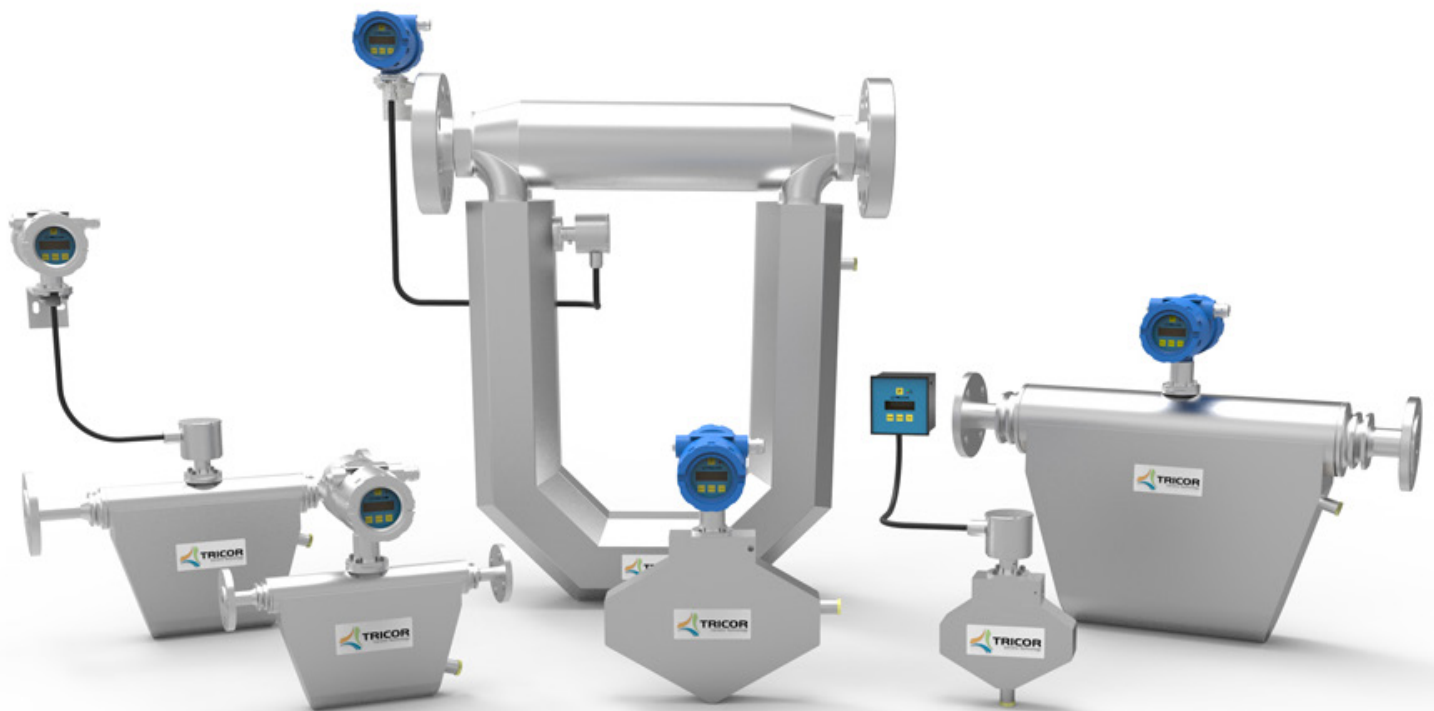


TRICOR Series TCM Coriolis Mass Flow Meters

Product Catalog



TCM 0100 Coriolis Mass Flow Meter

Benefits:

- > Ultra low flow rate down to 5cc/min (300 grams/hr, .001 gallons/min)
- > Rated at 5,000 psi
- > No filter requirement
- > Fast response time
- > Simple to clean / flushable
- > Multiple connections available (NPT, AutoClave, tubing)
- > No moving parts – less wear, easier maintenance

Pressure Rating: 345 bar, 5000 psi

Specifications:

Mass Flow Rate (max.): 50 kg/hr, 1.84 lbs/min
Volumetric Flow Rate (max.): 50 l/hr, 0.22 gpm
Tube Inner Diameter: 0.06 in, 1.52 mm
Weight (w/o flanges): 2 lbs, 0.9 kg

Accuracy: ¹⁾

Basic Accuracy (Mass Flow): $\pm 0.2\%$ of flow rate
Basic Accuracy (Volume Flow): $\pm 0.25\%$ of flow rate
Repeatability: $\pm 0.1\%$ of flow rate
Zero Stability: $\pm 0.02\%$ of full scale

Density:

Density Range: Up to 4,500 kg/m³, 4.5 g/cm³
Density Accuracy: Liquids: ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

Temperature Range (Fluid): -40°C to 100°C, -40°F to 212°F
Temperature Accuracy: ± 1.0 °C $\pm 0.5\%$ of reading
Temperature Repeatability: ± 0.2 C, ± 0.36 °F

Process Pressure Effect: ²⁾

Mass Flow Accuracy: $\pm 0.001\%$ of rate per psi ³⁾
Density Accuracy: ± 0.00003 g/cm³ per psi ³⁾

Materials of Construction:

Wetted Parts: 316L Stainless Steel
All-Welded Design

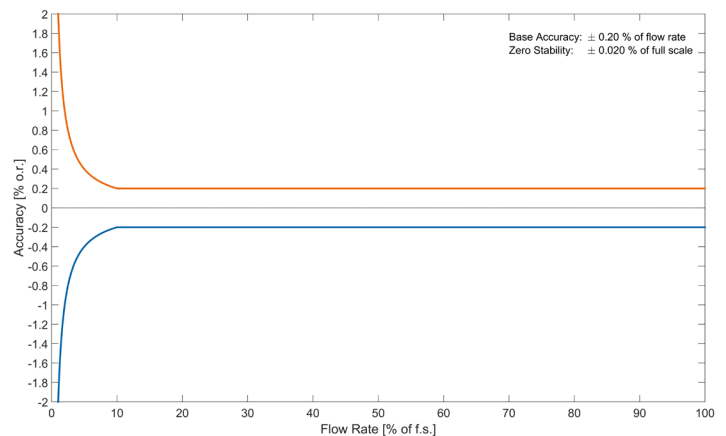
¹⁾ Stated flow accuracy combines the effects of repeatability, linearity and hysteresis

