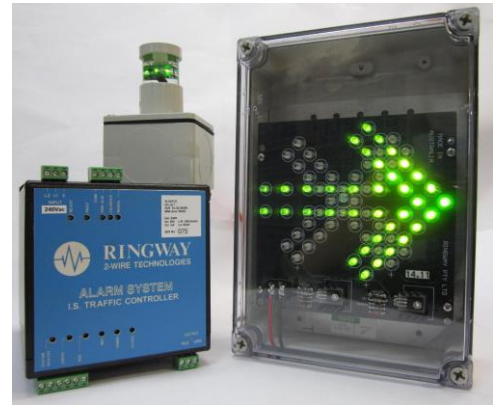# RINGWAY
2-WIRE TECHNOLOGIES

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I.S. TRAFFIC CONTROL

P/N – ALSUP_IS (TRAFFIC); BLITE_IS; BLLED_IS
Ex ia – IECEx TSA 13.0015X

INTRINSICALLY SAFE TRAFFIC CONTROL SYSTEM BROCHURE

DESCRIPTION:

The 2-Wire system is foolproof, simple & functional. The heart of the traffic control system is the I.S. power supply / controller (**ALSUP_IS [TF]**). The controller is mounted in the safe area and powers a parallel connected network (intrinsically safe) of alarm enunciators (lights) and operating switches via a two-wire supply bus. There are two enunciator types, a 'Cross / Arrow' LED display (**BLITE_IS**) and a LED 'Tower' light (**BLLED_IS**) - each of which may be mounted in the hazardous zone. Operating switches are 'simple devices' that connect a resistor across the two-wire when operated. A switch is positioned wherever an operator (driver) needs to request a change of system status. The principle of operation is that the output (I.S. field bus) is dual state – Red or Green. The polarity of the two-wire determines the status of the lights and is changed by the controller on detecting a change of state request (increased current due to switch operation) over the two-wire. The controller and lights are set up to control a traffic section or 'block' that may be an intersection, series of intersections, single access tunnel or any combination of these. The lights are set up at the entrance/s to the 'block' under control to either allow access (green light / green arrow) or bar it (red light / red cross). There are 3 x 24V digital inputs to the controller that are used for calibration, manual operation and a remote alarm state. There are three voltage-free output contacts that are used (if required) to indicate the current output state and to confirm the health of the unit. Also see the full system manual (Traffic_Man) for more detail.

FEATURES:

- **Simple**, **robust** and **functional**.
- **Dual operations detected – causes Alarm State (flashing red).**
- Intrinsically safe – **Ex ia.**
- **No barriers** – **no repeaters** – **no batteries**.
- Automatic calibration.
- Manual control for trouble shooting / setup.

APPLICATIONS:

When the 'cross/arrow traffic light' LED enunciators (**BLITE_IS**) are used a highly visible (underground) solid red LED 'cross' is illuminated at each alarm site in the 'red' state. The cross is used as a 'do not proceed beyond this point' warning to vehicles. The alternate (green) state changes the red 'cross' display to a solid green 'arrow' at each alarm site. The arrow is used to indicate that traffic may proceed. A specially rated 220 Ohm resistor is switched across the 2-wire (either automatically or manually) for at least one second to change the output status. The controller can accommodate a maximum load of 4 BLITE_IS traffic lights and 4 BLLED_IS indicators and still be able to sense two simultaneous switch operations.

BRIEF TECHNICAL SPECIFICATIONS:

Power Supply:	110V, 0.2A or 240V, 0.1A ac
Alarm Output:	18V dc, 300mA
Digital Inputs (24V):	Calibrate, Manual, Remote Alarm
Digital Outputs (voltage free contacts):	Healthy, Red, Green
Indication LEDs:	'Ready'; 'Fault'; 'Red'; 'Green' & 'Output'
Maximum Alarm Units:	BLITE_IS – 4 units plus BLLED_IS – 4 units
BLITE_IS:	50mA (18V)
BLLED_IS:	9mA (18V)
Operating Temperature Range:	-20 → +40 ºC
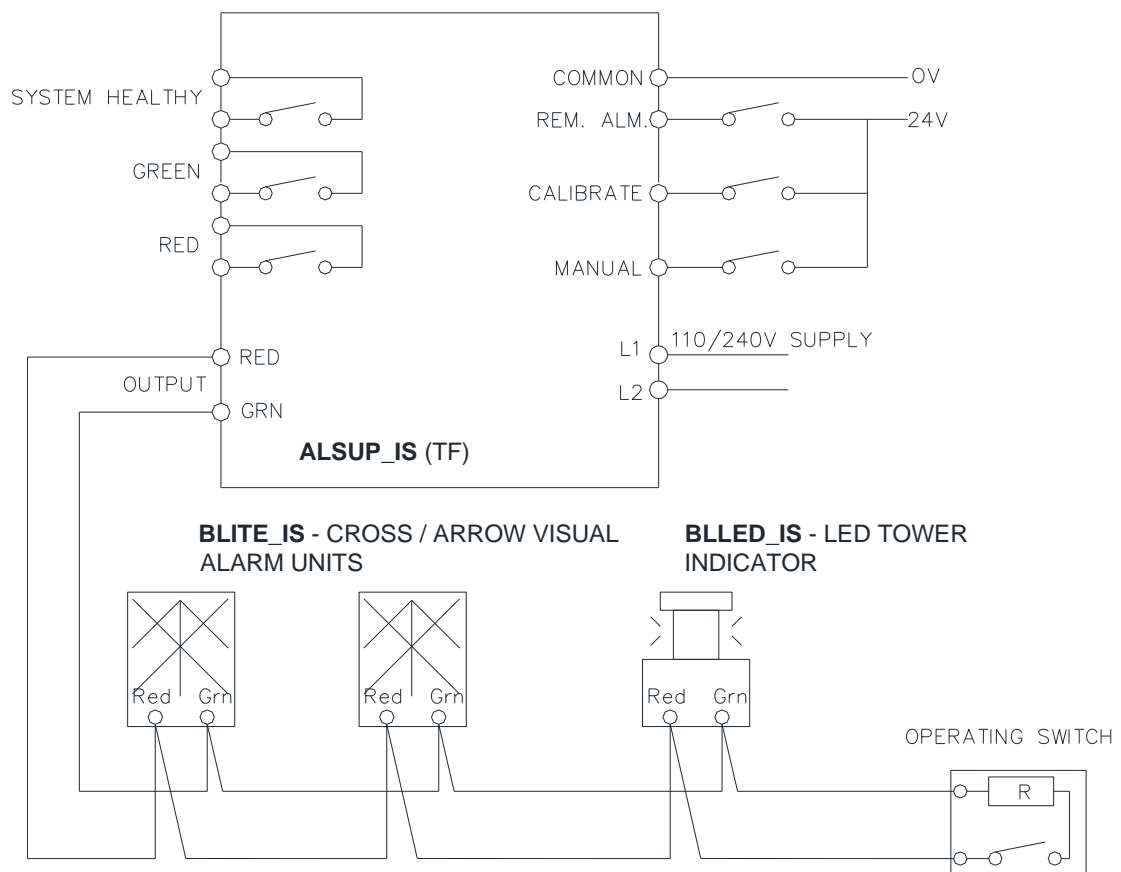
2-WIRE TRAFFIC SYSTEM PARALLEL CIRCUIT
1: RED CROSS ILLUMINATES WHEN 'RED' IS POSITIVE
2: GREEN ARROW ILLUMINATES WHEN 'GRN' IS POSITIVE   R = 220 Ohms