:	4 @ 0 – 20mA; (0 – 2V optional)
Input Impedance:	100 Ohms (for current input)
Output:	Via Ringline field bus connection
Analog Update Rate Ringline 128:	1.64 seconds (2.408 for 192ch) on 1kHz system



Typical usage drawing

To check or change the Ringline channels allocated to the analog input signals;

1. An addressing harness (supplied with unit - see photo) must be connected as per the legend in the following photo.
2. The white and blue conductors of the harness must be the only wires connected to the SIG and COM terminals (no field bus connected), while the black wire connects to 'P-' and the green wire to 'P+'.
3. The RLTX4AN must be powered (10 – 24V DC connected across V+ & 0V) and the harness plugged into the socket on the RLPROG2.
4. Press the READ function on the RLPROG2 and the programmer screen will show the current address allocations for each analog signal.
5. To change the allocated channels the '>' arrow key must be pressed to bring the screen cursor down under the allocations and the '<' or '>' keys used to navigate the cursor under the channel to be changed.
6. The Up or Down arrow keys are now used to increment or decrement the display until the desired channel is reached e.g. 44A.
7. When the display shows the correct Ringline channels for all 4 signals press the PROG button to send the new selections to the transmitter. ***Make sure that all assigned channels (especially any for unused analogs) are not already assigned to any other function.***
8. The display will read the changed values back from the transmitter to confirm the process.
9. Remove the harness and install / reinstall the transmitter and associated wiring.

