

## Rosemount 3095 HART Configuration Data Sheet

Complete this form to define a Custom Flow Configuration for the Rosemount 3095. Unless Specified, the 3095 will ship with the default values identified by the ★ symbol. For technical assistance in filling out this CDS, contact your local Rosemount representative.  
 Note: Any missing information will be processed with the indicated default values.

### Customer Information

Customer \_\_\_\_\_ P.O. No \_\_\_\_\_  
 Customer Line Item \_\_\_\_\_ Model No. <sup>(1)</sup> \_\_\_\_\_  
 Tag Type  SST Wire-on Tag (85 characters maximum)  Stamped on Nameplate (65 characters maximum)  
 Tag Information \_\_\_\_\_

### Transmitter Information (Optional)

Software Tag | | | | | | | | (8 characters)  
 Descriptor | | | | | | | | | | | | | | | | (16 characters maximum)  
 Message | | | | | | | | | | | | | | | | | | | | (32 characters)  
 Date | | | | | | | | (dd) | | | | | | | | (MMM) | | | | | | | | (yy)

### Flow Configuration (required)

Select units for each Process Variable, then enter sensor Lower Trim Value (LTV) and sensor Upper Trim Value (UTV).  
 Note: LTV and UTV must be within the range limits.

#### Differential Pressure (DP)

DP Units  inH<sub>2</sub>O-68 °F  inH<sub>2</sub>O-4 °C  ftH<sub>2</sub>O-68 °F  mmH<sub>2</sub>O-68 °F  
 mmH<sub>2</sub>O-4 °C  psi  bar  mbar  
 g/SqCm  Kg/SqCm  Pa  kPa  
 torr  Atm  inH<sub>2</sub>O-60 °F  
 Trim Values LTV \_\_\_\_\_ (0 ★) UTV \_\_\_\_\_ (URL in H<sub>2</sub>O-68 °F ★)

#### Static Pressure (SP)

Static Units  inH<sub>2</sub>O-68 °F  inH<sub>2</sub>O-4 °C  ftH<sub>2</sub>O-68 °F  mmH<sub>2</sub>O-68 °F  
 mmH<sub>2</sub>O-4 °C  psi  bar  mbar  
 g/SqCm  Kg/SqCm  Pa  kPa  
 torr  Atm  
 Trim Values<sup>(1)</sup> LTV \_\_\_\_\_ (0 ★) UTV \_\_\_\_\_ (URL psi ★)

#### Process Temperature (PT)

PT Units  °F ★  °C  
 Trim Values LTV \_\_\_\_\_ (-300 ★) UTV \_\_\_\_\_ (1500 °F★)

#### Flow Rate

Flow Units  StdCuft/s  StdCuft/min  StdCuft/h  StdCuft/d  
 StdCum/h  StdCum/d  lbs/sec  lbs/min  
 lbs./hour ★  lbs/day  grams/sec  grams/min  
 grams/hour  kg/sec  kg/min  kg/hour  
 NmCuM/hour  NmCuM/day  Special (see Flow Rate Special Units)  
 mton/hour  mton/day

#### Flow Rate Special (use if "Special" is checked in Flow Rate above)

NOTE: Flow Rate Special Units = Base Flow Unit multiplied by Conversion Factor.  
 Base Flow Units (select from above Flow Rate units) \_\_\_\_\_  
 Conversion Factor \_\_\_\_\_  
 Display As | | | | | | | | (available units A-Z, 0-9)

(1) If absolute pressure module, then lower static pressure values must be ≥ 0.5 psia (34.5 mbar). A complete model number is required before Emerson Process Management can process the custom configuration order.

# Rosemount 3095 MultiVariable

## Flow Configuration Continued

### Flow Rate Output

Low PV (4 mA) \_\_\_\_\_ (0.00 ★) High Pv (20 mA) \_\_\_\_\_

### Flow Total

Flow Units  Grams  Kilograms  Metric Tons  Pounds  
 Short Tons  Long Tons  Ounces  NmlCuM  
 Normal Liters  StdCuM  StdCuFt  
 Special (see Flow Total Special Units)

### Flow Total Special (use if "Special" is checked in Flow Total above)

NOTE: Flow Rate Special Units = Base Flow Unit multiplied by Conversion Factor.

Base Flow Units (select from above Flow Total units) \_\_\_\_\_

Conversion Factor \_\_\_\_\_

Display As|\_|\_|\_|\_|\_| (available units A-Z, 0-9)

## Fluid Type (Select One)

Gas  Liquid  Steam

## Fluid Information (Complete one section only)

Steam (ASME Saturated and/or Superheated)

Natural Gas **NOTE: If you selected Natural Gas, complete the Compressibility Factor Information on page 21**

Gas or Liquid from AIChE database: Circle ONE fluid name below:

