

Rosemount 3095FT *MultiVariable*TM Flow Data Logger

THE PROVEN LEADER IN MULTIVARIABLE MEASUREMENT:

- Industry leading performance with $\pm 0.05\%$ of DP reading accuracy
- Ten year stability under actual process conditions
- Unprecedented reliability backed by a limited 12-year warranty
- Measures natural gas flow through an orifice plate per AGA, API, and GPA standards
- Advanced data and event logging, API compliant
- CoplanarTM platform enables orifice-based DP Flowmeters



Contents

Specifications	page 3
Product Certifications	page 6
Dimensional Drawings.....	page 7
Ordering Information	page 9
Configuration Data Sheet	page 12

Rosemount 3095FT — Leader in *MultiVariable* Measurement

Developed in coordination with the Gas Research Institute, the state-of-the-art 3095FT is the world's most compact electronic flow measurement (EFM) device. The 3095FT delivers four measurements from one *coplanar* device while performing user configured data logging.

Industry leading performance with $\pm 0.05\%$ of DP reading accuracy

Enabled by superior sensor technology and engineered for optimal flow performance, the 3095FT delivers unprecedented reference accuracy with 100:1 rangeability. Superior performance means reduced variability for improved billing accuracy.

Ten year stability under actual process conditions

Through aggressive simulation testing, the 3095FT has proven its ability to maintain unprecedented performance under the most demanding conditions. Superior transmitter stability decreases calibration frequency for reduced maintenance and operation costs.

Unprecedented reliability backed by a limited 12-year warranty

Further enhance installation practices with the most reliable platform supported by a 12-year warranty.

Four variables in one device

The advanced 3095FT measured three process variables simultaneously, while calculating flow through an orifice plate per American Gas Association (AGA), American Petroleum Institute (API) and Gas Processors Associations (GPA) standards. One installation means reduced process penetrations, inventory and installation costs.

Advanced data logging

With user-configurable data logging exceeding EFM requirements of API MPMS Chapter 21.1, the 3095FT logs the continuously averaged flow data. The nonvolatile memory logs 50 days of daily, variable and event logs. A cost effective solution for natural gas flow monitoring and custody transfer.

Coplanar platform enables DP flowmeters

The solution arrives factory calibrated, pressure-tested, and ready to install right out of the box. Only Rosemount has a scalable *coplanar* transmitter design to reduce engineering and inventory costs.

Advanced *PlantWeb* functionality



From multiple process variable generation to advanced compensated Mass Flow functionality and highly integrated flowmeter solutions, the 3095 reduces operational and maintenance expenditures while improving throughput and utilities management.

Rosemount DP-Flow Solutions

Rosemount 3051S Series of Instrumentation

Scalable pressure, flow, and level measurement solutions improve installation and maintenance practices.

Rosemount 3095 Mass Flow Transmitter

Accurately measures differential pressure, static pressure, and process temperature to dynamically calculate fully compensated mass flow.

Rosemount 305, 306 and 304 Manifolds

Factory-assembled, calibrated, and seal-tested transmitter-to-manifold assemblies reduce on-site installation costs.

Rosemount 1495, 1496, 1497, and 1595 Orifice Plate Primary Element Systems

A comprehensive offering of orifice plates, flange unions and meter sections that is easy to specify and order. The 1595 Conditioning Orifice provides superior performance in tight fit applications.

Rosemount 3051SFA, 3095MFA, 485, and 285 Annubar® Series

The state-of-the-art, fifth generation Rosemount 485 Annubar combined with the 3051S or 3095 MultiVariable transmitter creates an accurate, repeatable and dependable insertion-type flowmeter. The Rosemount 285 provides a commercial product offering for your general purpose applications.

Rosemount 3051SFC, 3095MFC, and 405 Compact Orifice Series

Compact Orifice Flowmeters can be installed between existing flanges, up to a Class 600 (PN100) rating. In tight fit applications, a conditioning orifice plate version is available, requiring only two diameters of straight run upstream and two diameters downstream.

Rosemount 3051SFP, 3095MFP, and 1195 ProPlate® Series

These Integral Orifice Flowmeters eliminate the inaccuracies that become more pronounced in small orifice line installations. The completely assembled, ready to install flowmeters reduce cost and simplify installation.

Specifications

FUNCTIONAL

Service

AGA 8 Natural Gas, AGA 3 Orifice Plates
Consult factory for other fluid and primary element combinations

Differential Sensor

Limits

- Range 2: -250 to 250 inH₂O (-62,2 to 62,2 kPa)
- Range 3: -1000 to 1000 inH₂O (-249 to 249 kPa)

Absolute Sensor

Limits

- Range 3: 0.5 to 800 psia (0,0034 to 5,516 MPa)
- Range 4: 0.5 to 3,626 psia (0,0034 to 25,00 MPa)

Gage Pressure

Limits

- Range C: 0 to 800 psig (0 to 5,516 MPa)
- Range D: 0 to 3,626 psig (0 to 25,00 MPa)

Over Pressure Limit

0.5 psia (0,0034 MPa) to two times the absolute pressure sensor range up to a maximum of 3,626 psia (25,00 MPa).

Static Pressure Limit

Operates within specifications between static line pressures of 0.5 psia (0,0034 MPa) and the URL of the absolute pressure sensor.

Flow Calculations

- 1992 AGA Report No. 3⁽¹⁾
- API MPMS Chapter 14.3⁽¹⁾
- GPA⁽¹⁾
- Flange tap configurable per corresponding AGA calculations
- Pipe Tap configurable per corresponding AGA calculations

NOTE

Flow calculations will cease when DP readings are below low flow cut off.

