Apollo Flow Measurement Ltd
P5 Manual
Issue 5
Jan 2010

Installation & Operation of the P5 Preamplifier

Note

Read this manual prior to installation

CONTENTS

1 INTRODUCTION

Apollo can provide you with a range of accessories for Intrinsically safe areas and areas with high electrical noise. The P5 preamplifier and the Intrinsically Safe P5 preamplifier 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

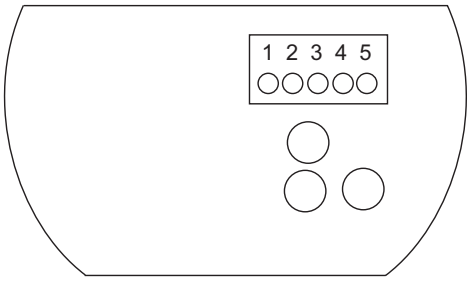
The P5 preamplifier mounts on to your flowmeter and converts the pickoff coil signal to a current pulse which is suitable for transmitting long distances and in areas of electrical noise. The P5 preamplifier is a 2 wire amplifier that accepts the signal from the standard and the high temperature pickoff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

The Intrinsically Safe P5 preamplifier mounts on to your flowmeter in the hazardous area and converts the flowmeter signal to a current pulse which is suitable for transmitting long distances and into the safe area, via suitable barriers. The IS P5 preamplifier is a 2 wire amplifier and accepts the signal from the IS certified pickoff coil. It is approved to ATEX II 1 Ga Ex ia IIC T5 Ui=22V or ATEX II 1 Ga Exia IIB T5 Ui=30V.

3 CONSTRUCTION

The amplifiers are enclosed in a weatherproof aluminium housing. The aluminium housing mounts directly on to the flowmeter via an extension tube or mounting bracket. 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

	Standard Amplifier Model P/5	I.S. Amplifier Model IS P/5
Input signal:	> 5mV rms sine wave	
Frequency range:	0 - 3kHz	10 - 3kHz
Input sensitivity:	5 mVrms	5 mVrms minimum
Power supply:	4 to 40 V dc	11 to 30 V dc
Output pulse:		
Sine wave current		
Low level	< 8 mA	< 8 mA
High level	>12 mA	> 12 mA
Approval		ATEX II 1 Ga Ex ia IIC T5 Ui = 22V Ex ia IIB T5 Ui = 30V

6 PICKOFF COILS

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

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

Pickoff coil type	Part Number	Temp. Range
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 in turbine and pelton wheel flowmeters.

Approval: ATEX II 1 Ga Ex ia IIC T5 Ui = 22V
ATEX II 1 Ga Ex ia IIB T5 Ui = 30V
Inductance: 450 mH max
Resistance: 1 k Ω 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