²⁾ TCE-8000 electronics offers pressure input to eliminate process pressure effect

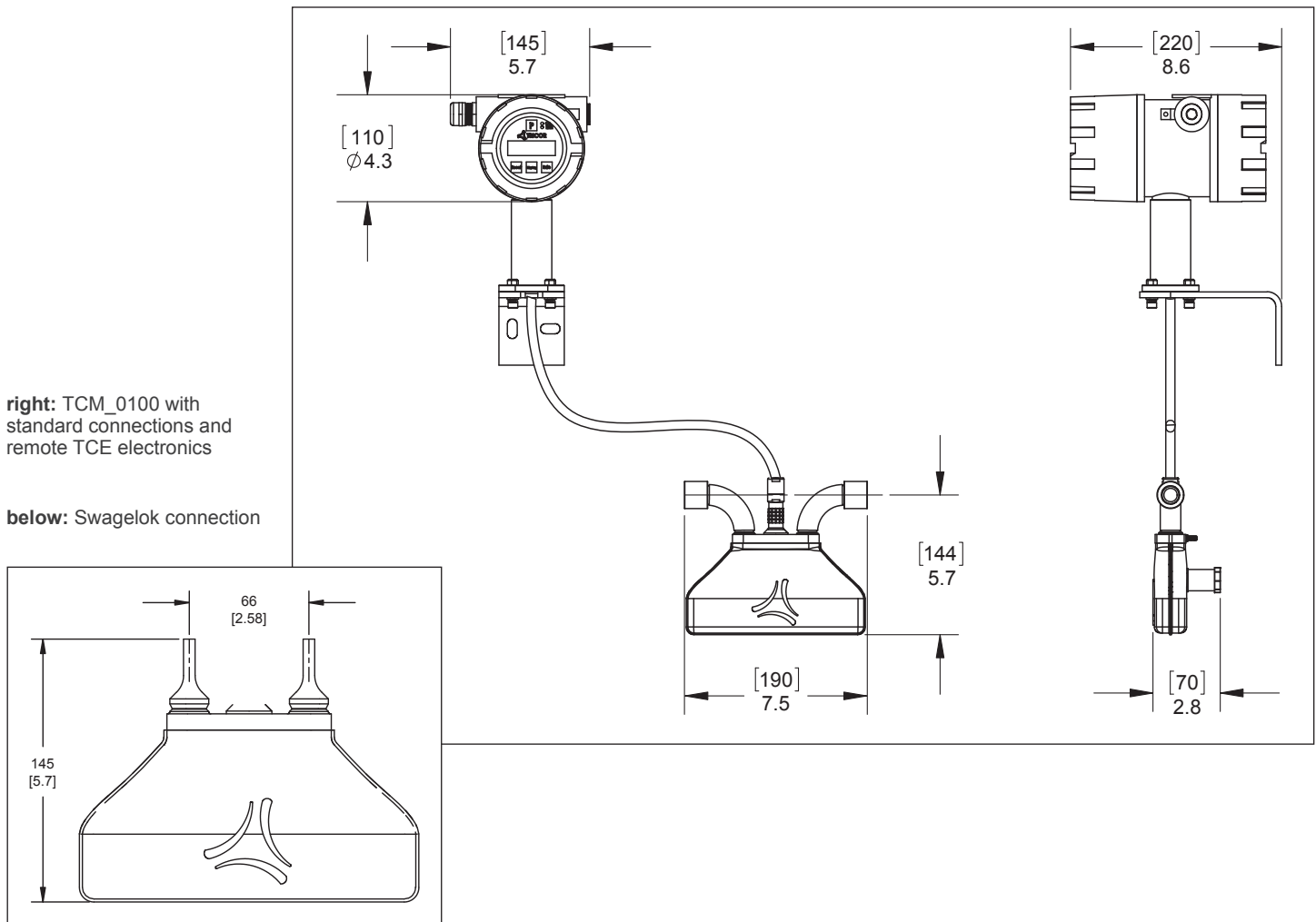
³⁾ 1 psi = 0.06894 bar



Accuracy Curves:



Meter Dimensions: ²⁾



Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

Panel Mount³⁾



Power Supply:

Outputs:

Interface:

More options on request

Remote Field Mount⁴⁾



24 V DC ±20 % or 90 ... 264 V AC

Analog, Frequency, Pulse, Status

RS485 RTU (Modbus), HART®

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For EAC (TR-CU) the electronic is only available in aluminum housing.