Compressibility Calculations

- AGA Report No. 8
- API MPMS Chapter 14.2
- Gross or Detailed Characterization Method

Data Logging

- Exceeds API MPMS 21.1
- Daily & Variable Logs have user selected time duration between 1-99 minutes
- Event Logs record alarms, configuration changes, and significant occurrences affecting flow calculation
- 50 days of daily logs maintained for user-selected process variables and calculated values when seven required API variables are logged.
- Logged files saved as ASCII file or comma separated value file.

Daily Variable Log Parameters

Maximum: DP, PT, and SP

Minimum: DP, PT, and SP

Average: DP, PT, and SP

Total: Energy, Flow, and Flow Time

Average: Energy Rate, Flow Rate, Integral Value, C', Z

Specific Gravity

Heating Value

Audit Trail

Exceeds API MPMS Chapter 21.1 standards for electronic flow measurement systems.

User Interface Software and Hardware Requirements

- PC with CD-ROM Drive
- 4 MB RAM minimum
- *Microsoft® Windows®* 98, NT, 2000, or XP
- 2 MB of free hard disk space

Output

Two-wire, constant 9.5mA current, data logging

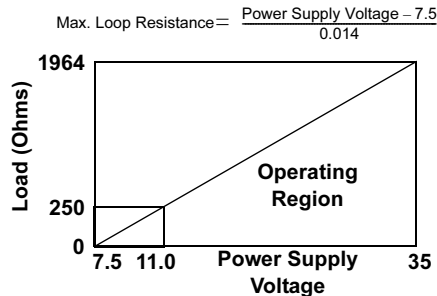
Power Supply

External power supply required. Data Logger operates on terminal voltage of 7.5–35 V dc with a constant average operating current of 9.5 mA.

(1) "Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids." Third Edition, August 1992. Part 3 Natural Gas Applications. American Gas Association Report No. 3; American Petroleum Institute API 14.3; Gas Processor Association GPA 8185-92.

Load Limitations

Maximum loop resistance is determined by the voltage level of the external power supply, as described by:



Communication requires a minimum loop resistance of 250 ohms.

Temperature Limits

Process (at transmitter isolator flange for atmospheric pressures and above)

- -40 to 185 °F (-40 to 85 °C)

Ambient:

- -40 to 185 °F (-40 to 85 °C)
- With LCD Display⁽¹⁾: -40 to 175 °F (-40 to 80 °C)

Storage:

- -50 to 212 °F (-46 to 100 °C)
- With LCD Display: -40 to 185 °F (-40 to 85 °C)

Humidity Limits

0–100% relative humidity

Failure Mode Alarm

If self-diagnostics detect a gross transmitter failure, the output registers an alarm with each message.

Turn-on Time

Process variables will be within specifications less than 60 seconds after power is applied to transmitter.

Damping

Response to step input change can be user-selectable from 0 to 15 seconds for one time constant. This is in addition to sensor response time of 0.2 seconds.

Real-Time Clock Accuracy

±2 minutes per month at reference conditions

Memory

Non-volatile memory per applicable A.G.A., A.P.I., and G.P.A. orifice meter and electronic flow measurement standards.

PERFORMANCE

Zero-based spans, reference conditions, silicone oil fill, 316 SST isolating diaphragms, and digital trim values equal to the span end points.

Specification Conformance

The Rosemount 3095 maintains a specification conformance of measured variables to at least 3σ.

Differential Pressure

Range 2:

0–2.5 to 0-250 inH₂O (0–0,6227 to 0-62,27 kPa)

Range 3:

0-10 to 0-1000 inH₂O (0–2,491 to 0-249,1 kPa)

Reference Accuracy (including Linearity, Hysteresis, Repeatability)

Range 2-3 Ultra for Flow (Option U3)⁽²⁾

- ±0.05% of DP reading up to 3:1 DP turndown from URL
- For DP turndowns up to 100:1 from URL,

$$\text{Accuracy} = \pm \left[0.05 + 0.0145 \left(\frac{\text{URL}}{\text{DP Reading}} \right) \right] \% \text{ of DP Reading}$$

Range 2-3

- ±0.075% of span for spans from 1:1 to 10:1 of URL
- For spans less than 10:1 of URL,

$$\text{Accuracy} = \pm \left[0.025 + 0.005 \left(\frac{\text{URL}}{\text{Span}} \right) \right] \% \text{ of Span}$$

Ambient Temperature Effect per 50 °F (28 °C)

Range 2-3 Ultra for Flow (Option U3)⁽²⁾

- ±0.130% of DP reading up to 3:1 DP turndown from URL
- ±[0.05 + 0.0345 (URL/DP Reading)]% of DP reading up to 100:1 DP turndown from URL

Range 2-3

- ±(0.025% URL + 0.125% span) spans from 1:1 to 30:1
- ±(0.035% URL – 0.175% span) spans from 30:1 to 100:1

Static Pressure Effects

- Zero error = ±0.05% of URL per 1,000 psi (6895 kPa)
- Span error = ±0.20% of DP Reading per 1,000 psi (6895 kPa)

Stability

Range 2-3 Ultra for Flow (Option U3)⁽²⁾

- ±0.25% of URL for 10 years; for ±50 °F (28 °C) temperature changes, up to 1000 psi (6895 kPa) line pressure

Range 2-3

- ±0.125% of URL for five years for ±50 °F (28 °C) ambient temperature changes, and up to 1000 psi (6895 kPa) line pressure.

(1) LCD Display may not be readable and LCD updates will be slow at temperatures below -4 °F (-20 °C).

(2) Ultra for Flow (option U3) applicable for DP ranges 2 and 3 with SST isolator material and silicone fill fluid options only.

