

RM3-SW-LPN & RM3-SW-LPI

Slidewire Input Transmitters
Operation and
Instruction Manual



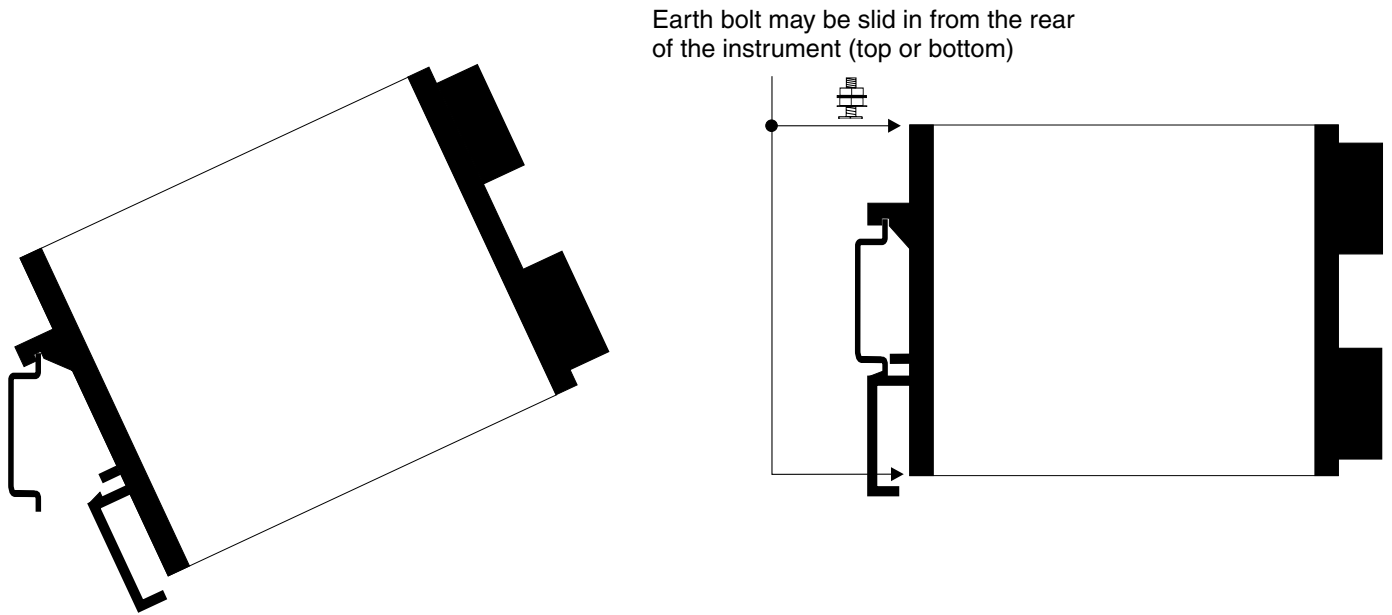
Introduction

This manual covers the installation and operation of models RM3-SW-LPN (non isolated) and RM3-SW-LPI (isolated). These models accept 3 wire slidewire inputs ($1k\Omega$ to $1M\Omega$) and provide 4-20mA loop powered outputs. These models are available with one, two, three or four input/output channels. Reverse polarity and over current protection is provided on the output of each channel. A LED indicator is provided for each channel. The brightness of the LED will vary with output level, 20mA giving the brightest output.