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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 0325 Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Option for 345 bar (5000 psi)

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Accurate chemical injection metering

Pressure Rating: 200 bar, 2900 psi

Specifications:

Mass Flow Rate (max.): 325 kg/h, 12 lb/min
Volumetric Flow Rate (max.): 325 l/h, 1.31 gpm, 49 bbl/d
Nominal Meter Size: DN4, 1/8"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

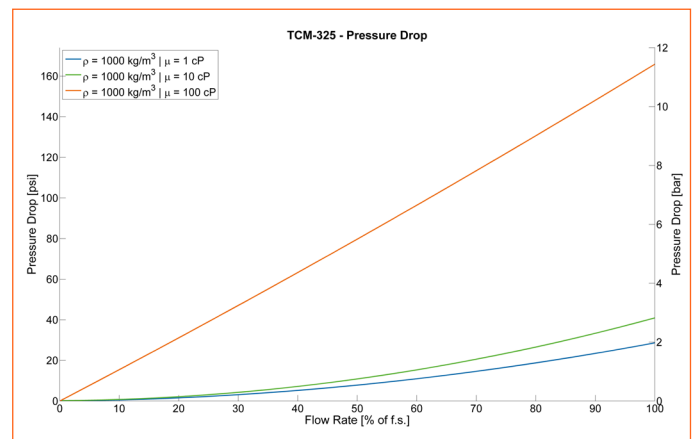
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

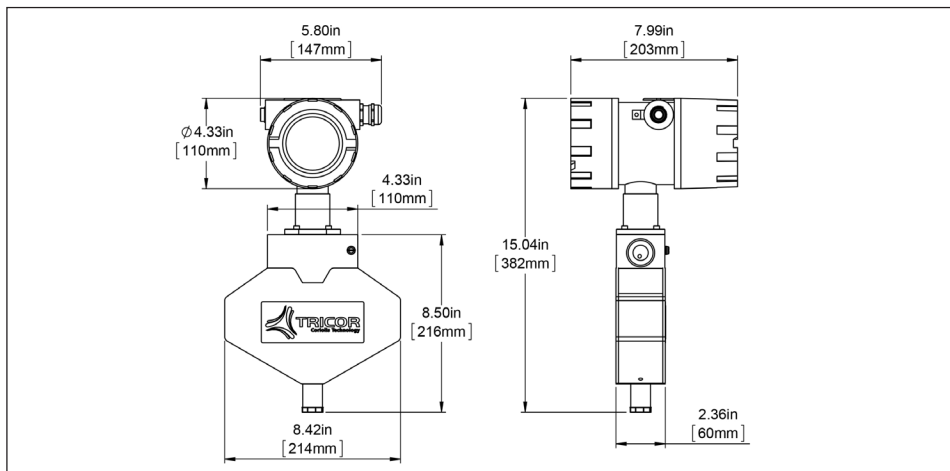
Process Temperature Range: Standard:
-40 °F ... +212 °F (-40 °C ... +100 °C)
Optional:
-76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: 1.4404/AISI 316L
Brazing Alloy: BNI-2

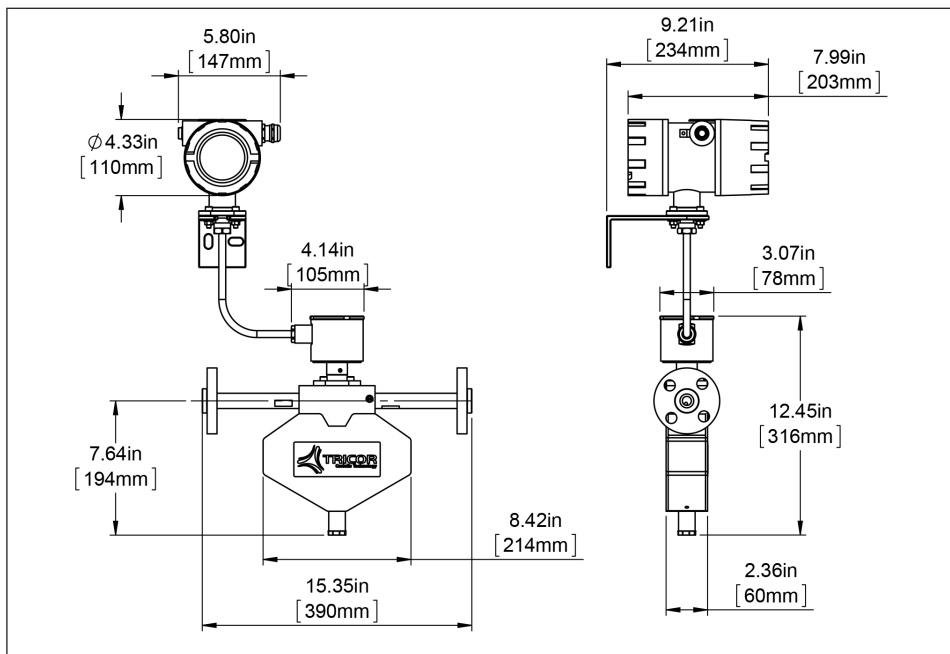


Meter Dimensions:²⁾



Compact Version

weight: 7 kg/15.5 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection: G1/2" thread



Remote Version

weight: 8.3 kg/18.3 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:
Outputs:
Interface:
More options on request

Remote Field Mount⁴⁾



24 V DC $\pm 20\%$ or 90 ... 264 V AC
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RS485 RTU (Modbus), HART®



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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 0650 Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Option for 345 bar (5000 psi)

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Accurate chemical injection metering

Pressure Rating: 200 bar, 2900 psi

Specifications:

Mass Flow Rate (max.): 650 kg/h, 24 lb/min
Volumetric Flow Rate (max.): 650 l/h, 2.64 gpm, 98 bbl/d
Nominal Meter Size: DN4, 1/8"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

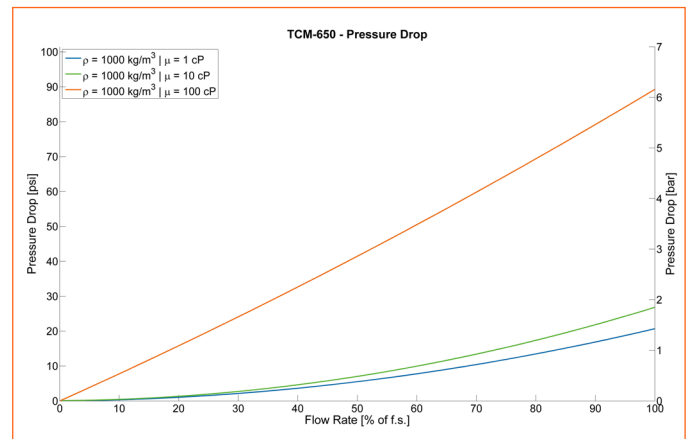
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

