



Rosemount 8732E with FOUNDATION™ Fieldbus Transmitter Specifications

Functional Specifications

Sensor Compatibility

Compatible with Rosemount 8705, 8711, 8721, and 570™ sensors. Compatible with Rosemount 8707 sensor with D2 Dual calibration option. Compatible with AC and DC powered sensors of other manufacturers.

Sensor Coil Resistance

350 Ω maximum

Flow Rate Range

Capable of processing signals from fluids that are traveling between 0.04 and 39 ft/s (0.01 to 12 m/s) for both forward and reverse flow in all sensor sizes. Full scale continuously adjustable between -39 and 39 ft/s (-12 to 12 m/s).

Conductivity Limits

Process liquid must have a conductivity of 5 microsiemens/cm (5 micromhos/cm) or greater for 8732E. Excludes the effect of interconnecting cable length in remote mount transmitter installations.

Power Supply

90 -250 V AC \pm 10%, 50-60 Hz or 12-42 V DC

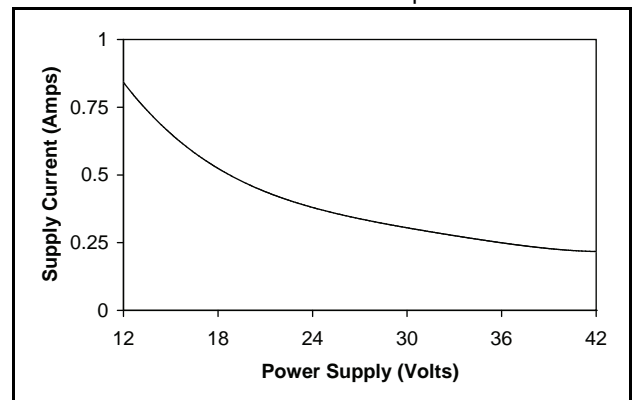
AC Power Supply Requirements

Units powered by 90-250 V AC have the following power requirements.

DC Supply Current Requirements

Units powered by 12-42 V DC power supply may draw up to 1 amp of current steady state.

FIGURE 1. DC Current Requirements



Installation Coordination

Installation (overvoltage) Category II

Power Consumption

10 watts maximum

Switch-on current

AC: Maximum 26 A (< 5 ms) at 250 V AC

DC: Maximum 30 A (< 5 ms) at 42 V DC

Ambient Temperature Limits

Operating

-58 to 165 °F (-50 to 74 °C) without local operator interface

13 to 149 °F (-25 to 65 °C) with local operator interface

Storage

-40 to 185 °F (-40 to 85 °C)

-22 to 176 °F (-30 to 80 °C) with local operator interface

Humidity Limits

0-100% RH to 150 °F (65 °C)

Enclosure Rating

NEMA 4X CSA Type 4X, IEC 60529, IP66 (transmitter), Pollution Degree 2

Output Signal

Manchester-encoded digital signal that conforms to IEC 1158-2 and ISA 50.02

FOUNDATION fieldbus Specifications

Schedule Entries

Seven (7)

Links

Twenty (20)

Virtual Communications Relationships (VCRs)

One (1) predefined (F6, F7) Nineteen (19) configurable (see Table 1)

TABLE 1. Block Information

Block	Execution Time (Milliseconds)
Resource (RB)	—
Transducer (TB)	—
Analog Input (AI)	10
Proportional/Integral/ Derivative (PID)	10
Integrator (INT)	10
Arithmetic (AR)	10

Reverse Flow

Detects and reports reverse flow

Software Lockout

A write-lock switch and software lockout are provided in the resource function block.

Turn-on Time

5 minutes to rated accuracy from power up; 5 seconds from power interruption.

Start-up Time

50 ms from zero flow.

Low Flow Cutoff

Adjustable between 0.01 and 38.37 ft/s (0.003 and 11.7 m/s). Below selected value, output is driven to the zero flow rate signal level.

Overrange Capability

Signal output will remain linear until 110% of upper range value or 44 ft/s (13 m/s). The signal output will remain constant above these values. Out of range message displayed on local display and field communicator.

Damping

Adjustable between 0 and 256 seconds.

Product Data Sheet

00813-0300-4727, Rev AA
August 2008

Rosemount 8700 Series

Sensor Compensation

Rosemount sensors are flow-calibrated and assigned a calibration factor at the factory. The calibration factor is entered into the transmitter, enabling interchangeability of sensors without calculations or a compromise in standard accuracy.

8732E transmitters and other manufacturer's sensors can be calibrated at known process conditions or at the Rosemount NIST-Traceable Flow Facility. Transmitters calibrated on site require a two-step procedure to match a known flow rate. This procedure can be found in the Operations Manual 00809-0100-4663.

Diagnostics

Basic

- Self test
- Transmitter faults
- Tunable empty pipe
- Reverse flow
- Coil circuit fault
- Electronics temperature

Advanced (D01 Suite)

- Ground/wiring fault
- High process noise

Advanced (D02 Suite)

- 8714i Meter Verification

Performance Specifications

(System specifications are given using the frequency output and with the unit at reference conditions.)