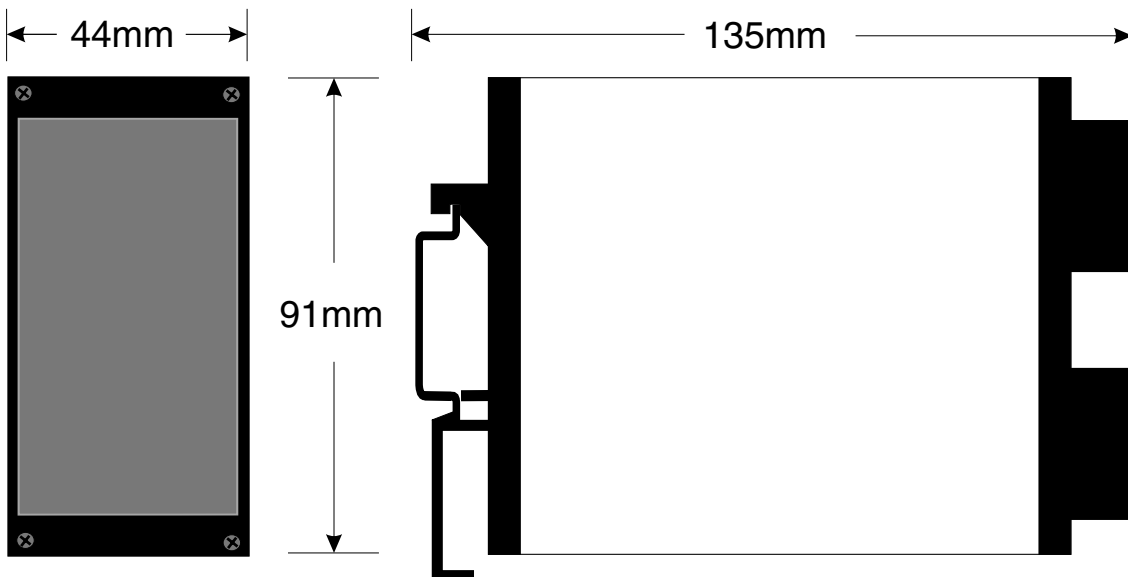
Zero & span adjustment is via front panel potentiometers marked Z and S.

Mechanical Installation

The RM3 clips onto a standard 35mm DIN rail as shown below.