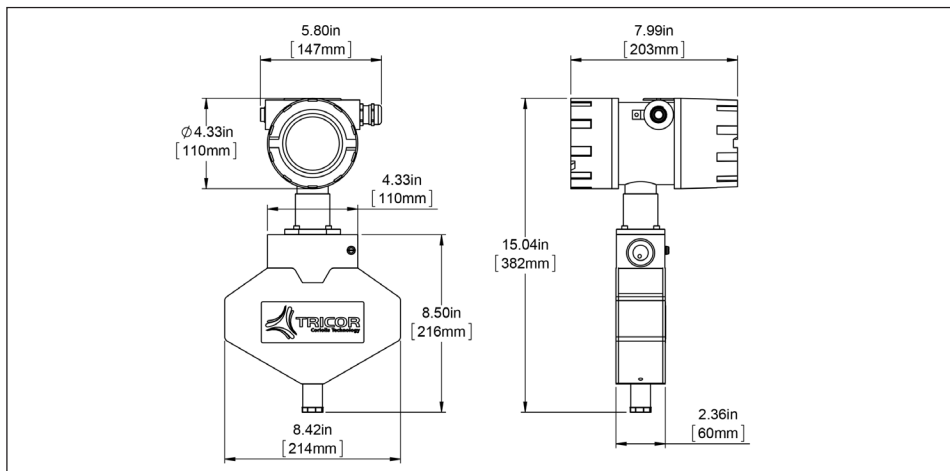
Process Temperature Range: Standard: -40 °F ... +212 °F (-40 °C ... +100 °C)
Optional: -76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: 1.4404/AISI 316L
Brazing Alloy: BNI-2

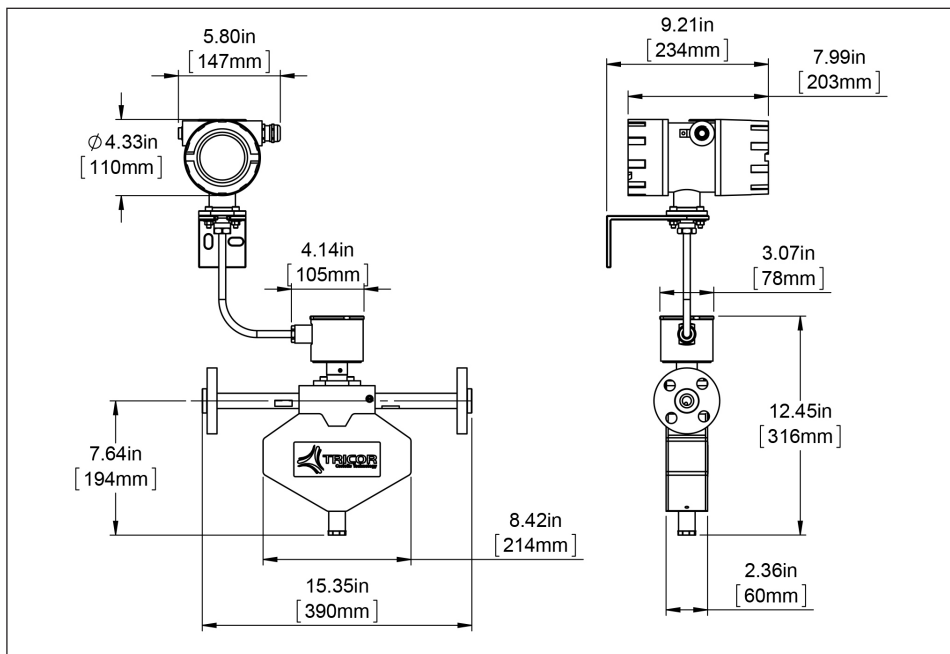


Meter Dimensions:²⁾



Compact Version

weight: 7 kg/15.5 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection: G1/2" thread



Remote Version

weight: 8.3 kg/18.3 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:
Outputs:
Interface:
More options on request

Remote Field Mount⁴⁾



24 V DC $\pm 20\%$ or 90 ... 264 V AC
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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 1550 Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Option for 345 bar (5000 psi)

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Accurate chemical injection metering

Pressure Rating: 200 bar, 2900 psi

Specifications:

Mass Flow Rate (max.): 1550 kg/h, 57 lb/min
Volumetric Flow Rate (max.): 1550 l/h, 6.59 gpm, 234 bbl/d
Nominal Meter Size: DN6, 1/4"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

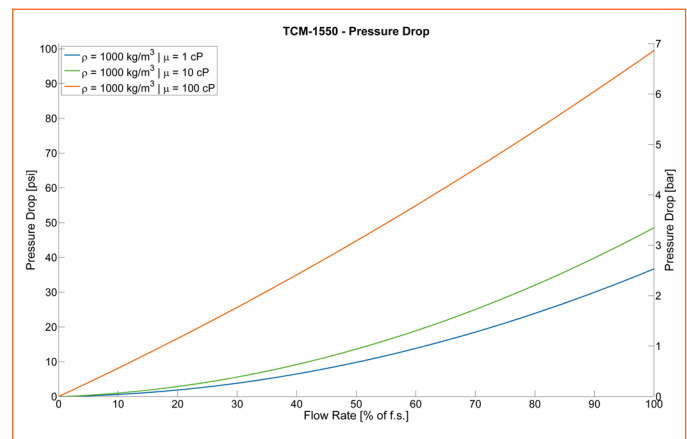
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