Acetic Acid	Cyclopropane	Isopropanol	n-Heptane	1-Dodecanol
Acetone	Divinyl Ether	Methane	n-Hexane	1-Heptanol
Acetonitrile	Ethane	Methanol	n-Octane	1-Heptene
Acetylene	Ethanol	Methyl Acrylate	n-Pentane	1-Hexene
Acrylonitrile	Ethylamine	Methyl Ethyl Ketone	Oxygen	1-Hexadecanol
Air	Ethylbenzene	Methyl Vinyl Ether	Pentafluorothane	1-Octanol
Allyl Alcohol	Ethylene	m-Chloronitrobenzene	Phenol	1-Octene
Ammonia	Ethylene Glycol	m-Dichlorobenzene	Propane	1-Nonanal
Argon	Ethylene Oxide	Neon	Propadiene	1-Nonanol
Benzene	Fluorene	Meopentane	Pyrene	1-Pentadecanol
Benzaldehyde	Furan	Nitric Acid	Propylene	1-Pentanol
Benzyl Alcohol	Helium-4	Nitric Oxide	Styrene	1-Pentene
Biphenyl	Hydrazine	Nitrobenzene	Sulfur Dioxide	1-Undecanol
Carbon Dioxide	Hydrogen	Nitroethane	Toluene	1,2,4-Trichlorobenzene
Carbon Monoxide	Hydrogen Chloroide	Nitrogen	Trichloroethylene	1,1,2-Trichloroethane
Carbon Tetrachloride	Hydrogen Cyanide	Nitromethane	Vinyl Acetate	1,1,2,2-Tetrafluoroethane
Chlorine	Hydrogen Peroxide	Nitrous Oxide	Vinyl Chloride	1,2-Butadiene
Chlorotrifluoroethylene	Hydrogen Sulfide	n-Butane	Vinyl Cyclohexane	1,3-Butadiene
Chloroprene	Isobutane	n-Butanol	Water	1,2,5-Trichlorobenzene
Cycloheptane	Isobutene	n-Butyraldehyde	1-Butene	1,4-Dioxane
Cyclehexane	Isobutylbenzene	n-Butyronitrile	1-Decene	1,4-Hexadiene
Cyclopentane	Isopentane	n-Decane	1-Decanal	2-Methyl-1-Pentane
Cyclopentene	Isoprene	n-Dodecane	1-Decanol	2,2-Dimethylbutane
		n-Heptadecane	1-Dodecene	

Custom Gas or Liquid

Enter custom fluid name \_\_\_\_\_

**NOTE: If defining a custom fluid, complete the density and viscosity information on page 22**

**Required For Natural Gas Only**

**Compressibility Factor Information**

Choose desired characterization method, and only enter values for that method:

Detail Characterization Method (AGA8 1992)

		<u>Mole</u>	Valid Range
CH4	Methane mole percent	_____ %	0-100 percent
N2	Nitrogen mole percent	_____ %	0-100 percent
CO2	Carbon Dioxide mole percent	_____ %	0-100 percent
C2H6	Ethane mole percent	_____ %	0-100 percent
C3H8	Propane mole percent	_____ %	0-12 percent
H2O	Water mole percent	_____ %	0-Dew Point
H2S	Hydrogen Sulfide mole percent	_____ %	0-100 percent
H2	Hydrogen mole percent	_____ %	0-100 percent
CO	Carbon Monoxide mole percent	_____ %	0-3.0 percent
O2	Oxygen mole percent	_____ %	0-21 percent
C4H10	i-Butane mole percent	_____ %	0-6 percent <sup>(2)</sup>
C4H10	n-Butane mole percent	_____ %	0-6 percent <sup>(2)</sup>
C5H12	i-Pentane mole percent	_____ %	0-4 percent <sup>(3)</sup>
C5H12	n-Pentane mole percent	_____ %	0-4 percent <sup>(3)</sup>
C6H14	n-Hexane mole percent	_____ %	0-Dew Point
C7H16	n-Heptane mole percent	_____ %	0-Dew Point
C8H18	n-Octane mole percent	_____ %	0-Dew Point
C9H20	n-Nonane mole percent	_____ %	0-Dew Point
C10H22	n-Decane mole percent	_____ %	0-Dew Point
He	Helium mole percent	_____ %	0-3.0 percent
Ar	Argon mole percent	_____ %	0-1.0 percent

Gross Characterization Method, Option 1 (AGA8 Gr-Hv-Co2)

Valid Range

Specific gravity at 14.73 psia and 60 °F	_____		0.554-0.87
Volumetric Gross Heating Value at Base Conditions	_____	BTU/SCF	477-1150 BTU/SCF
Carbon Dioxide mole percent	_____	%	0-30 percent
Hydrogen mole percent	_____	%	0-10 percent
Carbon Monoxide mole percent	_____	%	0-3 percent

Gross Characterization Method, Option 2 (AGA8 Gr-CO2-N2)

Valid Range

Specific gravity at 14.73 psia and 60 °F	_____		0.554-0.87
Carbon Dioxide mole percent	_____	%	0-30 percent
Nitrogen mole percent	_____	%	0-50 percent
Hydrogen mole percent	_____	%	0-10 percent
Carbon Monoxide mole percent	_____	%	0-3 percent

<sup>(2)</sup> The summation of i-Butane and n-Butane cannot exceed 6 percent.

<sup>(3)</sup> The summation of i-Pentane and n-Pentane cannot exceed 4 percent.

# Rosemount 3095 MultiVariable

## Required for Custom Gas Only

### Gas Compressibility and Viscosity Information

1. Fill in the following operating pressures and operating temperatures.  
 Min and max values must match values entered under Process Operating Conditions.

