



Coriolis mass flow meters- TERCMF-CNG



1. Overview

Walsn's CNG series Coriolis mass flow meters are our latest high pressure product. Harnessing micro bend flow tubes, a digital signal processor (DSP), and integrated digital closed-loop vibration control (DLC) signal processing makes Walsn's CNG series a powerful tool. The transmitter simultaneously calculates outputs and performs diagnostic functions, to provide reliable high accuracy measurement, with wide range ability. Hart communication and Modbus control allow online node-configuration, diagnostics and data recording to be handled remotely, but the transmitter features an easy to use interface for those preferring direct control.

The CNG Series flowmeter not only provides mass flow rate, but can also calculate: density, temperature volumetric flow rate, total flow and component fractions online and in real-time.

CNG series is specially designed for the CNG industry, with a focus on natural gas measurement for gas dispensers in applications such as passage cars, light-duty and heavy-duty vehicles.

2. Features

- ◆ Dual micro bend tube structure for lower pressure loss and high sensitivity, even in high pressure applications
- ◆ Dedicated ASIC with digital closed-loop control (DLC) improves the performance of gas-liquid flow measurement
- ◆ Dynamic vibration balance (DVB) technology enhances system stability
- ◆ 2-point temperature compensation and process pressure compensation

3. Applicable Fluids

© Compressed natural gas

4. Typical Applications

© Gas dispensers for CNG

5. Environmental Conditions

◆ Power consumption: $\leq 20W$

◆ Enclosure rating: IP65, IP67, IP68 (Remote Style Options only)

◆ Vibration limits:

a) $a = 0.5g$

b) Endurance sweep, under the condition of 20Hz ~ 400Hz frequency for 50 sweep cycles

◆ Impact limits: If the flow meter is well-packed, its performance will not be affected by the following impacts:

a) Acceleration: $50m/s^2$

b) Impact frequency: 60 times/min ~ 100 times/min

c) Impact: 1000 times

◆ Ex approval: Ex d ib IIC T6 Gb

◆ Electromagnetic/Electrostatic compatibility

a) Electrostatic discharge: level 3

b) Electrical fast transient/burst (EFTB) resistance: level 3

6. Specifications

Basic Error	Liquid: $\pm 0.10\%$; Gas: $\pm 0.50\%$; Liquid density error: $\pm 0.0005\text{g/cm}^3$
Diameter(mm)	DN8~DN25
Anti-explosion	CSA/PCEC/ATEX/IEC
High pressure nipple	316L/Titanium/Hastelloy alloy/Other materials required by users
Pressure Rating	40MPa
Material	Measuring tube: 316L, Titanium Alloy
Protection Level	IP65, IP67, IP68 (Remote Style Options only)
Medium Temperature	-40°F~356°F (-40°C~180°C); -40°F~662°F (-40°C~350°C); -400°F~662°F (-240°C~350°C)
Ambient Temperature	-25°C—60°C (-13°F—140°F) (with LCD); -40°C—85°C (-40°F—185°F) (without LCD)
Repeatability	Liquid: $\leq 0.05\%$; Gas: $\leq 0.25\%$
Cable for Sensor	10m (The divided type is optional.)
Electronic Connection	M20*1.5 Seal, NPT1/2
Output signal	Analog + Pulse/Frequency; Analog+ Pulse/Frequency + HART; Analog+ PulseFrequency + RS485; Profibus PA/DP; FF; Specially customized