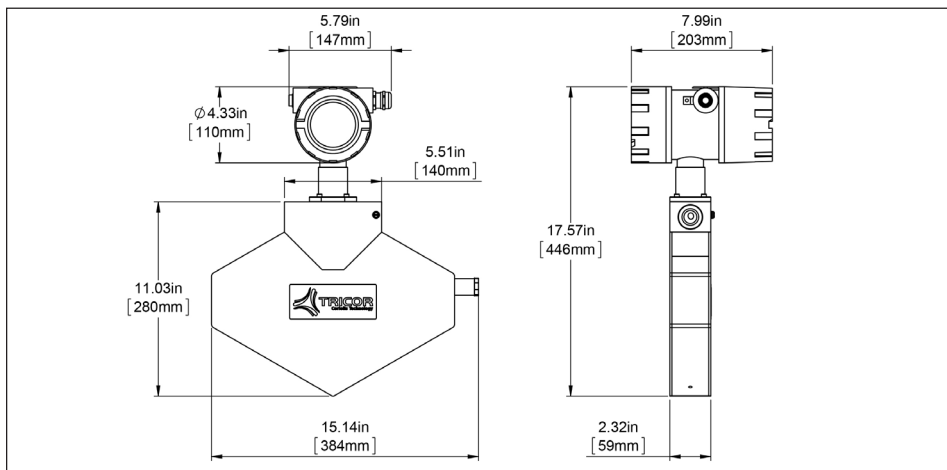
Process Temperature Range: Standard:
-40 °F ... +212 °F (-40 °C ... +100 °C)
Optional:
-76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: 1.4404/AISI 316L
Brazing Alloy: BNI-2

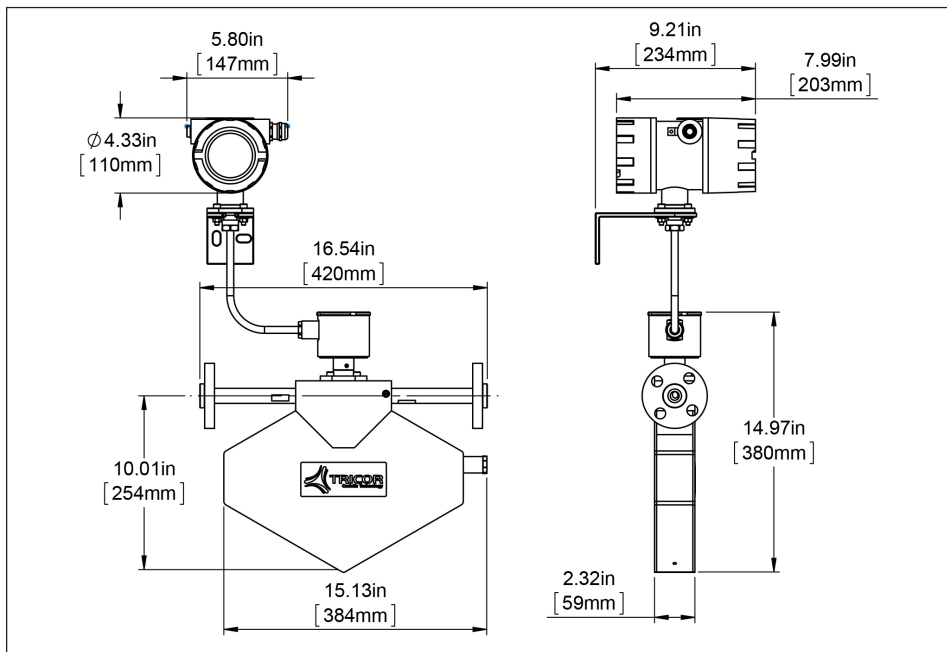


Meter Dimensions:²⁾



Compact Version

weight: 11.6 kg/25.7 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection: G1/2" thread



Remote Version

weight: 12.9 kg/28.5 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:
Outputs:
Interface:
More options on request

Remote Field Mount⁴⁾



24 V DC $\pm 20\%$ or 90 ... 264 V AC
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TCM 3100 Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Option for 345 bar (5000 psi)

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Accurate chemical injection metering

Pressure Rating: 200 bar, 2900 psi

Specifications:

Mass Flow Rate (max.): 3100 kg/h, 114 lb/min
Volumetric Flow Rate (max.): 3100 l/h, 13.19 gpm, 467 bbl/d
Nominal Meter Size: DN6, 1/4"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

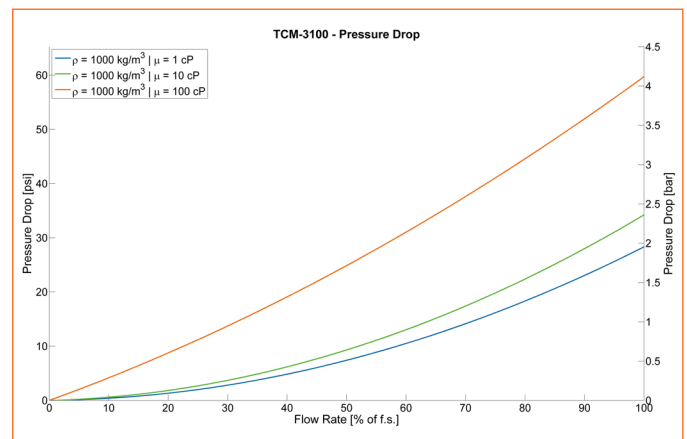
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