Operating Pressures		Operating Temperatures	
(1) _____ min	(5) _____ min	(8) _____ [ $^{1/3}(\text{max-min})$ ]+min	
(2) _____ [ $^{1/3}(\text{max-min})$ ]+min	(6) _____ [ $^{1/2}(\text{max-min})$ ]+min	(9) _____ [ $^{2/3}(\text{max-min})$ ]+min	
(3) _____ [ $^{2/3}(\text{max-min})$ ]+min	(7) _____ max		
(4) _____ max			

2. Transfer the values from the above section to the numbered lines below.
3. Check one Density/Compressibility box, then enter the 12 values for each pressure/temperature range.
4. Check one Viscosity box, then enter values for each temperature. (At least one viscosity value is required.)
5. Enter values for molecular weight, isentropic exponent, and standard density (or standard compressibility).

Pressure	Temperature	<input type="checkbox"/> Density in Kg/CuM <input type="checkbox"/> Density in Lbs/CuFt <input type="checkbox"/> Compressibility	Temperature	<input type="checkbox"/> Viscosity in Centipoise <input type="checkbox"/> Viscosity in Lbs/Ft Sec <input type="checkbox"/> Viscosity in Pascal Sec
(1) _____	(5) _____	_____	(5) _____	_____
(2) _____	(5) _____	_____	(8) _____	_____
(3) _____	(5) _____	_____	(9) _____	_____
(4) _____	(5) _____	_____	(7) _____	_____
(1) _____	(6) _____	_____		
(2) _____	(6) _____	_____	Molecular Weight	_____
(3) _____	(6) _____	_____	Isentropic Exponent	_____ 1.4 ★
(4) _____	(6) _____	_____		
(1) _____	(7) _____	_____		
(2) _____	(7) _____	_____		
(3) _____	(7) _____	_____		
(4) _____	(7) _____	_____		

Standard density/compressibility \_\_\_\_\_ (at standard reference conditions specified on page 24)

**NOTE: All customer gas configuration information must be completed. Order will be delayed if fields are left blank.**

**Required for Custom Liquid Only**

**Liquid Density and Viscosity Information**

**NOTE: Only fill out this page if you have selected a custom liquid.**

1. Fill in the following operating temperatures. (Min and max values must match values entered under Process Operating Conditions)

Operating Temperatures

- (a) \_\_\_\_\_ min
- (b) \_\_\_\_\_ [ $^{1/3}(\text{max}-\text{min})$ ]+min
- (c) \_\_\_\_\_ [ $^{2/3}(\text{max}-\text{min})$ ]+min
- (d) \_\_\_\_\_ max

**2. Transfer the values from the above section to the lettered lines below.**

3. Check one Density box, then enter values for each temperature and the standard density.

4. Check one Viscosity box, then enter values for each temperature. (At least one viscosity value is required.)

	<input type="checkbox"/> Density in Lbs/CuFt <input type="checkbox"/> Compressibility		<input type="checkbox"/> Viscosity in Centipoise <input type="checkbox"/> Viscosity in Lbs/Ft Sec <input type="checkbox"/> Viscosity in Pascal Sec
Temperature		Temperature	
(a) _____	_____	(a) _____	_____
(b) _____	_____	(b) _____	_____
(c) _____	_____	(c) _____	_____
(d) _____	_____	(d) _____	_____

Standard density/compressibility \_\_\_\_\_ (at standard reference conditions specified on page 24)

**NOTE: All customer gas configuration information must be completed. Order will be delayed if fields are left blank.**

**Primary Element Information**

Select Differential Producer (Select One)

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> 405P Compact Orifice</li> <li><input type="checkbox"/> 405C Compact Conditioning Orifice</li> <li><input type="checkbox"/> 1195 Integral Orifice</li> <li><input type="checkbox"/> <i>Annubar</i>/Mass Probar ★</li> <li><input type="checkbox"/> 485 <i>Annubar</i>/ 3095 MFA Mass ProBar ★</li> <li><input type="checkbox"/> 485 <i>Annubar</i>/ 3095 MFA Mass ProBar, Constant K</li> <li><input type="checkbox"/> Calibrated 485 <i>Annubar</i>/ 3095 MFA Mass ProBar</li> <li><input type="checkbox"/> <i>Annubar</i> diamond II+/ Mass ProBar</li> <li><input type="checkbox"/> Calibrated <i>Annubar</i> Diamond II+/ Mass ProBar</li> <li><input type="checkbox"/> <i>Annubar</i> Diamond II (1999)</li> <li><input type="checkbox"/> Nozzle, Long Radius Wall Taps, ASME</li> <li><input type="checkbox"/> Nozzle, Long Radius Wall Taps, ISO</li> <li><input type="checkbox"/> Nozzle, ISA 1932, ISO</li> <li><input type="checkbox"/> Orifice, D &amp; D/2 Taps, ISO</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Orifice, Corner Taps, ISO</li> <li><input type="checkbox"/> 1595 Conditioning Orifice</li> <li><input type="checkbox"/> Orifice, Flange Taps, AGA3</li> <li><input type="checkbox"/> Small Bore Orifice, Flange Taps, ASME</li> <li><input type="checkbox"/> Venturi Nozzle, ISO</li> <li><input type="checkbox"/> Orifice, Flange Taps, ISO</li> <li><input type="checkbox"/> Orifice, 2<sup>1/2</sup>D &amp; 8D Taps</li> <li><input type="checkbox"/> Orifice, Corner Taps, ASME</li> <li><input type="checkbox"/> Orifice, Flange Taps, ASME</li> <li><input type="checkbox"/> Orifice d &amp; D/2 Taps, ASME</li> <li><input type="checkbox"/> Venturi, Rough Cast/Fabricated Inset, ASME</li> <li><input type="checkbox"/> Venturi, Rough Cast Inlet, ISO</li> <li><input type="checkbox"/> Venturi, Machined Inlet, ASME</li> <li><input type="checkbox"/> Venturi, Welded Inlet, ISO</li> </ul> |
|--|---|