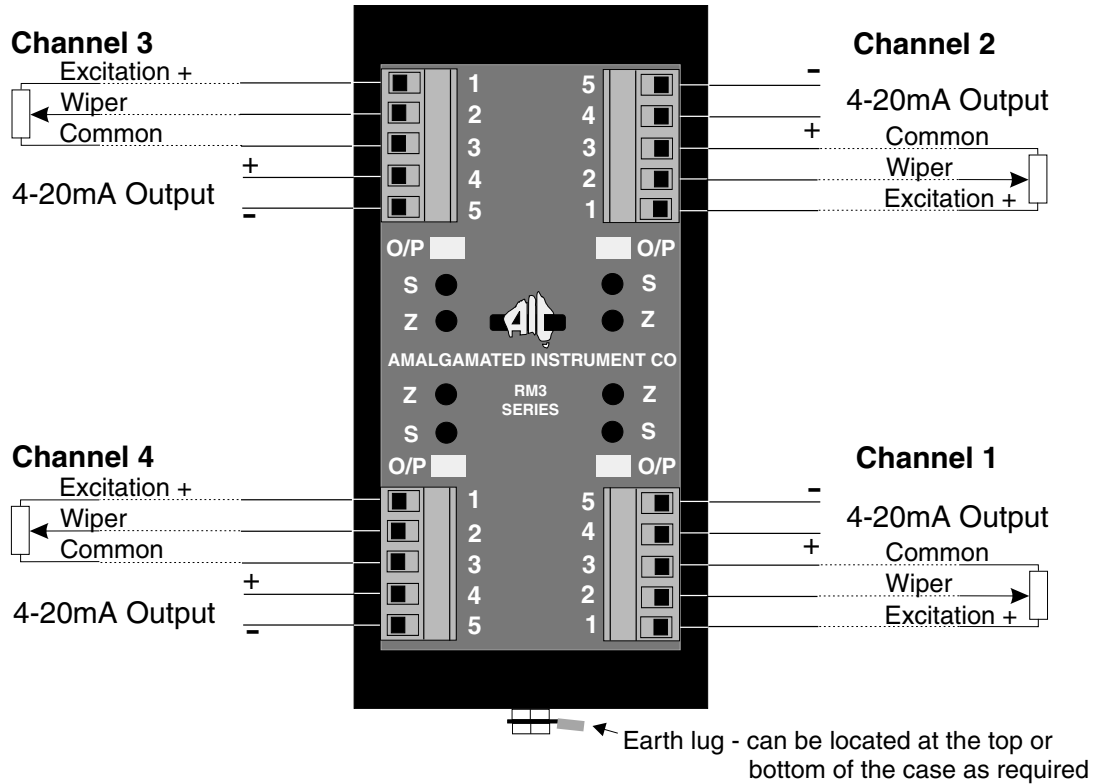
Dimensions



Electrical Installation

Plug in type screw connector terminal blocks are provided for ease of installation. The terminal blocks allow for wires of up to 1.5mm² to be fitted. Connect the wires to the appropriate terminals as indicated in the diagram below, connections for a 4 channel instrument are shown. The RM3-SW-LPN and RM3-SW-LPI models have the same wiring