Absolute/ Gage Pressure

Absolute (100:1 rangeability allowed)

Range 3

0.5–8 to 0.5–800 psia (0,0034–0,055 to 0,0034–5,516 MPa)

Range 4

0.5–36.26 to 0.5–3,626 psia (0,0034–0,250 to 0,0034–25,00 MPa)

Gage (100:1 rangeability allowed)

Range C

0–8 to 0–800 psig (0–0,055 to 0–5,516 MPa)

Range D

0–36.26 to 0–3,626 psig (0–0,250 to 0–25,00 MPa)

Reference Accuracy (including linearity, hysteresis, repeatability)

- ±0.075% of span for spans from 1:1 to 6:1 of URL
- For spans less than 6:1 rangedown

$$\text{Accuracy} = \pm \left[0.03 + 0.0075 \left(\frac{\text{URL}}{\text{Span}} \right) \right] \% \text{ of span}$$

Ambient Temperature Effect per 50 °F (28 °C)

- ±(0.05% URL + 0.125% of span) spans from 1:1 to 30:1
- ±(0.06% URL - 0.175% of span) spans from 30:1 to 100:1

Stability

- ±0.125% of URL for five years for ±50 °F (28 °C) ambient temperature changes, and up to 1000 psi (6,89 MPa) line pressure.

Process Temperature (RTD)

Specification for process temperature is for the transmitter portion only. Sensor errors caused by the RTD are not included. The transmitter is compatible with any PT100 RTD conforming to IEC 751 Class B, which has a nominal resistance of 100 ohms at 0 °C and $\alpha = 0.00385$. Examples of compatible RTDs include the Rosemount Series 68 and 78 RTD Temperature Sensors.

Range

–40 to 185 °F (–40 to 85 °C). May be limited by the flow calculation characterization method.

Accuracy (including Linearity, Hysteresis, Repeatability)

±1.0 °F (0.56 °C)

Ambient Temperature Effects

±0.72 °F (0.40 °C) per 50 °F (28 °C)

Stability

±1.0 °F (0.56 °C) for one year

PHYSICAL

Security

Transmitter security switch mounted on electronics board, when enabled prevents changes to transmitter security.

User Interface Software provides three levels of password security, they are as follows:

- System Administrator (one password)
- Maintenance (three passwords)
- Operation (six passwords)

Electrical Connections

½–14 NPT, M20 x 1.5 (CM20), PG-13.5

Process Connections

Transmitter

- ¼–18 NPT on 2 1/8-in. centers.

RTD

- RTD dependent (see “Ordering Information” on page 9)

RTD Process Temperature Input

100-ohm platinum RTD per IEC-751 Class B

Process Wetted Parts

Isolating Diaphragms

- 316L SST or Hastelloy C-276®

Drain/Vent Valves

- 316 SST or Hastelloy C-276

Flanges

- Plated carbon steel, 316 SST, or Hastelloy C-276

Wetted O-rings

- Glass-Filled PTFE

Non-Wetted Parts

Electronics Housing

- Low copper aluminum

Bolts

- Plated carbon steel per ASTM A449, Grade 5; or austenitic 316 SST

Fill Fluid

- Silicone oil

Paint

- Polyurethane

O-rings

- Buna-N

Weight

Component	Weight in lb (kg)
3095FT Transmitter	6.0 (2,7)
LCD Display	0.5 (0,2)
SST Mounting Bracket	1.0 (0,4)
12 ft (3.66 m) RTD Shielded Cable	0.5 (0,2)
12 ft (3.66 m) RTD Armored Cable	1.1 (0,5)
24 ft (7.32 m) RTD Shielded Cable	1.0 (0,4)
24 ft (7.32 m) RTD Armored Cable	2.2 (1,0)
75 ft (22.86 m) RTD Shielded Cable	3.1 (1,4)
75 ft (22.86 m) RTD Armored Cable	6.9 (3,1)

Product Certifications

Approved Manufacturing Locations

Rosemount Inc. — Chanhassen, Minnesota USA
Emerson Process Management GmbH & Co. — Wessling, Germany
Emerson Process Management Asia Pacific Private Limited — Singapore
Beijing Rosemount Far East Instrument Co., Limited — Beijing, China

European Directive Information

The EC declaration of conformity for all applicable European directives for this product can be found on the Rosemount website at www.rosemount.com. A hard copy may be obtained by contacting our local sales office.

ATEX Directive (94/9/EC)

Emerson Process Management complies with the ATEX Directive.

European Pressure Equipment Directive (PED) (97/23/EC)

3095F_2/3,4/D Flow Transmitters — QS Certificate of Assessment - EC No. PED-H-100 Module H Conformity Assessment

All other 3095_ Transmitters/Level Controller \— Sound Engineering Practice

Transmitter Attachments: Process Flange - Manifold — Sound Engineering Practice

Electro Magnetic Compatibility (EMC) (2004/108/EC)

3095FT Flow Transmitters — EN 61326:1997/ A1, A2, and A3

Ordinary Location Certification for Factory Mutual

As standard, the transmitter has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

Hazardous Locations Certifications

North American Certifications


FM Approvals

- A** Explosion Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition Proof for Class II, Division 1, Groups E, F, and G. Suitable for Class III, Division 1, indoor and outdoor (Type 4X) hazardous locations. Factory Sealed. Provides non-incendive RTD connections for Class I, Division 2, Groups A, B, C, and D. Install per Rosemount drawing 03095-1025.