# Rosemount 3095 MultiVariable

**Product Data Sheet**  
00813-0100-4716, Rev KA  
Catalog 2006 - 2007

Selecting Area Averaging Meter, V-Cone<sup>®</sup>, or calibrated primary element requires a constant value for discharge coefficient: \_\_\_\_\_ .

Area Averaging Meter                       V-Cone                       Calibrated Venturi                       Calibrated output  
Primary Element Minimum Diameter (d) \_\_\_\_\_  in.                       mm  
at \_\_\_\_\_  °F  °C in. at 68 °F ★  
or  
Sensor Series No. \_\_\_\_\_ (Enter series designation)

Differential Producer Material (Select One)

Carbon Steel                       SST 304                       SST316  
 Hastelloy C                       Monel

## Pipe Tube Information

Pipe Tube Diameter (Pipe ID) (D) \_\_\_\_\_  in.     mm    at \_\_\_\_\_  °F     °C in. at 68 °F ★  
Pipe Tube Material (Select One)                       Carbon Steel ★                       SST 304                       SST 316  
 Hastelloy C                       Monel

## Process Operating Conditions

Operating Static Pressure Range \_\_\_\_\_ to \_\_\_\_\_  
 psia                       psig                       kPa (absolute)                       kPa (gage)

Operating Temperature Range \_\_\_\_\_ to \_\_\_\_\_  °F     °C

Fixed Process Temperature (Model Code = 0), value: \_\_\_\_\_ Valid range: -459 to 3500 °F (-273 to 1927 °C)

**NOTE: For steam applications, temperatures must be equal to or greater than the saturation temperature at the given pressures. All Process operating conditions information must be completed.**

## Atmospheric Pressure

Atmospheric Pressure \_\_\_\_\_  psia     kPa (absolute)     Bar                      14.696 psia ★

## Standard Reference Conditions

**NOTE: The information is required if any of the following flow units were selected:  
StdCuft/s, StdCuft/min, StdCuft/h, StdCuft/d, StdCum/h, StdCum/d**

Standard Reference Conditions:

Standard Pressure \_\_\_\_\_  psia  Bar    14.696 psia ★ (gas/steam only)  
 kPa (absolute)

Standard Temperature \_\_\_\_\_  °F ★     °C    60 °F ★ (For steam, 212 °F ★)

## Transmitter Information (Required)

Failure Mode Alarm Direction (select one)                       Alarm High ★                       Alarm Low

## LCD Display Configuration

Process variables displayed on LCD:

- |  |  |
|--|--|
| <input type="checkbox"/> Absolute Pressure     | <input type="checkbox"/> Flow Total          |
| <input type="checkbox"/> Analog Output Current | <input type="checkbox"/> Gauge Pressure      |
| <input type="checkbox"/> Differential Pressure | <input type="checkbox"/> Percent of Flow     |
| <input type="checkbox"/> Flow                  | <input type="checkbox"/> Process Temperature |

Number of seconds to display each variable: \_\_\_\_\_

(available ranges from 2-10 seconds, in one second increments)

## Burst Mode

- Disabled       Enabled

If the transmitter is to be used with Rosemount Rosemount 333, burst mode must be enabled.

## For RMD Internal Use Only

House Order No.: \_\_\_\_\_

Line Item No.: \_\_\_\_\_

Transmitter Serial No.: \_\_\_\_\_

RCC Tech.: \_\_\_\_\_

## Rosemount 3095 FOUNDATION fieldbus™ Configuration Data Sheet

Complete this form to define a Custom Flow Configuration for the Rosemount 3095. Unless Specified, the 3095 will ship with the default values identified by the ★ symbol. For technical assistance in filling out this CDS, contact your local Rosemount representative.  
 Note: Any missing information will be processed with the indicated default values.

### Customer Information

Customer \_\_\_\_\_ P.O. No. \_\_\_\_\_  
 Customer Line Item \_\_\_\_\_ Model No. <sup>(1)</sup> \_\_\_\_\_  
 Tag Type                     SST Wire-on Tag (85 characters maximum)                     Stamped on Nameplate (65 characters maximum)  
 Tag Information \_\_\_\_\_

### Transmitter Information (Optional)

PD Tag                    |\_\_\_\_\_| (16 characters)  
 Descriptor              |\_\_\_\_\_|  
                               |\_\_\_\_\_| (32 characters maximum)  
                               |\_\_\_\_\_| (32 characters)  
 Date                    |\_\_| |                    |\_\_| |                    |\_\_| |  
                               (dd)                    (MMM)                    (yy)

### Flow Configuration (required)

Select units for each Process Variable, then enter sensor Lower Trim Value (LTV) and sensor Upper Trim Value (UTV).  
 Note: LTV and UTV must be within the range limits.