connections. A case earth lug which can be placed at the top or bottom of the instrument is provided.

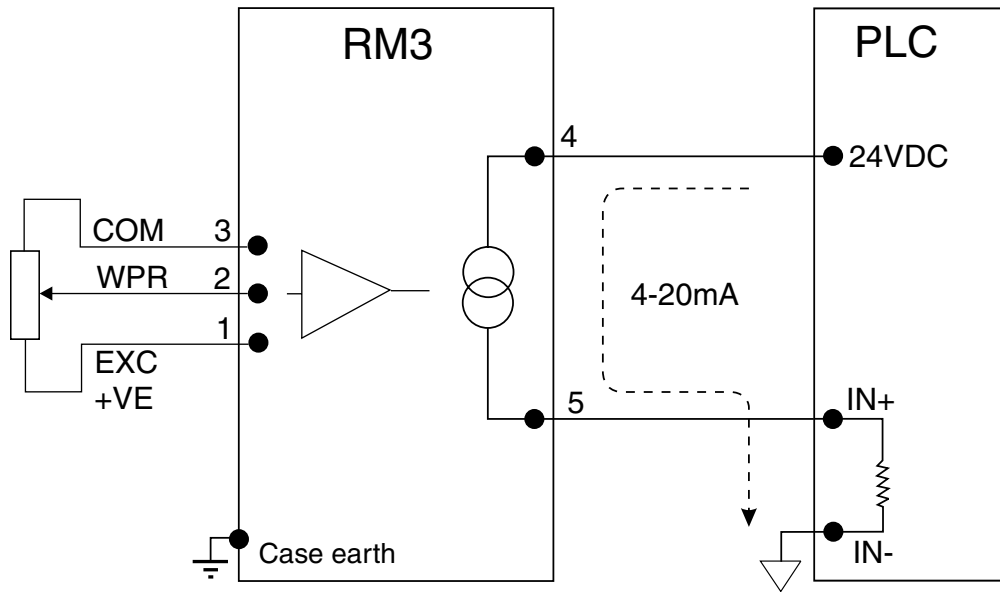
Excitation for the slidewire is provided internally by the RM3-SW. It is essential that only a passive slidewire input is used i.e. do not use a sensor with external excitation.



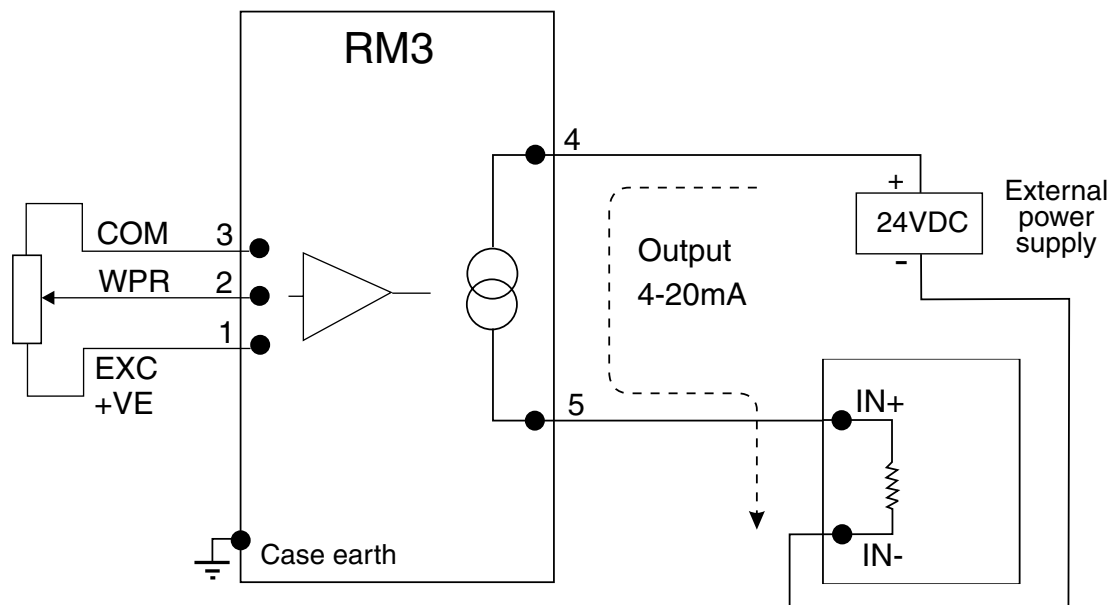
Data label example (located on instrument case)