Canadian Standards Association (CSA)


- C** Explosion Proof for Class I, Division 1, Groups B, C, and D. Dust-Ignition Proof for Class II, Division 1, Groups E, F, and G. Suitable for Class III, Division 1, indoor and outdoor hazardous locations, CSA enclosure Type 4X. Factory Sealed. Provides non-incendive RTD connection for Class I, Division 2, Groups A, B, C, and D. Approved for Class I, Division 2, Groups A, B, C, and D. Install in accordance with Rosemount Drawing 03095-1024.

European Certifications

- H** ATEX Flameproof
Certificate Number: KEMA02ATEX2320X  II 1/2 G
EEx d IIC T5 (-50°C ≤ T_{amb} ≤ 80°C)
T6 (-50°C ≤ T_{amb} ≤ 65°C)
CE 1180

Special Conditions for Safe Use (x):

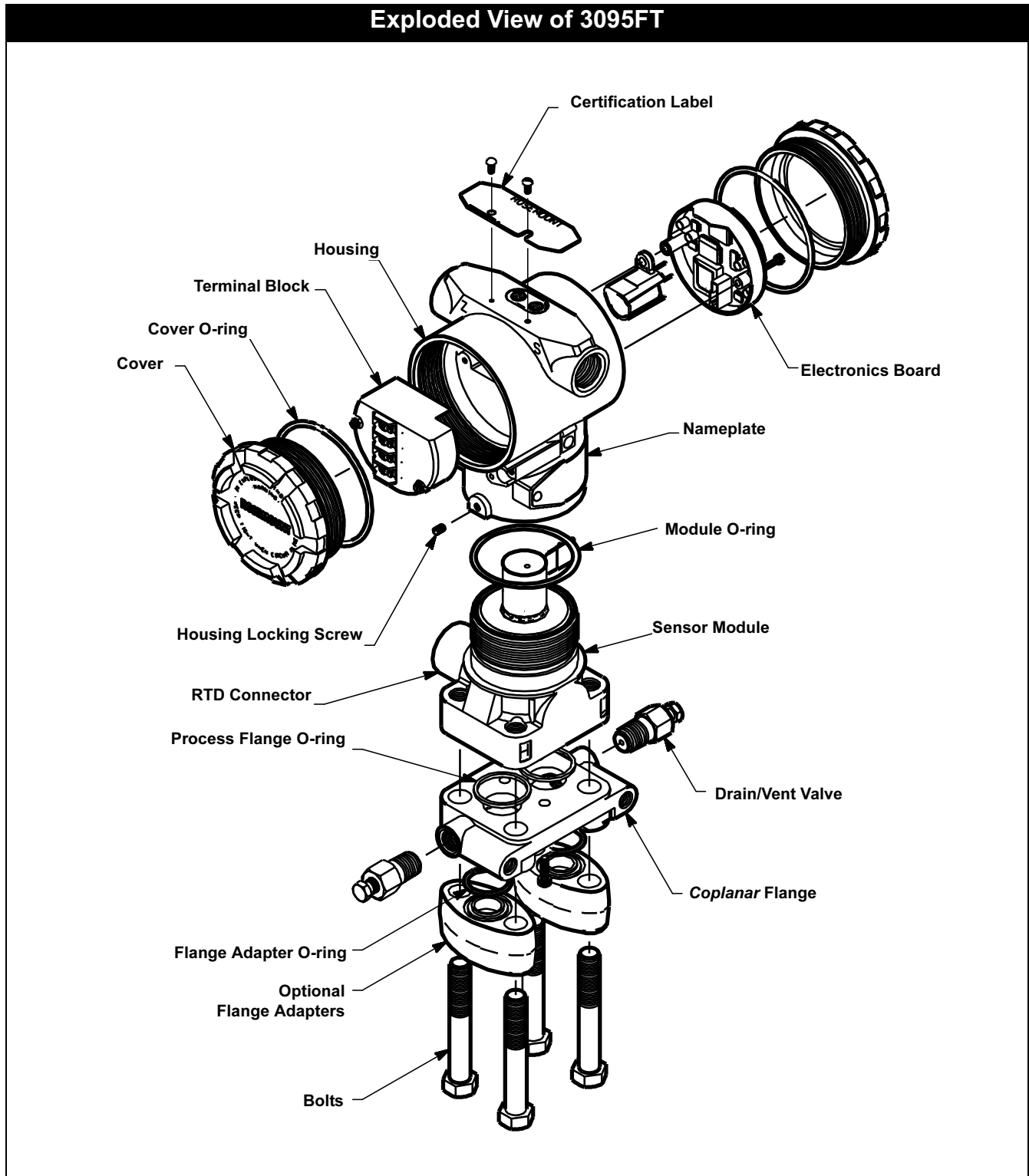
The device contains a thin wall diaphragm. Installation, maintenance, and use shall take into account the environmental conditions to which the diaphragm will be subjected. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime.