**Differential Pressure (DP)**

<input type="checkbox"/> DP Units	<input type="checkbox"/> inH <sub>2</sub> O-68 °F★	<input type="checkbox"/> inH <sub>2</sub> O-4 °C	<input type="checkbox"/> ftH <sub>2</sub> O-68 °F	<input type="checkbox"/> mmH <sub>2</sub> O-68 °F
<input type="checkbox"/> mPa	<input type="checkbox"/> mmH <sub>2</sub> O-4 °C	<input type="checkbox"/> psi★	<input type="checkbox"/> bar	<input type="checkbox"/> mbar
<input type="checkbox"/> inHg 0°C	<input type="checkbox"/> g/SqCm	<input type="checkbox"/> Kg/SqCm	<input type="checkbox"/> Pa	<input type="checkbox"/> kPa
<input type="checkbox"/> mmHg 0°C	<input type="checkbox"/> torr	<input type="checkbox"/> Atm		

Trim Values              LTV \_\_\_\_\_ (0 ★)                    UTV \_\_\_\_\_ (URL in H<sub>2</sub>O-68 °F ★)

**Static Pressure (SP)**

<input type="checkbox"/> Static Pressure Units	<input type="checkbox"/> inH <sub>2</sub> O-68 °F	<input type="checkbox"/> inH <sub>2</sub> O-4 °C	<input type="checkbox"/> ftH <sub>2</sub> O-68 °F	<input type="checkbox"/> mmH <sub>2</sub> O-68 °F
<input type="checkbox"/> mPa	<input type="checkbox"/> mmH <sub>2</sub> O-4 °C	<input type="checkbox"/> psi★	<input type="checkbox"/> bar	<input type="checkbox"/> mbar
<input type="checkbox"/> inHg 0°C	<input type="checkbox"/> g/SqCm	<input type="checkbox"/> Kg/SqCm	<input type="checkbox"/> Pa	<input type="checkbox"/> kPa
<input type="checkbox"/> mmHg 0°C	<input type="checkbox"/> torr	<input type="checkbox"/> Atm		

Trim Values<sup>(1)</sup>              LTV \_\_\_\_\_ (0 ★)                    UTV \_\_\_\_\_ (URL psi ★)

**Process Temperature (PT)**

PT Units                     °F ★                     °C

Trim Values              LTV \_\_\_\_\_ (-300 ★)                    UTV \_\_\_\_\_ (1500 °F★)

(1) If absolute pressure module, then lower static pressure values must be ≥ 0.5 psia (34.5 mbar). A complete model number is required before Rosemount Inc. can process the custom configuration order.



# Product Data Sheet

00813-0100-4716, Rev KA  
 Catalog 2006 - 2007

# Rosemount 3095 MultiVariable

### Flow Rate

Flow Units

- |   |                                      |                                    |                                    |
|---|--------------------------------------|------------------------------------|------------------------------------|
| <input type="checkbox"/> StdCuft/s                                  | <input type="checkbox"/> StdCuft/min | <input type="checkbox"/> StdCuft/h | <input type="checkbox"/> StdCuft/d |
| <input type="checkbox"/> StdCum/h                                   | <input type="checkbox"/> StdCum/d    | <input type="checkbox"/> lbs/sec★  | <input type="checkbox"/> lbs/min   |
| <input type="checkbox"/> lbs./hour                                  | <input type="checkbox"/> lbs/day     | <input type="checkbox"/> grams/sec | <input type="checkbox"/> grams/min |
| <input type="checkbox"/> grams/hour                                 | <input type="checkbox"/> kg/sec      | <input type="checkbox"/> kg/min    | <input type="checkbox"/> kg/hour   |
| <input type="checkbox"/> NmICuM/hour                                | <input type="checkbox"/> NmICuM/day  | <input type="checkbox"/> mton/hour | <input type="checkbox"/> mton/day  |
| <input type="checkbox"/> Special (other units available on request) |                                      |                                    |                                    |

### Flow Rate

Low PV (minimum) \_\_\_\_\_ (0.00 ★) High PV (Full Scale): \_\_\_\_\_ (100 lbs/sec)

### Fluid Type (Select One)

- Gas  Liquid  Steam

### Fluid Information (Complete one section only)

Steam (ASME Saturated and/or Superheated)

Natural Gas *NOTE: If you selected Natural Gas, complete the Compressibility Factor Information on page 28*

Gas or Liquid from AIChE database: Circle ONE fluid name below:

Acetic Acid	Cyclopropane	Isopropanol	n-Heptane	1-Dodecanol
Acetone	Divinyl Ether	Methane	n-Hexane	1-Heptanol
Acetonitrile	Ethane	Methanol	n-Octane	1-Heptene
Acetylene	Ethanol	Methyl Acrylate	n-Pentane	1-Hexene
Acrylonitrile	Ethylamine	Methyl Ethyl Ketone	Oxygen	1-Hexadecanol
Air	Ethylbenzene	Methyl Vinyl Ether	Pentafluorothane	1-Octanol
Allyl Alcohol	Ethylene	m-Chloronitrobenzene	Phenol	1-Octene
Ammonia	Ethylene Glycol	m-Dichlorobenzene	Propane	1-Nonanal
Argon	Ethylene Oxide	Neon	Propadiene	1-Nonanol
Benzene	Fluorene	Neopentane	Pyrene	1-Pentadecanol
Benzaldehyde	Furan	Nitric Acid	Propylene	1-Pentanol
Benzyl Alcohol	Helium-4	Nitric Oxide	Styrene	1-Pentene
Biphenyl	Hydrazine	Nitrobenzene	Sulfur Dioxide	1-Undecanol
Carbon Dioxide	Hydrogen	Nitroethane	Toluene	1,2,4-Trichlorobenzene
Carbon Monoxide	Hydrogen Chloroide	Nitrogen	Trichloroethylene	1,1,2-Trichloroethane
Carbon Tetrachloride	Hydrogen Cyanide	Nitromethane	Vinyl Acetate	1,1,2,2-Tetrafluoroethane
Chlorine	Hydrogen Peroxide	Nitrous Oxide	Vinyl Chloride	1,2-Butadiene
Chlorotrifluoroethylene	Hydrogen Sulfide	n-Butane	Vinyl Cyclohexane	1,3-Butadiene
Chloroprene	Isobutane	n-Butanol	Water	1,2,5-Trichlorobenzene
Cycloheptane	Isobutene	n-Butyraldehyde	1-Butene	1,4-Dioxane
Cyclohexane	Isobutylbenzene	n-Butyronitrile	1-Decene	1,4-Hexadiene
Cyclopentane	Isopentane	n-Decane	1-Decanal	2-Methyl-1-Pentane
Cyclopentene	Isoprene	n-Dodecane	1-Decanol	2,2-Dimethylbutane
		n-Heptadecane	1-Dodecene	

Custom Gas or Liquid

Enter custom fluid name \_\_\_\_\_

*NOTE: If defining a custom fluid, complete the density and viscosity information on page 29*

# Rosemount 3095 MultiVariable

## Required For Natural Gas Only

### Compressibility Factor Information

Choose desired characterization method, and only enter values for that method:

<input type="checkbox"/> Detail Characterization Method (AGA8 1992)		<u>Mole</u>	Valid Range
CH4	Methane mole percent	_____ %	0-100 percent
N2	Nitrogen mole percent	_____ %	0-100 percent
CO2	Carbon Dioxide mole percent	_____ %	0-100 percent
C2H6	Ethane mole percent	_____ %	0-100 percent
C3H8	Propane mole percent	_____ %	0-12 percent
H2O	Water mole percent	_____ %	0-Dew Point
H2S	Hydrogen Sulfide mole percent	_____ %	0-100 percent
H2	Hydrogen mole percent	_____ %	0-100 percent
CO	Carbon Monoxide mole percent	_____ %	0-3.0 percent
O2	Oxygen mole percent	_____ %	0-21 percent
C4H10	i-Butane mole percent	_____ %	0-6 percent <sup>(2)</sup>
C4H10	n-Butane mole percent	_____ %	0-6 percent <sup>(2)</sup>
C5H12	i-Pentane mole percent	_____ %	0-4 percent <sup>(3)</sup>
C5H12	n-Pentane mole percent	_____ %	0-4 percent <sup>(3)</sup>
C6H14	n-Hexane mole percent	_____ %	0-Dew Point
C7H16	n-Heptane mole percent	_____ %	0-Dew Point
C8H18	n-Octane mole percent	_____ %	0-Dew Point
C9H20	n-Nonane mole percent	_____ %	0-Dew Point
C10H22	n-Decane mole percent	_____ %	0-Dew Point
He	Helium mole percent	_____ %	0-3.0 percent
Ar	Argon mole percent	_____ %	0-1.0 percent
<input type="checkbox"/> Gross Characterization Method, Option 1 (AGA8 Gr-Hv-Co2)		Valid Range	
Specific gravity at 14.73 psia and 60 °F		_____	0.554-0.87
Volumetric Gross Heating Value at Base Conditions		_____ BTU/SCF	477-1150 BTU/SCF
Carbon Dioxide mole percent		_____ %	0-30 percent
Hydrogen mole percent		_____ %	0-10 percent
Carbon Monoxide mole percent		_____ %	0-3 percent
<input type="checkbox"/> Gross Characterization Method, Option 2 (AGA8 Gr-CO2-N2)		Valid Range	
Specific gravity at 14.73 psia and 60 °F		_____	0.554-0.87
Carbon Dioxide mole percent		_____ %	0-30 percent
Nitrogen mole percent		_____ %	0-50 percent
Hydrogen mole percent		_____ %	0-10 percent
Carbon Monoxide mole percent		_____ %	0-3 percent

<sup>(2)</sup> The summation of i-Butane and n-Butane cannot exceed 6 percent.

<sup>(3)</sup> The summation of i-Pentane and n-Pentane cannot exceed 4 percent.

## Required for Custom Gas Only

### Gas Compressibility and Viscosity Information

1. Fill in the following operating pressures and operating temperatures.  
 Min and max values must match values entered under Process Operating Conditions.

Operating Pressures		Operating Temperatures	
(1) _____ min	(5) _____ min	(8) _____ $[\frac{1}{3}(\text{max-min})]+\text{min}$	
(2) _____ $[\frac{1}{3}(\text{max-min})]+\text{min}$	(6) _____ $[\frac{1}{2}(\text{max-min})]+\text{min}$	(9) _____ $[\frac{2}{3}(\text{max-min})]+\text{min}$	
(3) _____ $[\frac{2}{3}(\text{max-min})]+\text{min}$	(7) _____ max		
(4) _____ max			

- 2. Transfer the values from the above section to the numbered lines below.**
3. Check one Density/Compressibility box, then enter the 12 values for each pressure/temperature range.
4. Check one Viscosity box, then enter values for each temperature. (At least one viscosity value is required.)
5. Enter values for molecular weight, isentropic exponent, and standard density (or standard compressibility).

