

• General Gas

Gases : Handles most gases for which the critical temperature, pressure and specific gravity are known

Compressibility : Calculated using the Redlich-Kwong¹ equation

Temperature Range : -273°C to 450°C

Pressure Range : 0 kgf/cm² to 100 kgf/cm² abs

• Natural Gas

Calculation : Uses NX-19 equation to calculate supercompressibility F_{pv}

Temperature Range : -40°C to 115°C

Pressure Range : 0 kgf/cm² to 100 kgf/cm² abs

SG Range : 0.554 to 1.000

Carbon Dioxide : 0 to 15% mole

Nitrogen : 0 to 15% mole

• Steam

Calculations : Uses 1997 IFC Formulation(ASME) equation to calculate specific weight and enthalpy of steam

Steam Type : Saturated and Superheated

Temperature Range : 100°C to 450°C

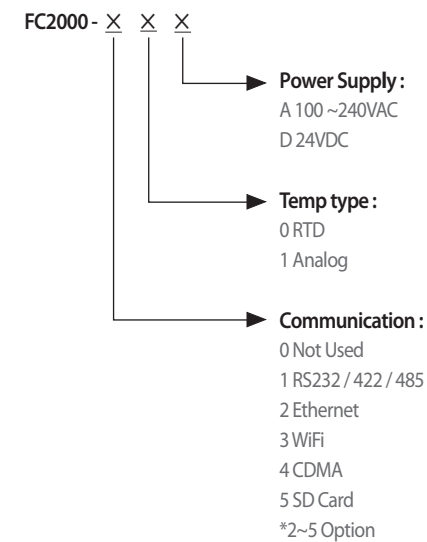
Pressure Range : 0 kgf/cm² to 100 kgf/cm² abs

Saturated Steam : When measuring saturated steam, it is possible to omit either the pressure or temperature sensor since, on the saturated line, there is a corresponding pressure for all temperatures.

• Approvals

KC

Ordering Information



FC2000 Gas & Steam Flow Computer

새롭게 선보입니다!

FC2000 Gas & Steam Flow Computer

유량계측기기의 선두주자 오벌엔지니어링

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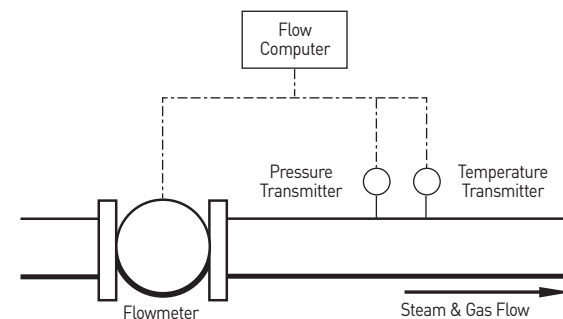
FC2000 Gas & Steam Flow Computer

Overview

The FC2000 Gas & Steam Flow Computer는 가스 및 증기 (응축수포함)에 대해 다음과 같은 보정 방정식을 사용합니다.
이상기체(Ideal Gas) 온도와 압력을 보정하지만 압축성은 무시합니다.
일반가스(General Gases) Redlich-Kwong 상태 방정식을 사용하여 압축률을 계산합니다.
 이 방정식은 알려진 특성을 갖는 가스에 적합하며 일반적인 산업용 가스에 대한 정보는 매뉴얼에 제공됩니다.
천연가스(Natural Gas) NX-19 방정식을 사용하여 수퍼 압축률을 계산합니다.
Steam 방정식 포화 및 과열 증기에 대한 스팀 방정식 (응축수). 질량 및 에너지 유속은 증기의 비 및 엔탈피를 결정하기위해표준 방정식을 사용하여 계산됩니다.
 와류, 터빈, 오리피스 플레이트, 평균 피토 튜브 웨지 및 양방향 차압유량계 하여 광범위한 유량계의 입력을 처리 할 수 있습니다. 또한 두 개의 차압 전송기가 오리피스 또는 유사 장치에서 사용되는 경우 측정된 유량 범위를 늘리기 위해 두 개의 차압 전송기 입력이 자동 크로스 오버로 개별적으로 허용되고 조정됩니다.