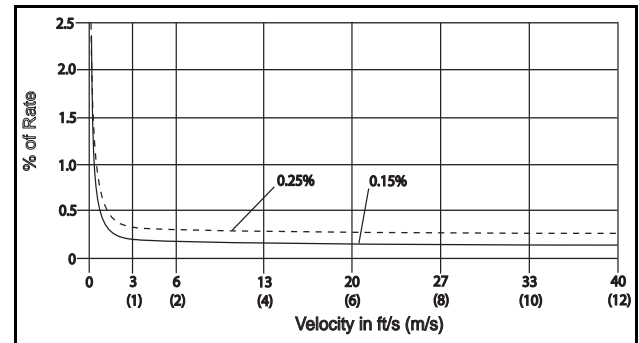
Accuracy

Includes the combined effects of linearity, hysteresis, repeatability, and calibration uncertainty.

Rosemount 8732E with 8705/8707 Sensor:

Standard system accuracy is $\pm 0.25\%$ of rate ± 1.0 mm/sec from 0.04 to 6 ft/s (0.01 to 2 m/s); above 6 ft/s (2 m/s), the system has an accuracy of $\pm 0.25\%$ of rate ± 1.5 mm/sec.

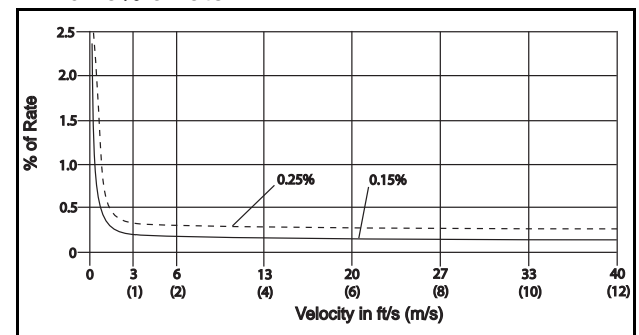
Optional high accuracy is $\pm 0.15\%$ of rate ± 1.0 mm/sec from 0.04 to 13 ft/s (0.01 to 4 m/s); above 13 ft/s (4 m/s), the system has an accuracy of $\pm 0.18\%$ of rate.⁽¹⁾



Rosemount 8732E with 8711 Sensor:

Standard system accuracy is $\pm 0.25\%$ of rate ± 2.0 mm/sec from 0.04 to 39 ft/s (0.01 to 12 m/s).

Optional high accuracy is $\pm 0.15\%$ of rate ± 1.0 mm/sec from 0.04 to 13 ft/s (0.01 to 4 m/s); above 13 ft/s (4 m/s), the system has an accuracy of $\pm 0.18\%$ of rate.



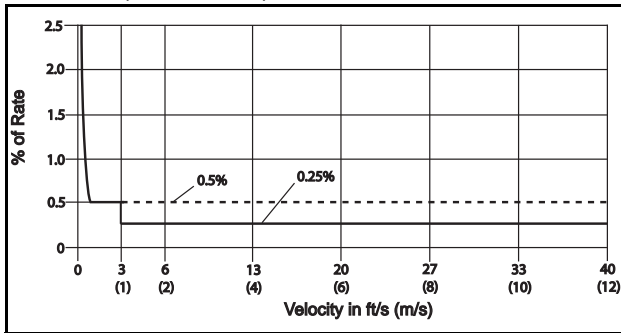
(1) For Sensor sizes greater than 12 in. (300 mm) the high accuracy is $\pm 0.25\%$ of rate from 3 to 39 ft/sec (1 to 12 m/sec).

Rosemount 8700 Series

Rosemount 8732E with 8721 Sensor:

Standard system accuracy is $\pm 0.5\%$ of rate from 1 to 39 ft/s (0.3 to 12 m/s); between 0.04 and 1.0 ft/s (0.01 and 0.3 m/s), the system has an accuracy of ± 0.005 ft/s (0.0015 m/s).

Optional high accuracy is $\pm 0.25\%$ of rate from 3 to 39 ft/s (1 to 12 m/s).



Rosemount 8732E with Legacy 8705 Sensors:

Standard system accuracy is $\pm 0.5\%$ of rate from 1 to 39 ft/s (0.3 to 12 m/s); between 0.04 and 1.0 ft/s (0.01 and 0.3 m/s), the system has an accuracy of ± 0.005 ft/s (0.0015 m/s).

Rosemount 8732E with Legacy 8711 Sensors:

Standard system accuracy is $\pm 0.5\%$ of rate from 3 to 39 ft/s (1 to 12 m/s); between 0.04 and 3.0 ft/s (0.01 and 1 m/s), the system has an accuracy of ± 0.015 ft/s (0.005 m/s).

Rosemount 8732E with Other Manufacturers' Sensors:

When calibrated in the Rosemount Flow Facility, system accuracies as good as 0.5% of rate can be attained.

There is no accuracy specification for other manufacturers' sensors calibrated in the process line.