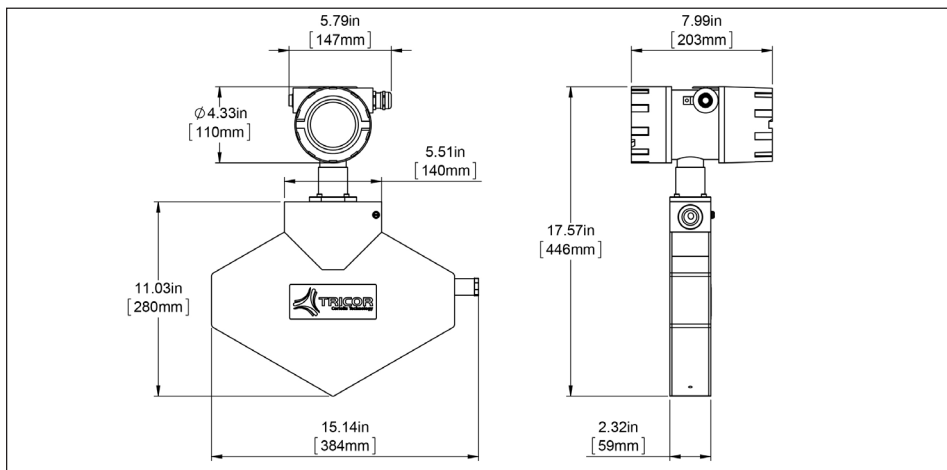
Process Temperature Range: Standard:
-40 °F ... +212 °F (-40 °C ... +100 °C)
Optional:
-76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: 1.4404/AISI 316L
Brazing Alloy: BNI-2

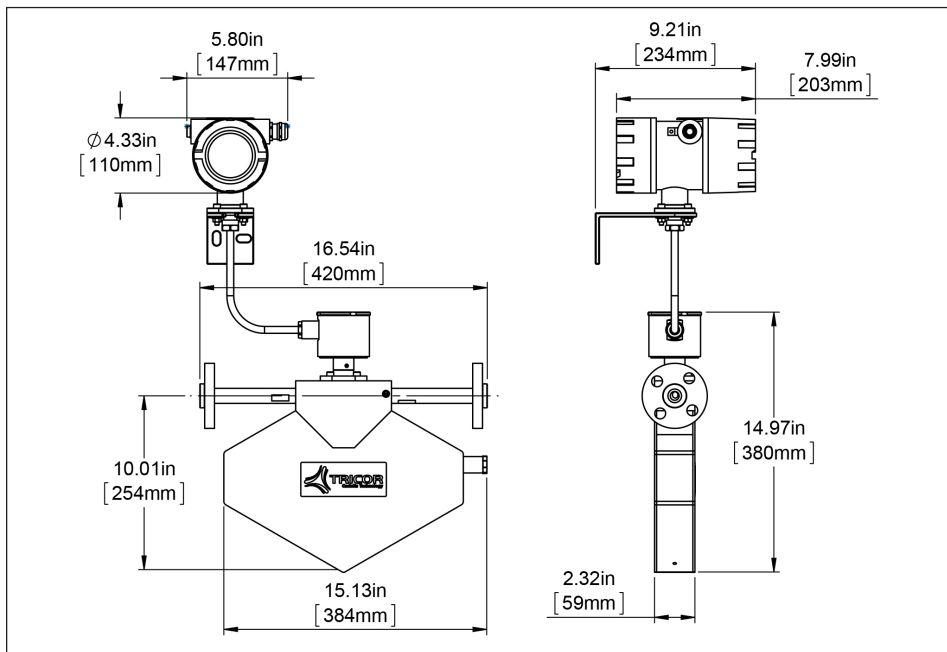


Meter Dimensions:²⁾



Compact Version

weight: 11.6 kg/25.7 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection: G1/2" thread



Remote Version

weight: 12.9 kg/28.5 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:
Outputs:
Interface:
More options on request

Remote Field Mount⁴⁾



24 V DC $\pm 20\%$ or 90 ... 264 V AC
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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 5500 Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > 345 bar (5000 psi)

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Accurate chemical injection metering

Pressure Rating: 345 bar, 5000 psi

Specifications:

Mass Flow Rate (max.): 5500 kg/h, 202 lb/min
Volumetric Flow Rate (max.): 5500 l/h, 24.3 gpm, 830 bbl/d
Nominal Meter Size: DN15, 1/2"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

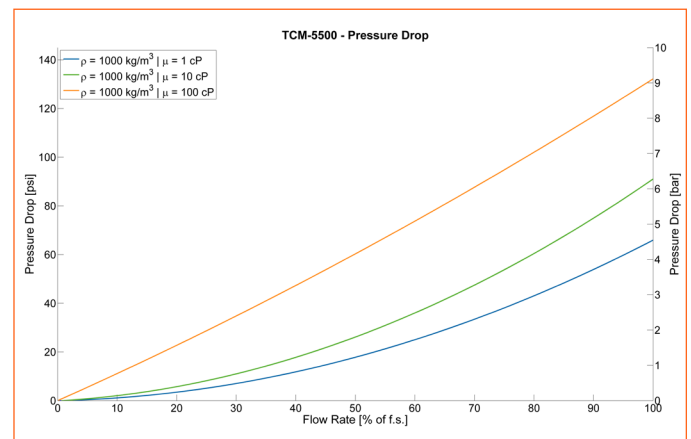
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

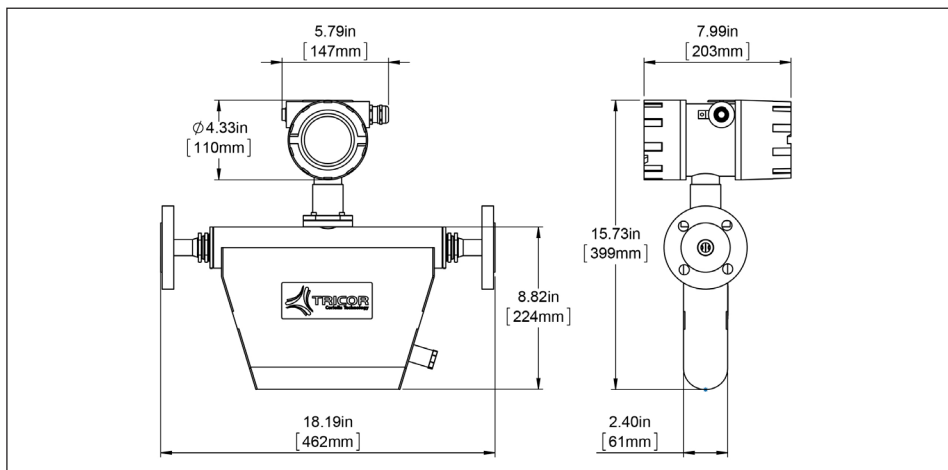
Process Temperature Range: Standard:
-40 °F ... +212 °F (-40 °C ... +100 °C)
Optional:
-76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: CF3M/AISI 316L
Brazing Alloy: BNI-2

