

**TX9131-2-6-7-9**

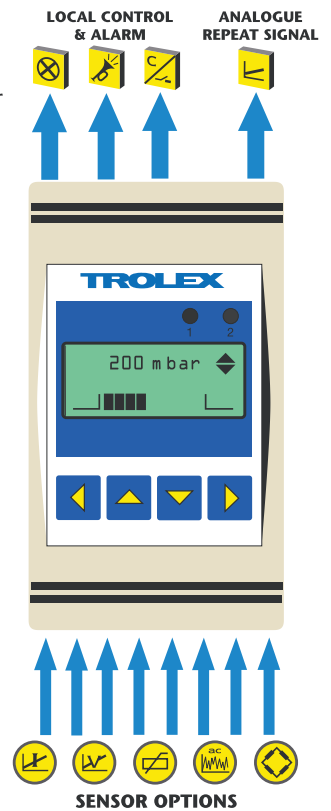
**PROGRAMMABLE  
TRIP AMPLIFIER**

**DATA SHEET**

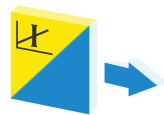
## cost effective predictive maintenance...



- Programmable Trip Amplifier with dual set point relays and optional analogue repeater output signal.
- Compatible with standard sensor signals; 0.4...2V, 4...20mA, PT100.
- Repeater relay unit option.
- Microprocessor based, menu operated mode selection for all functions: Scale, units, offset, set points, time delays, relay phase, latching, hysteresis, etc.
- LCD information display of input signal status – also displays all operating mode information.
- Application flexibility with a choice of mounting formats:- Front of panel, DIN rail or 19" rack mounting.
- Certified intrinsically for underground mining.



## choice of input signals...



### TX9131 CURRENT SIGNALS

2 wire or 3 wire process signals.  
Fully floating differential input allows several units to be connected in series on the same loop with high noise immunity.

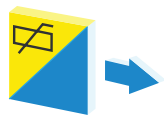
- 0...20mA • 4...20mA



### TX9132 VOLTAGE SIGNALS

Differential input enables long signal lines with minimal signal loss.

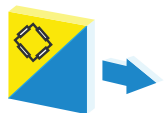
- 0.4...2V



### TX9134 PT100 INPUT DISCONTINUED

Input standard for platinum resistance temperature sensors. DIN43760. BS1904.

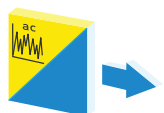
- -50°C...200°C • -50°C...400°C



### TX9136 BRIDGE INPUT

Balanced four arm bridge input.  
Bridge measuring circuits.  
Pressure sensors and strain gauges.

- 15mV...50mV



### TX9137 ac INPUT

ac input signals from load cells, ac generators, accelerometers and velocity sensors or power measurement systems.

- ac Peak: 10Hz...10KHz, 10V pk/pk
- ac RMS: 10Hz...10KHz, 10V pk/pk

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## programmable output signals...

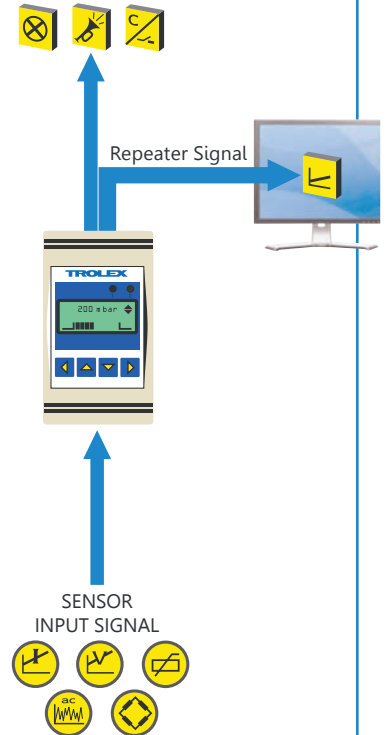


- TWO INDEPENDENT OUTPUT RELAYS.
- SET POINT ALARM LEVELS.
- RELAY FUNCTION – AUTO/LATCH/IMPULSE.
- HYSTERESIS DEAD BAND CONTROL.
- RISING/FALLING ALARM RELAY FUNCTION.
- POWER ON DELAY RUN-UP PERIOD.
- OUTPUT DELAY TIMERS.
- INPUT UPDATE PERIOD.
- **PERMANENT MEMORY DATA RETENTION.**

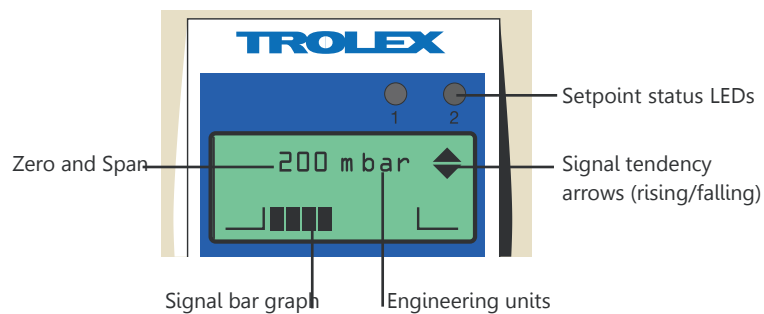
### ANALOGUE REPEATER OUTPUT SIGNAL

One of the output contacts may be substituted by an analogue repeater output signal for communication with data systems.

- 4...20mA repeater
- 0.4...2V repeater



## information display...

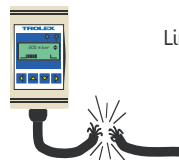


## information security...



All essential information can be protected by a user security code, but still permits access to day to day functions.