Features

- 질량유량, 보정된 부피유량, 에너지유량을 표시
- 아날로그 와 입력이 가능
- 온도와 압력 보정
- 두 개의 범위를 갖는 차압 전송기 입력
- 14-28V DC 또는 AC 전원에서 작동
- 단순화 된 프로그래밍
- 데이터 로깅 메모리 및 출력
- 다양한 프로토콜을 지원하며 프린터 출력을 포함한 직렬 포트 출력 가능
- Backlight기능이 지원되는 대화면 디스플레이



Specifications

• General

Display: 96X31mm Graphic LCD (Backlight)
Transducer Supply: 8-24V dc field adjustable, 100mA max
Power Requirements:
DC Supply: 240VDC
AC Supply: 100~240VAC
Operating Temperature: 0 to 55°C
Dimension: 146mm(w) X 75mm(h) X 151mm(d)
Panel cutout: 139mm(w) X 66.5mm(h)

• Frequency Input

Range:
Minimum: 0.25Hz on Rate, 0Hz on Total
Maximum: 10KHz
Input Circuits: Sine, logic and proximity switch inputs, Current Pulses, Open Collect Pulses
Meter factor Range: 0.000001 to 1000
Non-Linear Correction: Up to 10 correction points

• 4-20mA Input

Input Types: Flow (2 ranges), pressure and temperature
Input Impedance: 250 ohms
Measurement Range:
Pressure: 0 kgf/cm² to 100 kgf/cm² abs
Temperature: -273°C to 800°C
Flow: 999,999
Accuracy: 0.1%
Circuit: 250 ohm resistors connected to a common signal ground (current sinking)
Non-Linear Correction:
 A 20 point curve can be applied to the flow input

• RTD Input

Type: Platinum PT100 4Wire or 2,3Wire
Range: -100°C to 300°C
 (Note a wider temperature range can be handled via a 4 - 20mA input.)
Accuracy: 0.1 °C
Linearity: The non-linearity of the RTD is internally compensated for

• Pressure Input

Type: Absolute or gauge
Span: Absolute or gauge pressure is programmable at 4mA and 20mA
Atmospheric: If a gauge pressure sensor is used, the atmospheric pressure is programmable

• Pulse Output

Corrected Pulse:
Pulse Width: 10,100, 250, 500ms (negative going pulse)
Duty Cycle: 50 pulses/sec. max.
Uncorrected Pulse: Specification of the output is the same as the input.
Output: Open collector transistor will sink 50mA max.
 (Note: Suitable for driving remote counters or PLC's.)
 Current Pulse. (Only Corrected pulse.)

• 4 - 20mA Output

Function: Output flow rate in calculated volume, mass and Energy.
 The 4 - 20mA Point
Resolution: 12 Bits
Accuracy: Better than 0.1%
Maximum Load: 600 ohms internally powered.
Isolation: Output is isolated

• RS232/422/485

Type: Both RS232 and RS422 are provided.
 (Note: When using the RS422, multi-point communication (RS485) can be implemented with up to 32 instruments connected to a common bus.)
Function: Printer and computer protocols are fully programmable
Printer: A print is initiated on each reset or at a programmable time interval. (Note: Protocols are provided for roll & column printers.)
Computer: An ASCII based protocol enables all displayed parameters to be read and the totals to be reset
Baud Rate: 300 to 19200
Data Bits: 7 or 8
Parity: None, Odd or Even
Protocol: ASCII, ASCII2, MODBUS RTU, MODBUS ASCII
Data Logging: Output generated at intervals of once a minute to once every 24 hours. The totals can be programmed to reset on each print or at 24:00 hours
Time: A real time clock is provided to give time and date on each output

• Relay Output

Function: High and low flow rate alarms based on the flow rate in mass, corrected volume or energy
Maximum Ratings: Power: 250VA
 Voltage: 250VAC, 30VDC
 Current: 5 Amps

• Ideal Gas

Display: Corrected Volume, Mass
Temperature Range: -273°C to 400°C
Pressure Range: 0 kgf/cm² to 100 kgf/cm² abs

