PA51 Pulse Amplifier & CA51 Carrier Amplifier

Description

Flow Technology's PA51 Pulse Amplifier and CA51 Carrier Amplifier are designed for use with a wide range of turbine flowmeters. They convert low-level flowmeter output signals to high-level, conditioned pulses which may be transmitted for long distances through electronically noisy environments. Both amplifiers provide a power supply for use with 115 VAC or 24 VDC power.

PA51 Pulse Amplifiers directly convert low-level signals from a magnetic pickoff to a 10-volt peak-to-peak pulse with a frequency identical to the frequency output of the flowmeter.

CA51 Carrier Amplifiers are used with an RF pickoff and generate a 45 kHz carrier frequency which is modulated by the rotation of the turbine blades. This eliminates the effects of magnetic drag, greatly extending the range and linearity of small meters at low flow rates. The amplifier converts this modulated signal to a 10-volt peak-to-peak pulse with a frequency identical to the frequency output of the flowmeter.

Features

- Signal amplification for long-range transmission
- Reliable in harsh industrial environments
- Compatible with magnetic or modulated carrier (RF) turbine flowmeter pickoffs
- Easily installed directly on flowmeter or at a remote location
- Use of modular electronics enables field replacement without recalibration
- Weatherproof or explosion-proof enclosures available
- 115 VAC, 220 VAC or 24 VDC-powered

PA51
Pulse Amplifier

CA51
Carrier Amplifier

Specifications

PA51

Pickoff Type	Magnetic
Input	
Frequency Range	0–3 kHz
Impedance	3.3K Ω
Sensitivity	20 mV–10 V p-p
Output	
Impedance	2.7K Ω
Level	10 V maximum p-p pulse with same frequency as input signal
Transmission Distance	1000 wire feet (300 wire meters)
Max. Distance from Pickoff	330 wire feet (100 wire meters)

CA51

Pickoff Type	RF Carrier
Input	
Modulated Carrier Pickoff	1 mH coil
Frequency Range:	0.5 Hz–3.5 kHz
Carrier Frequency:	45 kHz @ approximately 8–15 V p-p
Other RF Pickoff	330 µH coil
Frequency Range:	0.5 Hz–3.5 kHz
Carrier Frequency:	40 kHz @ approximately 8–15 V p-p adjustable (12 V p-p typical)

Specifications (cont'd)

Output

Impedance	2.7K Ω
Level	10 VDC maximum p-p pulse with same frequency as input signal
Transmission Distance	1000 wire feet (300 wire meters)
Max. Distance from Pickoff	30 wire feet (10 wire meters)

PA51 and CA51

Power

Standard	22–32 VDC, 180 mA max.
Options	110 VAC ±10%, 50/60 Hz, 6 watts 220 VAC ±10%, 50/60 Hz, 6 watts
Output	24 VDC power supply (with 110/220 input only)

Temperature

Operating & Storage	-40° F to +185° F (-40° C to +85° C)

Enclosures

Standard	IP65/NEMA 4X with conduit hubs
Options	IP65/NEMA 4X with MS connectors Class I, Division 1, Group B or D explosion-proof Zone 1 EExd IIC T5 Zone 2 ExnA II T6

Model Numbering System

	A	5	1	–		–		–					–	

Basic Model No.

CA51 (RF)
PA51 (Magnetic)

Power Source

1 = 110 VAC
2 = 220 VAC
3 = 22–32 VDC (Standard)

Signal Inputs

A = Magnetic (PA51 only)
C = RF, 1 mH coil (CA51 only)
D = RF, 330 µH coil (CA51 only)

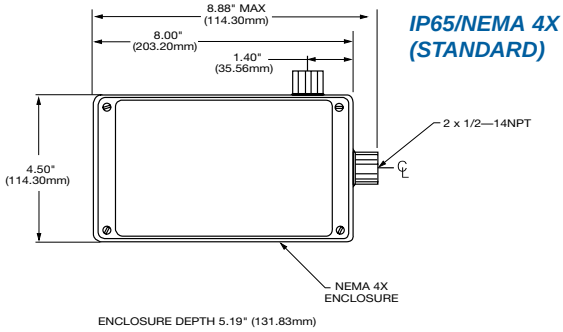
Signal Output (no options)

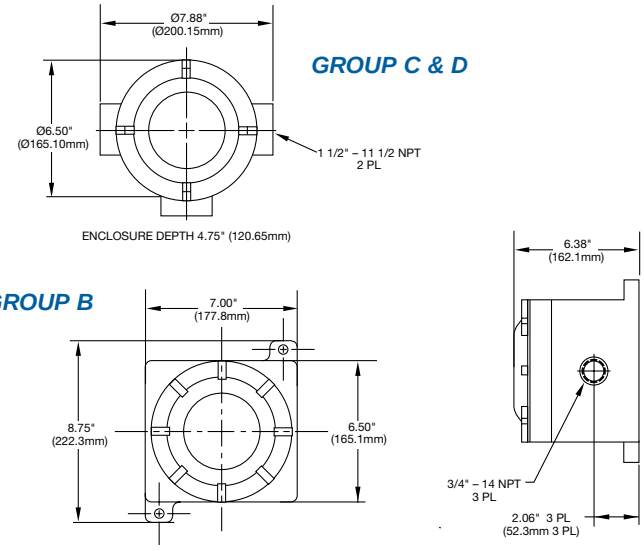
0000 = Standard Outputs
0–10 V Pulse
24 VDC Power (For Input Power 1 or 2)

Enclosure Options

1 = No Enclosure
4 = EExd IIC T5
5 = ExnA II T6
6 = IP65/NEMA 4X
7 = IP65/NEMA 4X with MS Connectors
8 = Group D
9 = Group B

Enclosure Options





Drawings not to scale.
Specifications are for reference only and are subject to change without notice.

Local Representative:

FTI FLOW TECHNOLOGY™

ISO 9001 REGISTERED

4250 E. Broadway Road, Phoenix, Arizona 85040 USA
Tel: (602) 437-1315 • Fax: (602) 437-4459 • Toll Free: 1-800-528-4225
E-mail: ftimarket@ftimeters.com • Web: www.ftimeters.com

DB 62052 Rev D Printed in USA