Pressure	Temperature	<input type="checkbox"/> Density in Kg/CuM <input type="checkbox"/> Density in Lbs/CuFt <input type="checkbox"/> Compressibility	Temperature	<input type="checkbox"/> Viscosity in Centipoise <input type="checkbox"/> Viscosity in Lbs/Ft Sec <input type="checkbox"/> Viscosity in Pascal Sec
(1) _____	(5) _____	_____	(5) _____	_____
(2) _____	(5) _____	_____	(8) _____	_____
(3) _____	(5) _____	_____	(9) _____	_____
(4) _____	(5) _____	_____	(7) _____	_____
(1) _____	(6) _____	_____		_____
(2) _____	(6) _____	_____	Molecular Weight	_____
(3) _____	(6) _____	_____	Isentropic Exponent	_____ 1.4 ★
(4) _____	(6) _____	_____		_____
(1) _____	(7) _____	_____		_____
(2) _____	(7) _____	_____		_____
(3) _____	(7) _____	_____		_____
(4) _____	(7) _____	_____		_____

Standard density/compressibility \_\_\_\_\_ (at standard reference conditions specified on page 31)

**NOTE: All customer gas configuration information must be completed. Order will be delayed if fields are left blank.**

## Required for Custom Liquid Only

### Liquid Density and Viscosity Information

**NOTE: Only fill out this page if you have selected a custom liquid.**

1. Fill in the following operating temperatures. (Min and max values must match values entered under Process Operating Conditions)

Operating Temperatures

- (a) \_\_\_\_\_ min
- (b) \_\_\_\_\_ [ $^{1/3}(\max-\min)$ ]+min
- (c) \_\_\_\_\_ [ $^{2/3}(\max-\min)$ ]+min
- (d) \_\_\_\_\_ max

**2. Transfer the values from the above section to the lettered lines below.**

3. Check one Density box, then enter values for each temperature and the standard density.

4. Check one Viscosity box, then enter values for each temperature. (At least one viscosity value is required.)

	<input type="checkbox"/> Density in Lbs/CuFt <input type="checkbox"/> Compressibility		<input type="checkbox"/> Viscosity in Centipoise <input type="checkbox"/> Viscosity in Lbs/Ft Sec <input type="checkbox"/> Viscosity in Pascal Sec
Temperature		Temperature	
(a) _____	_____	(a) _____	_____
(b) _____	_____	(b) _____	_____
(c) _____	_____	(c) _____	_____
(d) _____	_____	(d) _____	_____

Standard density/compressibility \_\_\_\_\_ (at standard reference conditions specified on page 31)

**NOTE: All customer gas configuration information must be completed. Order will be delayed if fields are left blank.**

## Primary Element Information

Select Differential Producer (Select One)

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> 405P Compact Orifice</li> <li><input type="checkbox"/> 405C Compact Conditioning Orifice</li> <li><input type="checkbox"/> 1195 Integral Orifice</li> <li><input type="checkbox"/> <i>Annubar</i>/Mass Probar ★</li> <li><input type="checkbox"/> 485 <i>Annubar</i>/ 3095 MFA Mass ProBar ★</li> <li><input type="checkbox"/> 485 <i>Annubar</i>/ 3095 MFA Mass ProBar, Constant K</li> <li><input type="checkbox"/> Calibrated 485 <i>Annubar</i>/ 3095 MFA Mass ProBar</li> <li><input type="checkbox"/> <i>Annubar</i> diamond II+/ Mass ProBar</li> <li><input type="checkbox"/> Calibrated <i>Annubar</i> Diamond II+/ Mass ProBar</li> <li><input type="checkbox"/> <i>Annubar</i> Diamond II (1999)</li> <li><input type="checkbox"/> Nozzle, Long Radius Wall Taps, ASME</li> <li><input type="checkbox"/> Nozzle, Long Radius Wall Taps, ISO</li> <li><input type="checkbox"/> Nozzle, ISA 1932, ISO</li> <li><input type="checkbox"/> Orifice, D &amp; D/2 Taps, ISO</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Orifice, Corner Taps, ISO</li> <li><input type="checkbox"/> 1595 Conditioning Orifice</li> <li><input type="checkbox"/> Orifice, Flange Taps, AGA3</li> <li><input type="checkbox"/> Small Bore Orifice, Flange Taps, ASME</li> <li><input type="checkbox"/> Venturi Nozzle, ISO</li> <li><input type="checkbox"/> Orifice, Flange Taps, ISO</li> <li><input type="checkbox"/> Orifice, 2<sup>1</sup>/<sub>2</sub>D &amp; 8D Taps</li> <li><input type="checkbox"/> Orifice, Corner Taps, ASME</li> <li><input type="checkbox"/> Orifice, Flange Taps, ASME</li> <li><input type="checkbox"/> Orifice d &amp; D/2 Taps, ASME</li> <li><input type="checkbox"/> Venturi, Rough Cast/Fabricated Inset, ASME</li> <li><input type="checkbox"/> Venturi, Rough Cast Inlet, ISO</li> <li><input type="checkbox"/> Venturi, Machined Inlet, ASME</li> <li><input type="checkbox"/> Venturi, Welded Inlet, ISO</li> </ul> |
|--|--|

## Product Data Sheet

00813-0100-4716, Rev KA

Catalog 2006 - 2007

# Rosemount 3095 MultiVariable

Selecting Area Averaging Meter, V-Cone<sup>®</sup>, or calibrated primary element requires a constant value for discharge coefficient: \_\_\_\_\_.