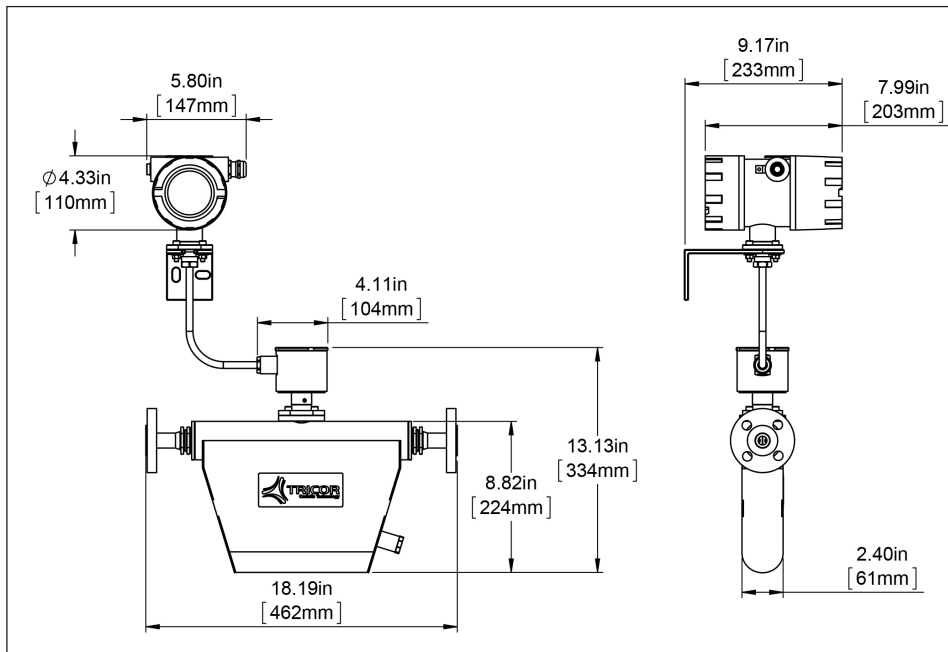


Meter Dimensions:²⁾



Compact Version

weight: 8.4 kg/22.2 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection:
DIN15 PN40 / 1/2" ANSI CL 300



Remote Version

weight: 9.7 kg/25 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:
Outputs:
Interface:
More options on request

Remote Field Mount⁴⁾



24 V DC $\pm 20\%$ or 90 ... 264 V AC
Analog, Frequency, Pulse, Status
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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 7900 Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Optional net oil functionality

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Increased well efficiency

Pressure Rating: 100 bar, 1450 psi

Specifications:

Mass Flow Rate (max.): 7900 kg/h, 290 lb/min
Volumetric Flow Rate (max.): 7900 l/h, 34.8 gpm, 1190 bbl/d
Nominal Meter Size: DN15, 1/2"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

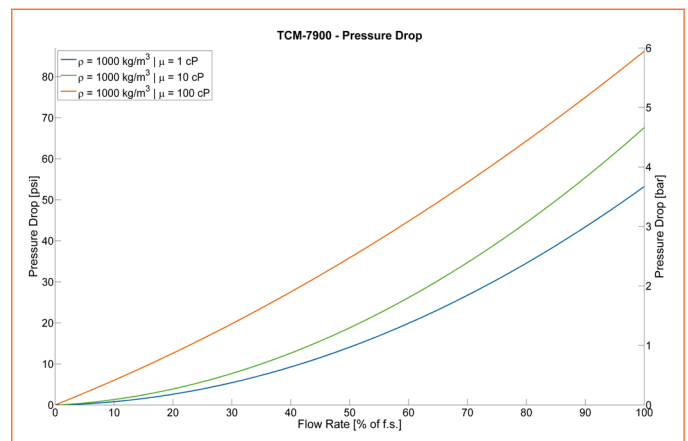
Density Range: up to 2500 kg/m³ 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

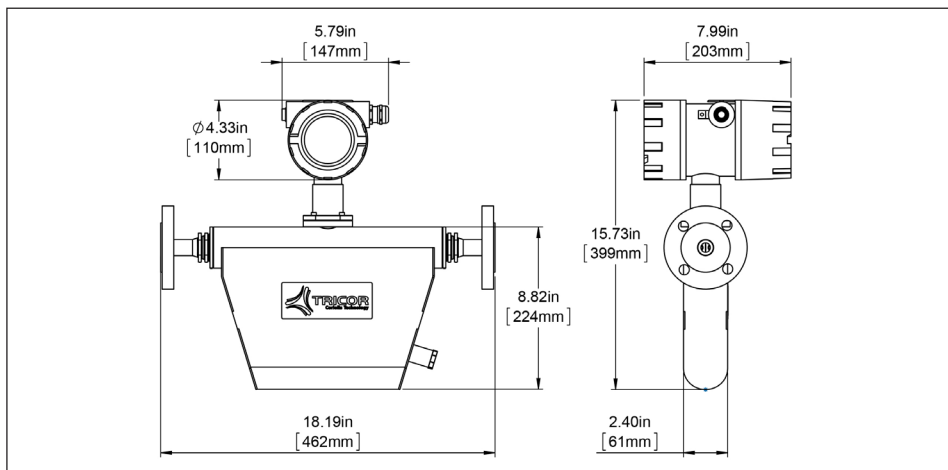
Process Temperature Range: Standard: -40 °F ... +212 °F (-40 °C ... +100 °C)
Optional: -76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: CF3M/AISI 316L
Brazing Alloy: BNI-2