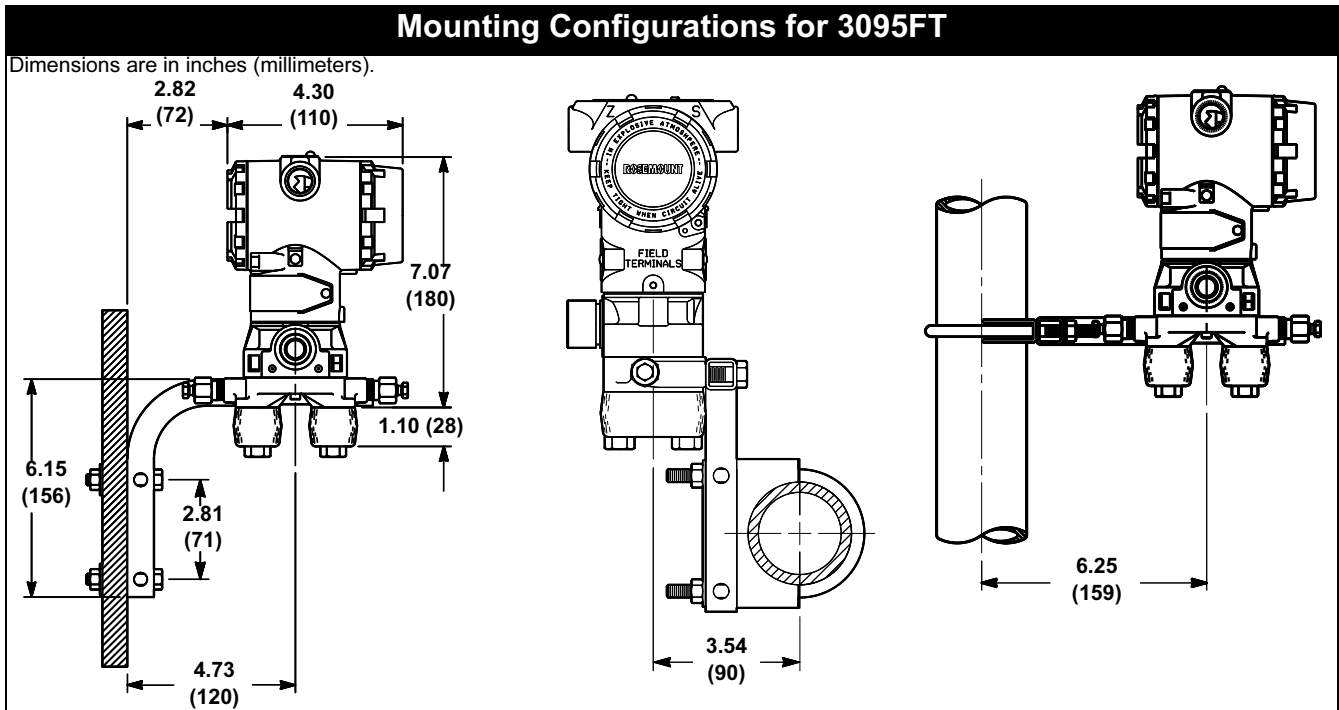
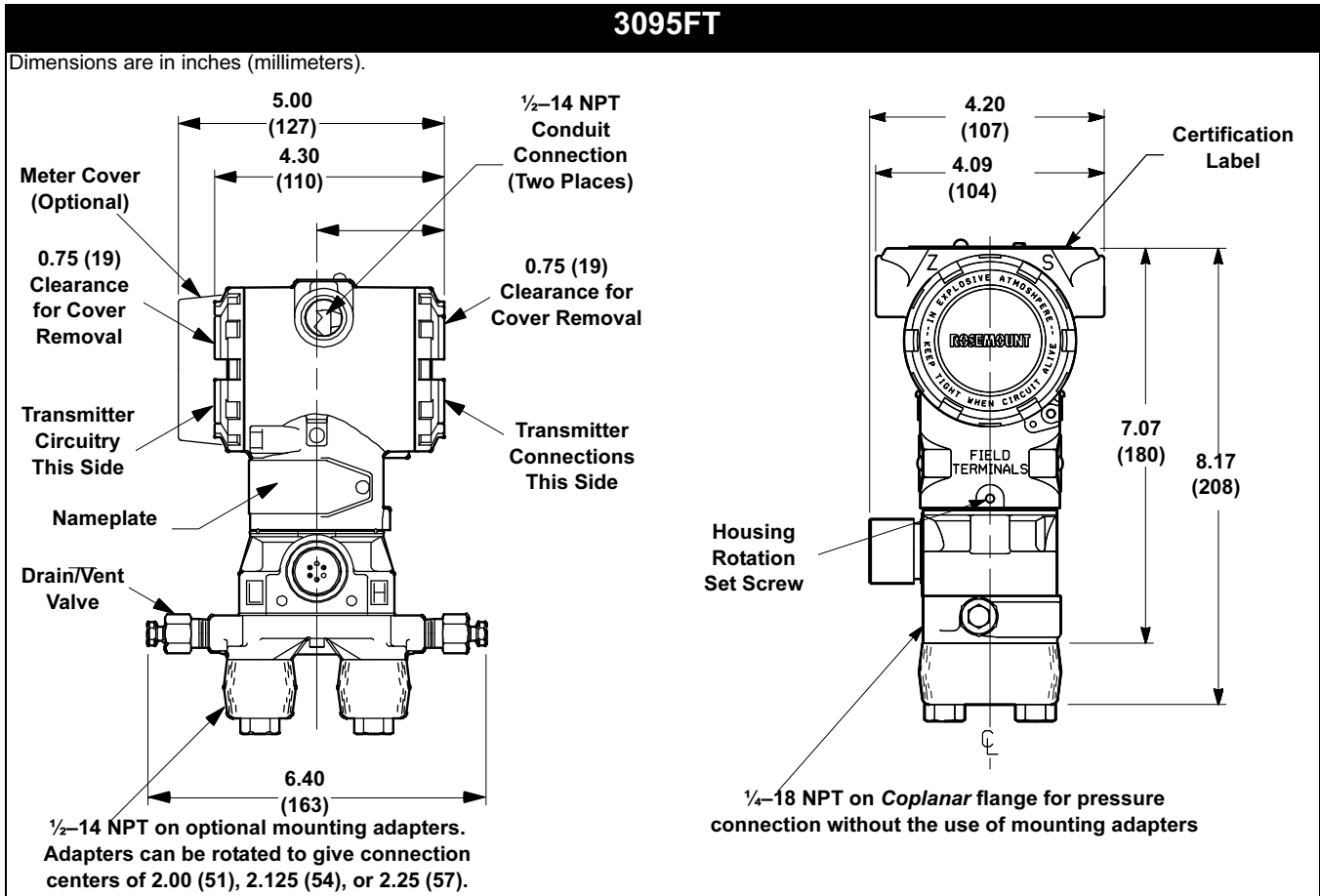
- P** ATEX Dust
Certificate Number: KEMA02ATEX2321  II 1 D
V = 55 Vdc MAX
I = 23 mA MAX
IP66
CE 1180