## signal fault alarm...



Line and input signal monitoring of system failure.

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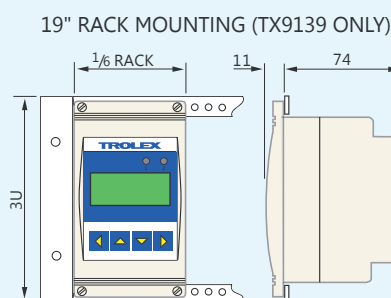
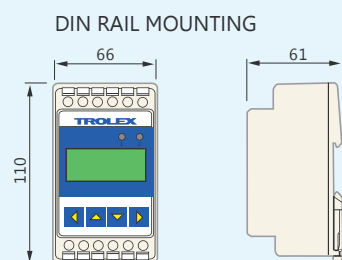


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## technical details...

Display Accuracy:	±0.5% (Analogue Channels).
Set Point Accuracy:	±0.5%.
Ambient Temperature Limits:	–10°C...50°C.
Electrical Connections:	4mm barrier/clamp terminals.
Housing Material:	ABS.
Nett Weight:	300gms.
Environmental Protection:	IP55 (IP65 Panel Seal).
Information Display:	High contrast dot-matrix LCD
Mounting:	DIN Rail EN 50022, 19" Rack or Front of Panel.
Operation:	Microprocessor controlled menu operation, with non-data retention.
Set Point Adjustment:	0...99%.
Hysteresis Adjustment:	0...99%.
Power ON Delay Adjustment:	0...255 seconds.
Output Delay Adjustment:	0...25 seconds.
Engineering Units Menu:	mV, V, mA, °C, °F, g, kg, mbar, bar, Pa, kPa, PSI, %, ppm, %RH, mm, m, m/s, mm/s, m <sup>3</sup> /s, ft, ins, ft/sec, rpm, pps, Hz, kHz, g/m <sup>3</sup> (ASCII code user entry).
Input Signal Averaging Period Adjustment:	0...250 seconds.
Input Signal Failure Alarm:	Open or Short Circuit signal line will de-energise both output relays and display HIGH or LOW SIGNAL ERROR.
Certification:	Group I - please refer to user manual for full details

### Dimensions:



ALL DIMENSIONS IN MM

**NB. THE MODULES MUST BE HOUSED IN A PROTECTIVE METAL ENCLOSURE TO COMPLY WITH I.S REQUIREMENTS.**

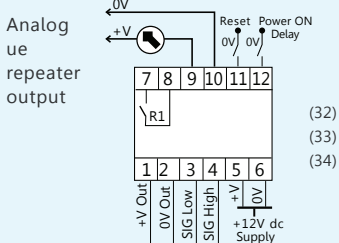
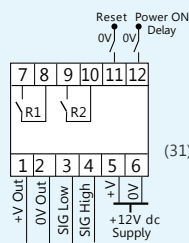


## electrical details...

Supply Voltage:	7.5V dc...16.5V dc.
Supply Current:	60mA at 12v with both relays energised
Output Relays:	2 independent encapsulated reed relays.
Contact Rating:	200V. 0.25mA. 3W absolute maximum.
Contact Format:	NORMALLY OPEN or NORMALLY CLOSED (user selectable).
Repeater Output Signals:	4...20mA analogue. 0.4...2V analogue.
Ex Certification:	Intrinsically Safe "ia".

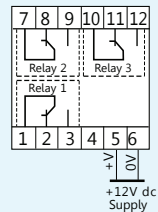
### Connections for Analogue Inputs:

TX9131  
TX9132  
TX9134  
TX9136  
TX9137



### Connections for Interposing Relay:

TX9139



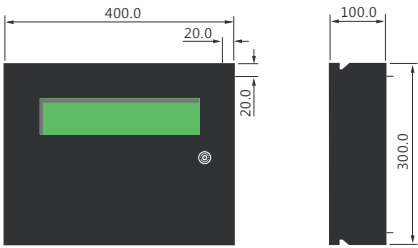
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## housings for programmable trip amplifiers...



Environmentally protected housings for the DIN rail mounting version.

- Robust stainless steel enclosure.
- Stainless steel front cover with polycarbonate viewing window.
- Environmentally protected to IP66.
- Ample M20 cable entries.
- Mounting rail for TX9130 modules.



ALL DIMENSIONS IN MM

HOUSING	X	Entry Holes
TX9204	400mm	10



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## order reference...

TX9131	PROGRAMMABLE TRIP AMPLIFIER	(4...20mA)
TX9132	PROGRAMMABLE TRIP AMPLIFIER	(0.4...2V)
TX9134	DISCONTINUED	
TX9136	PROGRAMMABLE TRIP AMPLIFIER	(Bridge)
TX9137	PROGRAMMABLE TRIP AMPLIFIER	(ac)
TX9139	INTERPOSING RELAY	

### Please specify output signal:

- |                              |      |
|------------------------------|------|
| • Two Relay Contacts         | (31) |
| • One Relay Contact/4...20mA | (32) |
| • One Relay Contact/0.4...2V | (33) |

### Please specify mounting options:

- |                                   |      |
|-----------------------------------|------|
| • Din Rail Mounting               | (41) |
| • 19" Rack Mounting (TX9139 Only) | (42) |

### Please specify Vibration Sensor Input:

- |                          |      |
|--------------------------|------|
| • a.c. rms (for TX9137)  | (51) |
| • a.c. peak (for TX9137) | (52) |

### Please specify Bridge Input:

- |                                  |       |
|----------------------------------|-------|
| • Strain Gauge mV/V (for TX9136) | (310) |
| • Bridge mV/V (for TX9136)       | (311) |

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