

Apollo Flow Measurement Ltd
P5 Manual
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Installation & Operation of the I.S. P5 Preamplifier

Note

Read this manual prior to installation

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1 INTRODUCTION

Apollo can provide you with a range of accessories for Intrinsically safe areas and areas with electrical noise. The P5 preamplifier and the Intrinsically Safe P5 preamplifier are 2 wire amplifiers that convert the low level voltage output from the pickoff coil sensors in section 6 into current pulses prior to transmission to remote instruments.



P5 Preamplifier



IS P5 Preamplifier

2 DESCRIPTION

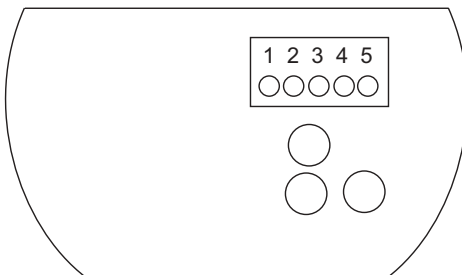
The P5 preamplifier mounts on to your flowmeter and converts the pickoff coil signal to a current pulse which is suitable for transmitting long distances and in areas of electrical noise. The P5 preamplifier is a 2 wire amplifier that accepts the signal from the standard and the high temperature pickoff coil.

The ATEX certified I.S P5 amplifier is for use in hazardous areas and converts the signal from the I.S pickoff coil into a current pulse suitable for transmitting long distances and into the safe area via suitable barriers.

3 CONSTRUCTION

The amplifier is enclosed in a weatherproof aluminium housing. The aluminium housing mounts directly on to the flowmeter via an extension tube, or can be surface mounted using the four holes in the box corners. Removal of the four screws on the front cover provides access to the single printed circuit board.


4 CONNECTIONS




P/5 and IS P/5 Preamplifier

- 1 Screen
- 2 Coil Input
- 3 Coil Input
- 4 Power supply (positive)
- 5 Power supply (negative)

5 PREAMPLIFIER SPECIFICATIONS

	<u>Standard Amplifier</u>	<u>I.S. Amplifier</u>
	<u>Model P/5</u>	<u>Model IS P/5</u>
Min. Input signal: (Sine wave)	5mV rms at 100Hz 7mV rms at 500Hz 10mV rms at 1 kHz 30mV rms at 3 kHz	5mV rms at 100Hz 7mV rms at 500Hz 10mV rms at 1 kHz 30mV rms at 3 kHz
Frequency range:	0 - 3kHz	10 - 3kHz
Input sensitivity:	5 mVrms	5 mVrms
Power supply:	4 to 40 V dc	11 to 27 V dc
Temperature:	-20 to 70°C	-20 to 70°C
Output pulse: Sine wave current		
Low level	< 8 mA	< 8 mA
High level	>12 mA	> 12 mA
Approval:		ATEX  II IG EExia IIC T5

5.1 I.S P5 Marking

Apollo Flow Measurement
Charles St, Walsall, UK.
Type 664158 I.S
CE 0518  II I G
EExia IIC T5
Baseefa 03 ATEX 0243X

6 INSTALLATION OF REMOTE AMPLIFIER

Install the P5 amplifier away from any possible sources of electrical interference i.e. high load carrying cables, motors, transformers.

Use a good quality screened cable incorporating an integral and overall screen.

Do not install in close proximity to possible heat sources which could cause the temperature of the unit to exceed its maximum rating.

Note: Installation and maintenance should be carried out by suitably trained and qualified staff.

7 MAINTENANCE

The amplifier PCB contains no user serviceable or adjustable components.

In the unlikely event of the amplifier failing, the PCB can be replaced by the removal of the two M3 nuts securing the board to the box.

The replacement PCB part codes are as follows:

Std P5 PCB	PCO-664009
I.S ATEX Certified PCB	PCO-664156

6 PICKOFF COILS

The pickoff coil is the sensor used in turbine and pelton wheel flowmeters.



Inductance: 400-605 mH
Resistance: 1200-1550
Thread connection: 5/8" UNF
Output: mV sinewave
Output connection: MS style connector

<u>Pickoff coil type</u>	<u>Part Number</u>	<u>Temp. Range</u>
Standard	SEN-664001	-63°C to +110°C
High Temp.	SEN-664002	-63°C to +232°C

The IS pickoff coil is for use in hazardous areas.

Approval: ATEX  II I G
EEx ia IIC T5



Inductance: 450 mH max
Resistance: 1 k min
Thread connection: 5/8" UNF
Output: mV sinewave
Connection: 2 core plus screen flying lead
Temperature range: -63°C to 100°C
Part Number: SEN-664151