IECEx Certifications

- 7** IECEx Flameproof
Certificate Number: IECEx KEM 06.0018
Zone 0/1 Ex d IIC T6 (-20°C ≤ T_a ≤ 65°C)
Zone 0/1 Ex d IIC T5 (-20°C ≤ T_a ≤ 80°C)
V_{max} = 55 Vdc
I_{max} = 23 mAdc
- 8** IECEx Dust
Certificate Number: IECEx KEM 06.0018
Ex tD A22 T90°C
IP66

Dimensional Drawings





Ordering Information

Model	Product Description		
3095F	MultiVariable Flow Data Logger		
Code	Output		
H ⁽¹⁾	Data Log via PC based User Interface Software		
Code	Differential Pressure Ranges		
2	0–2.5 to 0–250 inH ₂ O (0–0,622 to 0–62,27 kPa)		
3	0–10 to 0–1000 inH ₂ O (0–2,49 to 0–249 kPa)		
Code	Static Pressure Ranges		
3	0.5-8 to 0.5–800 psia (0,0034–0,055 to 0,0034–5,516 MPa)		
4	0.5-36.26 to 0.5–3626 psia (0,0034-0,250 to 0,0034–25,00 MPa)		
C	0-8 to 0-800 psig (0–0,055 to 0–5,516 MPa)		
D	0-36.26 to 0-3626 psig (0-0,250 to 0–25,00 MPa)		
Code	Isolator Material	Fill Fluid	
A	316L SST	Silicone	
B ⁽²⁾	Hastelloy C-276	Silicone	
F	Gold Plated SST	Silicone	
Code	Flange Style	Material	
A	<i>Coplanar</i>	CS	
B	<i>Coplanar</i>	SST	
C	<i>Coplanar</i>	Hastelloy C-276	
J	DIN compliant traditional flange, SST 10 mm adapter/manifold bolting	SST, ⁷ / ₁₆ — 20 Bolting	
0	None (Required for Option Code S5)		
Code	Drain/Vent Material		
A	SST		
C	Hastelloy C-276		
0	None (Required for Option Code S5)		
Code	O-ring		
1	Glass-filled PTFE		
Code	Process Temperature Input (RTD ordered separately)		
0	No RTD Cable		
1	RTD input with 12 ft. (3,66 m) of Shielded Cable (intended for use with conduit)		
2	RTD input with 24 ft. (7,32 m) of Shielded Cable (intended for use with conduit)		
7	RTD input with 75 ft.(22,86 m) of Shielded Cable (intended for use with conduit)		
3	RTD input with 12 ft. (3,66 m) of Armored, Shielded Cable		
4	RTD input with 24 ft. (7,32 m) of Armored, Shielded Cable		
8	RTD Input with 75 ft. (22,86 m) of Armored, Shielded Cable		
A	RTD input with 12 ft. (3,66 m) ATEX/IECEX Flameproof Cable		
B	RTD input with 24 ft. (7,32 m) ATEX/IECEX Flameproof Cable		
C	RTD input with 75 ft. (22,86 m) ATEX/IECEX Flameproof Cable		
Code	Transmitter Housing Material	Conduit Entry Size	
A	Polyurethane-covered Aluminum	½–14 NPT	
B	Polyurethane-covered Aluminum	M20 × 1.5 (CM20)	Adapter
C	Polyurethane-covered Aluminum	PG 13.5	Adapter
J	316 SST	½–14 NPT	
K	316 SST	M20 × 1.5 (CM20)	Adapter
L	316 SST	PG 13.5	Adapter

Rosemount 3095FT

Code	Terminal Block
A	Standard
B	With Integral Transient Protection
Code	Display
0	None
1	LCD Display
Code	Bracket
0	None
1	Coplanar SST flange bracket for 2-in. pipe or panel mount, SST bolts
2	Traditional Flange Bracket for 2-in. Pipe Mounting, CS Bolts
3	Traditional Flange Bracket for panel Mounting, CS Bolts
4	Traditional Flange Flat Bracket for 2-in. Pipe Mounting, CS Bolts
5	Traditional Flange Bracket for 2-in. Pipe Mounting, 300-Series, SST Bolts
6	Traditional Flange Bracket for panel Mounting, 300-Series, SST Bolts
7	Traditional Flange Flat Bracket for 2-in. Pipe Mounting, 300-Series, SST Bolts
8	SST Traditional Flange Bracket for 2-in. Pipe Mounting, 300-Series, SST Bolts
9	SST Traditional Flange Flat Bracket for 2-in. Pipe Mounting, 300-Series, SST Bolts
Code	Bolts
0	CS bolts
1	Austenitic 316 SST Bolts
N	None (Required for Option Code S5)
Code	Product Certifications
0	None
A	FM Explosion-proof, Dust Ignition-proof
C	CSA Explosion-proof, Dust Ignition-proof, Division 2
H	ATEX Flameproof
P	ATEX Dust
7	IECEX Flameproof
8	IECEX Dust
Code	Engineered Measurement Solution (EMS)
A	Averaging Method: Flow Dependent Time-weighted Formulaic Averaging Compressibility Factor: A.G.A. Report No. 8 /API MPMS Chapter 14.2
Code	Options
Performance Class	
U3 ⁽³⁾	Ultra for Flow: ±0.05% DP reading accuracy, up to 100:1 rangedown, 10 year stability, limited 12 year warranty
S5 ⁽⁴⁾	Assembly with Rosemount 305 Integral Manifold
S6 ⁽⁴⁾	Assemble to Rosemount 304 Manifold or Connection System (Required traditional Flange Style Option J, K, and L)
C1	Custom Configuration (requires completed Configuration Data Sheet)
DF	Flange Adapters — Adapter Type Determined by Selected Flange Material: Plated CS, SST, Hastelloy C-276
P1	Hydrostatic Testing with Certificate
P2	Cleaning for Special Services
Q4	Calibration Certificate
Q8	Material Traceability Certification per EN 10204 3.1B
Typical Model Number 3095F H 2 3 A B A 1 1 A B 1 1 0 A A	