Area Averaging Meter       V-Cone       Calibrated Venturi       Calibrated output  
Primary Element Minimum Diameter (d) \_\_\_\_\_  in.       mm  
at \_\_\_\_\_  °F       °C in. at 68 °F ★  
or  
Sensor Series No. \_\_\_\_\_ (Enter series designation)

Differential Producer Material (Select One)

Carbon Steel       SST 304       SST316  
 Hastelloy C       Monel

### Pipe Tube Information

Pipe Tube Diameter (Pipe ID) (D) \_\_\_\_\_  in.     mm    at \_\_\_\_\_  °F     °C in. at 68 °F ★  
Pipe Tube Material (Select One)       Carbon Steel ★     SST 304       SST 316  
    Hastelloy C       Monel

### Process Operating Conditions

Operating Differential Pressure Range \_\_\_\_\_ to \_\_\_\_\_  
Differential Pressure Units (DP)     inH<sub>2</sub>O-68 °F       inH<sub>2</sub>O-4 °C       ftH<sub>2</sub>O-68 °F       mmH<sub>2</sub>O-68 °F  
 mPa       mmH<sub>2</sub>O-4 °C       psi       bar       mbar  
 inHg 0°C       g/SqCm       Kg/SqCm       Pa       kPa  
 mmHg 0°C       torr       Atm  
Operating Static Pressure Range \_\_\_\_\_ to \_\_\_\_\_  
Static Pressure Units (SP)       inH<sub>2</sub>O-68 °F       inH<sub>2</sub>O-4 °C       ftH<sub>2</sub>O-68 °F       mmH<sub>2</sub>O-68 °F  
 mPa       mmH<sub>2</sub>O-4 °C       psi       bar       mbar  
 inHg 0°C       g/SqCm       Kg/SqCm       Pa       kPa  
 mmHg 0°C       torr       Atm  
Operating Temperature Range \_\_\_\_\_ to \_\_\_\_\_  °F     °C  
Fixed Process Temperature (Model Code = 0), value: \_\_\_\_\_ Valid range: -459 to 3500 °F (-273 to 1927 °C)

**NOTE: For steam applications, temperatures must be equal to or greater than the saturation temperature at the given pressures. All Process operating conditions information must be completed.**

### Atmospheric Pressure

Atmospheric Pressure \_\_\_\_\_  psia     kPa (absolute)     Bar      14.696 psia ★

### Standard Reference Conditions

**NOTE: The information is required if any of the following flow units were selected:  
StdCuft/s, StdCuft/min, StdCuft/h, StdCuft/d, StdCum/h, StdCum/d**

Standard Reference Conditions:

Standard Pressure \_\_\_\_\_  psia     Bar      14.696 psia ★ (gas/steam only)  
    kPa (absolute)  
Standard Temperature \_\_\_\_\_  °F ★     °C      60 °F ★ (For steam, 212 °F ★)

# Rosemount 3095 MultiVariable

**Product Data Sheet**  
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## LCD Display Configuration

Process variables displayed on LCD (4 Maximum):

- |  |  |
|--|--|
| <input type="checkbox"/> Static Pressure       | <input type="checkbox"/> Flow Total          |
| <input type="checkbox"/> Differential Pressure | <input type="checkbox"/> Process Temperature |
| <input type="checkbox"/> Flow                  | <input type="checkbox"/> Fixed Temperature   |

## Block Tag Names

AI Block Name (Flow): \_\_\_\_\_ (AI 1400 ★)  
AI Block Name (DP): \_\_\_\_\_ (AI 1500 ★)  
AI Block Name (SP): \_\_\_\_\_ (AI 1600 ★)  
AI Block Name (PT): \_\_\_\_\_ (AI 1700 ★)  
INTEG Block Name (Flow Total): \_\_\_\_\_ (INTEG 2100 ★)

## For RMD Internal Use Only

House Order No.: \_\_\_\_\_  
Line Item No.: \_\_\_\_\_  
Transmitter Serial No.: \_\_\_\_\_  
RCC Tech.: \_\_\_\_\_

3095 FOUNDATION fieldbus Configuration Data Sheet - Page 7 of 7

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### Emerson Process Management

**Rosemount Inc.**  
8200 Market Boulevard  
Chanhassen, MN 55317 USA  
T (U.S.) 1 800 999 9307  
T (International) (952) 906 8888  
F (952) 949 7001

www.rosemount.com

<b>Emerson Process Management</b>	<b>Emerson Process Management Asia</b>
Heath Place	<b>Pacific Private Limited</b>
Bognor Regis	1 Pandan Crescent
West Sussex PO22 9SH	Singapore 128461
England	T (65) 6777 8211
T 44 (0) 1243 863121	F (65) 6777 0947
F 44 (0) 1243 867554	Enquiries@AP.EmersonProcess.com