Vibration Effect

IEC 60770-1

Repeatability

$\pm 0.1\%$ of reading

Stability

$\pm 0.1\%$ of rate over six months

Ambient Temperature Effect

$\pm 0.25\%$ change over operating temperature range

EMC Compliance

EN61326-1 1997 + A1/A2/A3 (Industrial) electromagnetic compatibility (EMC) for process and laboratory apparatus.

Product Data Sheet

00813-0300-4727, Rev AA
August 2008

Rosemount 8700 Series

Physical Specifications

Materials of Construction

Housing

Low copper aluminum, NEMA 4X and
IEC 60529 IP66

Pollution Degree 2

Paint

Polyurethane

Cover Gasket

Rubber

Electrical Connections

Two 1/2–14 NPT connections provided on the transmitter housing (optional third connection available). PG13.5 and CM20 adapters are available. Screw terminals provided for all connections. Power wiring connected to transmitter only. Integrally mounted transmitters are factory wired to the sensor.

Transmitter Weight

Approximately 7 pounds (3.2 kg). Add 1 pound (0.5 kg) for Option Code M5.

Ordering Information

ROSEMOUNT 8732E ORDERING INFORMATION

Model	Product Description
8732E	Magnetic Flowmeter Transmitter
Code	Transmitter Style
S	Standard
Code	Transmitter Mount
T	Integral Mount
R	Remote Mount for 2 in. pipe or panel (includes CS mounting bolts and 316L SST bracket)
Code	Transmitter Power Supply
1	AC Power Supply (90 to 250 V AC, 50-60Hz)
2	DC Power Supply (12 to 42 V DC)
Code	Outputs
F	FOUNDATION fieldbus Digital Electronics with FISCO/FNICO Intrinsically Safe Output ⁽¹⁾
G	FOUNDATION fieldbus Digital Electronics
Code	Conduit Entry
	2 Conduits
1	¹ / ₂ - 14 NPT, 2 Conduit Entries
2	CM20, 2 Conduit Entries ⁽²⁾
3	PG 13.5, 2 Conduit Entries ⁽²⁾
	3 Conduits
4	¹ / ₂ - 14 NPT, 3 Conduit Entries
5	CM20, 3 Conduit Entries ⁽²⁾
6	PG 13.5, 3 Conduit Entries ⁽²⁾
Code	Safety Approvals ⁽³⁾
NA	CE Marking, No Hazardous Location Approval ⁽⁴⁾
	FM & CSA
N0	Factory Mutual (FM) Class 1, Div. 2 Approval for non-flammable fluids; CSA Class 1, Div. 2 Approval
N5	Factory Mutual (FM) Class 1, Div. 2 Approval for flammable fluids
E5	Factory Mutual (FM) Class 1, Div. 1, Explosion-Proof
	ATEX
E1	ATEX Flameproof EEx de IIC, and ATEX Dust Approval
ED	ATEX Flameproof EEx de IIB T6, and ATEX Dust Approval
N1	ATEX Type n EEx nAnL IIC and ATEX Dust Approval ⁽⁵⁾
ND	ATEX Dust Approval
	IECEX
E7	IECEX Flameproof Ex de IIC, and IECEX Dust Approval
EF	IECEX Flameproof Ex de IIB T6 and IECEX Dust Approval
N7	IECEX Type n Ex nAnL IIC and IECEX Dust Approval ⁽⁵⁾
NF	IECEX Dust Approval

Continued On Next Page

Product Data Sheet

00813-0300-4727, Rev AA

August 2008

Rosemount 8700 Series

Code	Options
	PlantWeb Product/Process Diagnostics
D01	Magmeter FOUNDATION fieldbus Diagnostic Suite 1: Includes High Process Noise and Ground/Wiring Fault Detection
D02	Magmeter FOUNDATION fieldbus Diagnostic Suite 2: Includes 8714i Calibration Verification
	Other Options
C1	Custom Configuration (CDS Required)
D1	High Accuracy Calibration (0.15% of rate for matched tube and transmitter) ⁽⁶⁾
DT	Heavy Duty Tagging
M5	Local Display
B6	316L Stainless Steel 4-bolt Kit for 2-in. Remote Pipe Mount
GE	M12, 4-Pin, Male Connector (Eurofast [®])
GM	A Size Mini, 4-Pin, Male Connector (Minifast [®])
GT	A Size, Spade Terminal Mini, 5-pin, Male Connector (Minifast [®])
	QIG Language
YA	Danish
YB	Bulgarian
YD	Dutch
YF	French
YG	German
YH	Finnish
YI	Italian
YN	Norwegian
YP	Portuguese
YS	Spanish
YR	Russian
YW	Swedish

Typical Model Number: 8732E S T 1 F 1 N0 D01 D02 M5

(1) I.S. Output must be externally powered

(2) Adapter are used for this conduit entry type

(3) All product, ordered with or without Safety approvals, is compliant with local CE Marking and C-tick requirements unless specifically noted as a special

(4) Available with output code G only

(5) For DC Transmitter Power Supply (Code = 2) Only

(6) D1 Option Code must be ordered with sensor and transmitter

Rosemount 8700 Series

Product Data Sheet
00813-0300-4727, Rev AA
August 2008

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