(1) Communication based on Digital HART Protocol.

(2) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

(3) Ultra for Flow (Option U3) applicable for DP ranges 2 and 3 with SST isolator material and silicone fill fluid only.

(4) "Assemble-to" items are specified separately and require a completed model number.

Product Data Sheet

00813-0100-4015, Rev FA

March 2008

Rosemount 3095FT

OPTIONS

Standard Configuration

Unless otherwise specified, the transmitter is shipped as follows:

Engineering units:

Differential	inH ₂ O at 60 °F (All ranges)
Absolute/gage	psi (all ranges)
Output:	9.5mA with Data Logging
Flange type:	Specified model code option
Flange material:	Specified model code option
O-ring material:	Specified model code option
Drain/vent:	Specified model code option
Flow Configuration	Factory default
Parameters:	
Software tag:	(Blank)

Custom Configuration (Option Code C1)

If Option Code C1 is ordered, the customer specifies the following information for the 3095FT in addition to the standard configuration parameters.

Configuration Data Sheet (see page 12): Gas composition parameters, contract hour, log parameters, LCD display parameters, meter run configuration parameters, low flow cut-off, passwords, static pressure tap location, static pressure measurement, damping, descriptor, message, and upper and lower trim points for each process variable.

Tagging

Three customer tagging options are available:

- Standard SST tag is wired to the transmitter. Tag character height is 0.125 in. (3,18 mm), 85 characters maximum.
- Tag may be stored in transmitter memory. Software tag (8 characters maximum) is left blank unless specified.
- Tag may be permanently stamped on transmitter nameplate upon request. Tag character height is 0.0625 in. (1,59 mm), 65 characters maximum.
- Software tag (8 characters maximum) is left blank unless specified.

ADDITIONAL INFORMATION

Rosemount transmitters are available as fully assembled and factory calibrated flowmeters. Flowmeter Product Data Sheets are listed below:

- Orifice Plate Primary Element Systems: 00813-0100-4792
Rosemount 1495 Orifice Plate
Rosemount 1496 Flange Union
Rosemount 1497 Meter Section

ACCESSORIES

3095FT User Interface Software Packages

All configurations are packaged separately.

Windows 98, NT, 2000, and XP

- Single PC license: 03095-5100-0104
Site license: 03095-5100-0105
- Single PC license, Serial Port HART Modem and cables: 3095-5100-0102
- Single PC license, USB HART Modem and Cables (Requires Windows XP or 2000 Operating System): 03095-5100-0103

Communication Accessories

Item Description	Part Number
Serial Port HART Modem and Cables Only	03095-5105-0001
USB Port HART Modem and Cables Only	03095-5105-0002

Logging Information

Contract Hour 07:00:00★

Logging Interval: Hourly ★ Set Interval minutes (valid intervals: 1-99 minutes)

Logged Parameters (Select any number of variables. Selected parameters apply to both daily logs and variable logs.)

<input type="checkbox"/> Total Flow ★	<input type="checkbox"/> Minimum Differential Pressure	<input type="checkbox"/> Average Heating Value
<input type="checkbox"/> Total Flow Time ★	<input type="checkbox"/> Average Static Pressure ★	<input type="checkbox"/> Average Compressibility Factor
<input type="checkbox"/> Total Energy	<input type="checkbox"/> Maximum Static Pressure	<input type="checkbox"/> Average Integral Value
<input type="checkbox"/> Average Flow Rate ★	<input type="checkbox"/> Minimum Static Pressure	<input type="checkbox"/> Average CPrime
<input type="checkbox"/> Average Energy Rate	<input type="checkbox"/> Average Process Temperature ★	<input type="checkbox"/> Specific Gravity (Relative Density)
<input type="checkbox"/> Average Differential Pressure ★		<input type="checkbox"/> Maximum Process Temperature
<input type="checkbox"/> Maximum Differential Pressure		<input type="checkbox"/> Minimum Process Temperature

LCD Display Information (Only enter if LCD Display ordered.)

Display Parameters (Select any number of variables.)

<input type="checkbox"/> Flow Rate ★	<input type="checkbox"/> Totalized Energy Yesterday
<input type="checkbox"/> Differential Pressure ★	<input type="checkbox"/> Mole Percent CO ₂
<input type="checkbox"/> Totalized Flow Today	<input type="checkbox"/> Mole Percent N ₂
<input type="checkbox"/> Totalized Flow Yesterday	<input type="checkbox"/> Orifice Bore at 68 °F
<input type="checkbox"/> Static Pressure ★	<input type="checkbox"/> Date and Time
<input type="checkbox"/> Temperature ★	<input type="checkbox"/> Heating Value
<input type="checkbox"/> Energy Flow Rate	<input type="checkbox"/> Specific Gravity (Relative Density)
<input type="checkbox"/> Totalized Energy Today	

Units of Measure

Select of unit of measure for each category. Selected measuring units apply to LCD Displays and all Logs.

