

## NUFLO Low Power Pre-Amplifier

Cameron's NUFLO™ turbine flow meters offer the significant ability to provide remote readings. However, noisy environments can cause erroneous or false readings at remote terminals. The easily installed NUFLO low power pre-amplifier helps solve the problem of noise when shielded signal cables cannot effectively eliminate them.

Electrical noise can cause erroneous readings when the noise level equals or exceeds the meter output signal amplitude, which generally is very low (in millivolts). The remote reading unit might also record noise as signal output when the flow meter is not transmitting.

The low power pre-amplifier raises the turbine flow meter signal level at the metering point to a relatively high level signal (6 to 8 V). Thus, the receiver can discriminate between signal and noise and register only true signals at the remote location.

The flow meter transmits its low-level signal through a pair of conductors to a remote reading unit. Shielded signal cables can help keep noise out of this system or reduce the noise level. However, a high noise level or the length of the transmission cable can make shielding ineffective. The pre-amplifier helps eliminate noise problems in these instances.

### Advantages

- No local power source is required. Power is supplied by the remote reading unit over the same wires that conduct the flow meter frequency.
- Low power consumption permits operation over virtually unlimited transmission distances.
- Requires a single pair of wires between the pre-amplifier and receiver.
- Suitable for use in most hazardous areas.
- Can be installed without special tools or equipment – all parts have plug-in connectors or terminal screws.
- Directly compatible with signal receivers having 12 to 28 VDC power available.



### Specifications

#### Housing:

- Feraloy® with copper-free aluminum cover, complete with union for connection to turbine flow meter

#### Connections:

- 1" (25.4 mm) rigid conduit, female

#### Power Required:

- 12 to 28 VDC at 10 mA

#### Input Signal:

- 20 mv – 30 V at 5 Hz - 3000 Hz, adjustable input sensitivity

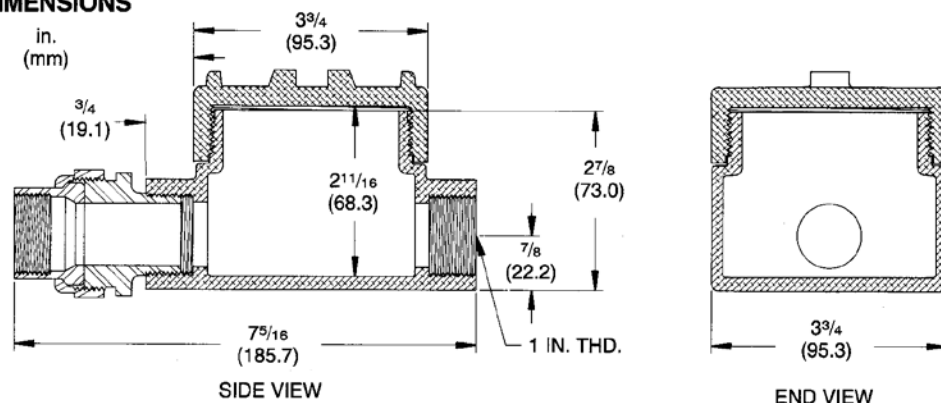
#### Output:

- 6 to 8 V square wave across a 1000 ohm resistor with 12 V power supply at input signal frequency

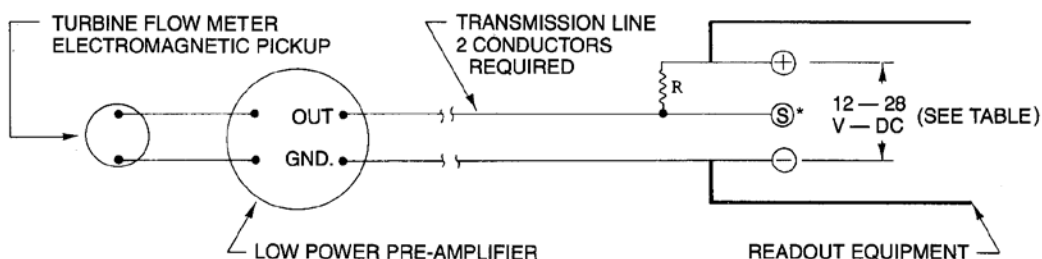
### Approvals

- NEC Class I, Groups C, D – Class II, Groups E, F, G – Class III
- CSA Approved

## DIMENSIONS



## INSTALLATION DIAGRAM



\* Ⓢ Designates signal input terminal.  
If directly connected to amplifier,  
the use of 22K series resistor and  
.1 MFD capacitor is suggested.

Power Supply Voltage	Resistor "R"
12 to 16 VDC	1000 ohm
18 to 22 VDC	1500 ohm
22 to 28 VDC	2200 ohm

## LOCATIONS

### North and South America

14450 JFK Blvd.  
Houston, TX 77032  
USA  
Tel 1 281 582 9500  
ms-us@c-a-m.com

### Europe, Africa, Caspian and Russia

3 Steyning Way  
Southern Cross Trading Estate  
Bognor Regis  
West Sussex PO22 9TT  
England, UK  
Tel 44 1243 826741  
ms-uk@c-a-m.com

### Asia Pacific

Suite 16.02 Menara AmFirst  
No. 1 Jalan 19/3  
46300 Petaling Jaya  
Selangor Darul Ehsan  
Malaysia  
Tel 603 7954 0145  
ms-kl@c-a-m.com

### Middle East

Level 9, Al Jazira Club Tower A  
PO Box 47280, Muroor Road  
Abu Dhabi  
United Arab Emirates  
Tel 971 2 596 8400  
ms-uk@c-a-m.com

## OTHER LOCATIONS

ALGERIA

CANADA

CHINA

INDIA

Malaysia

RUSSIA

UAE

UK

USA

[www.c-a-m.com/measurement](http://www.c-a-m.com/measurement)