1	SLIDEWIRE	EXC +VE	4 CHANNELS
2	SLIDEWIRE	WPR	
3	SLIDEWIRE	COM	
4	4-20mA OUTPUT	+VE	
5	4-20mA OUTPUT	-VE	
RM3-SW-LPN-4		SERIAL No :	

Typical interconnection diagram - loop powered



Typical interconnection diagram - externally powered



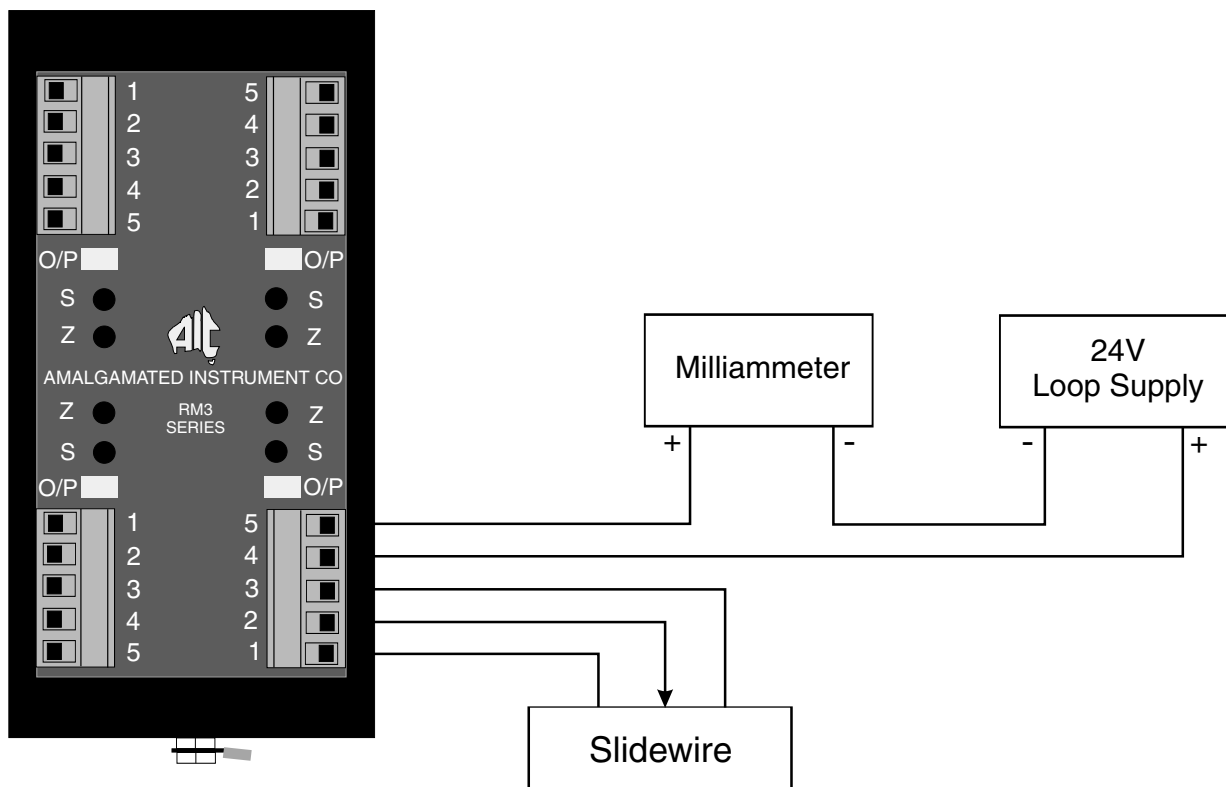
Zero and Span Adjustment

Each channel is individually adjustable for zero and span. Adjustment is via front panel potentiometers marked Z (zero) and S (span). The procedure for zero and span adjustment is given below.

1. Attach a milliammeter and power supply to the output terminals as shown below.
2. Attach the slidewire and place it in its zero position. Adjust the zero potentiometer until the milliammeter shows a reading of 4mA (or 4.0 etc.). If a 4mA output is not achievable then adjustment to the slidewire linkage position may be required. The RM3 requires that at the 4mA end the mechanical position of the wiper is at, or very close to (within 20% of full travel), zero.
3. Move the slidewire wiper to its full scale position. Adjust the span potentiometer until the milliammeter shows a reading of 20mA (or 20.00 etc.).

Note: If it is not possible to input the exact value for 20mA then input a value corresponding to an output of as close to 20mA as you can and adjust the span potentiometer until the required mA output for this input is reached. The span adjustment allows the 20mA output to be placed anywhere in the range from 60% to 100% of the slidewire full scale travel.

Typical Zero and Span adjustment setup



Specifications

TECHNICAL SPECIFICATIONS

Input:	3 wire slidewire 1k Ω to 1M Ω full range values
Output:	4-20mA (RM3-SW-LPN is non isolated, RM3-SW-LPI is isolated)
Zero & span:	Zero within 20% of zero position Span between 60% to 100% of full scale position
Supply:	Output - Loop powered. Loop supply required 15 to 34VDC nominal. Supplies should be regulated and filtered.
Accuracy:	Better than 0.1% of full scale when calibrated
Linearity:	Better than 0.1 % of full scale when calibrated
Response Time:	0.5 sec to 1%
Protection:	Reverse polarity and over current output protection
Maximum Load:	$R_L = \frac{\text{Supply (V)} - 9}{0.02}$ Ohms
Load Effects:	Effect on accuracy of changing load resistance is no greater than 0.1% of full scale
Ambient temp:	0 to 60°C
Humidity:	5 to 95% non condensing

PHYSICAL CHARACTERISTICS

Case size:	44mm x 91mm x 135mm
Mounting:	35mm DIN Rail mount (EN50022)
Connections:	Plug in screw terminals (max 1.5mm ² wire)
Weight:	230 gms for single channel 250 gms for dual channel 300 gms for three channel 320 gms for four channel

Specifications are subject to change without notice

Guarantee & Service

The product supplied with this manual is guaranteed against faulty workmanship for a period of 2 years from the date of dispatch.

Our obligation assumed under this guarantee is limited to the replacement of parts which, by our examination, are proved to be defective and have not been misused, carelessly handled, defaced or damaged due to incorrect installation. This guarantee is VOID where the unit has been opened, tampered with or if repairs have been made or attempted by anyone except an authorised representative of the manufacturing company.

Products for attention under guarantee (unless otherwise agreed) **must be returned to the manufacturer freight paid** and, if accepted for free repair, will be returned to the customers address in Australia free of charge.

When returning the product for service or repair a full description of the fault and the mode of operation used when the product failed must be given.

In any event the manufacturer has no other obligation or liability beyond replacement or repair of this product.

Modifications may be made to any existing or future models of the unit as it may deem necessary without incurring any obligation to incorporate such modifications in units previously sold or to which this guarantee may relate.

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and may not be reproduced in whole or part without the
written consent of the manufacturer.

This product is designed and manufactured in Australia.