Flow Rate SCFH (Standard Cubic Feet per Hour) ★ NCMH (Normal Cubic Meters per Hour)

SCFD (Standard Cubic Feet per Day) NCMD (Normal Cubic Meters per Day)

Differential Pressure IN_H₂O (Inches of Water @ 60 °F ★) KPA (Kilopascals)

Static Pressure PSI (Pounds per square inch) ★ MPA (Megapascals)

Temperature DEG_F (Degrees Fahrenheit) ★ DEG_C (Degrees Celsius)

Energy BTU (BTUs) ★ MJOULES (Megajoules)

Static Pressure Information

The 3095FT can calculate and log static pressure as absolute or gage, based on upstream or downstream tap locations. However, flow is always calculated using the upstream absolute pressure measurement for greatest accuracy.

Static Pressure Tap Location

Upstream ★ Downstream

Static Pressure Units

Absolute ★ Gage (enter atmospheric pressure if gage selected: 14.73 ★)

Meter Run Information

Meter Tube ID at 68 °F (inches): 1.939 in.★

Meter Tube Material Carbon Steel SST 304 SST 316 ★ Hastelloy C[®] Monel[®]

Orifice Plate ID at 68 °F (inches): 0.1939 in. ★

Orifice Plate Material Carbon Steel SST 304 SST 316 ★ Hastelloy C[®] Monel[®]

Compressibility Factor Information

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

<input type="checkbox"/> Detail Characterization Method, (AGA8 1992)		Valid Range	Default Values★
N2	Nitrogen mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-100 percent	0
CO2	Carbon Dioxide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-100 percent	0
H2S	Hydrogen Sulfide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-100 percent	0
H2O	Water mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-Dew Point	0
He	Helium mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-3.0 percent	0
C1	Methane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-100 percent	100
C2	Ethane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-100 percent	0
C3	Propane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-12 percent	0
iC4	i-Butane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-6 percent ⁽¹⁾	0
nC4	n-Butane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-6 percent ⁽¹⁾	0
iC5	i-Pentane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-4 percent ⁽²⁾	0
nC5	n-Pentane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-4 percent ⁽²⁾	0
C6	Hexane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-Dew Point	0
C7	Heptane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-Dew Point	0
C8	Octane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-Dew Point	0
C9	Nonane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-Dew Point	0
C10	Decane mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-Dew Point	0
O2	Oxygen mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-21 percent	0
CO	Carbon Monoxide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-3.0 percent	0
H2	Hydrogen mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-100 percent	0
Argon	Argon mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ % 0-1.0 percent	0

(1) The summation of i-Butane and n-Butane cannot exceed 6 percent

(2) The summation of i-Pentane and n-Pentane cannot exceed 4 percent.

<input type="checkbox"/> Gross Characterization Method, Option 1 (AGA8 Gr-Hv-CO2) ★		Valid Range	Default Values ★
Volumetric Gross Heating Value at Base Conditions	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ BTU/SCF	477-1200 BTU/SCF	1014.29
Specific gravity at 14.73 psia and 60 °F	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _	0.554000-0.900000	0.554787
Specific gravity at Base Conditions	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _	0.554000-0.900000	0.554787
Carbon dioxide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-30 percent	0
Hydrogen mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-10 percent	0
Carbon monoxide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-3 percent	0

<input type="checkbox"/> Gross Characterization Method, Option 2 (AGA8 Gr-CO2-N2)		Valid Range	Default Values ★
Specific Gravity at 14.73 psia and 60 °F	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _	0.554000-0.900000	0.554787
Specific Gravity at Base Conditions	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _	0.554000-0.900000	0.554787
Nitrogen mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-50 percent	0
Carbon dioxide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-30 percent	0
Hydrogen mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-10 percent	0
Carbon monoxide mole percent	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ %	0-3 percent	0
Volumetric Gross Heating Value at Base Conditions	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ BTU/SCF	477-1200 BUT/SCF	1014.29

NOTE: Default characterization values assume 100% gas.

Real-Time Clock

Select one time zone

- Alaska
 Pacific
 Mountain
 Central ★
 Eastern
 Atlantic

Write Protect Switch

When ON, the write protect switch prevents any software changes to the transmitter.

- On
 Off ★

*Standard Terms and Conditions of Sale can be found at www.rosemount.com/terms_of_sale
The Emerson logo is a trade mark and service mark of Emerson Electric Co.
Annubar, ProPlate, Rosemount and the Rosemount logotype are registered trademarks of Rosemount Inc.
Coplanar and Multivariable are trademarks of Rosemount Inc.
HART is a registered trademark of the HART Communications Foundation.
Modbus is a trademark of Modicon, Inc.
Hastelloy C and Hastelloy C-276 are registered trademarks of Cabot Corp.
Microsoft and Windows are registered trademarks of Microsoft Corp.
PlantWeb is a mark of one of the Emerson Process Management companies.
All other marks are the property of their respective owners.*

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

Emerson Process Management Emerson Process Management Asia

Heath Place
Bognor Regis
West Sussex PO22 9SH
England
T 44 (0) 1243 863121
F 44 (0) 1243 867554

Pacific Private Limited

1 Pandan Crescent
Singapore 128461
T (65) 6777 8211
F (65) 6777 0947
Enquiries@AP.EmersonProcess.com