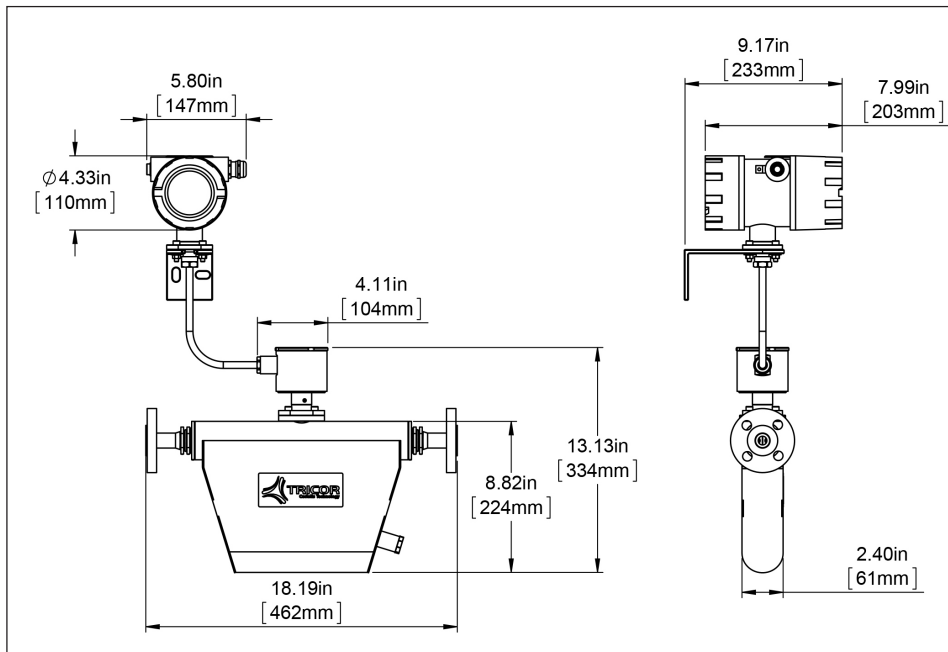


Meter Dimensions:²⁾



Compact Version

weight: 8.4 kg/22.2 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection:
DIN15 PN40 / 1/2" ANSI CL 300



Remote Version

weight: 9.7 kg/25 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

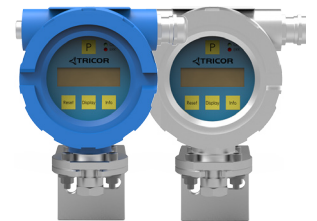
⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:
Outputs:
Interface:
More options on request

Remote Field Mount⁴⁾



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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 028K Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Optional net oil functionality

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Increased well efficiency

Pressure Rating: 100 bar, 1450 psi

Specifications:

Mass Flow Rate (max.): 28000 kg/h, 1029 lb/min
Volumetric Flow Rate (max.): 28000 l/h, 126.6 gpm, 4226 bbl/d
Nominal Meter Size: DN25, 1"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

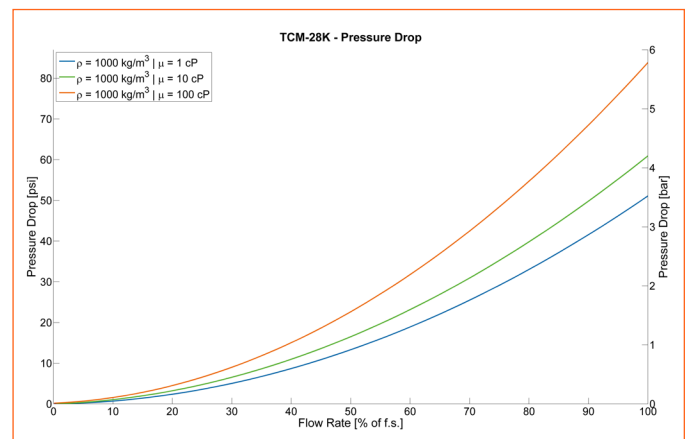
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

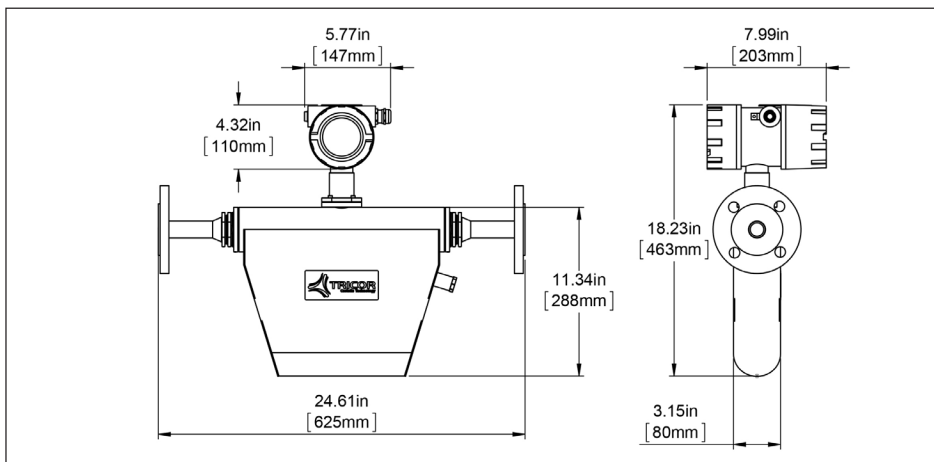
Process Temperature Range: Standard: -40 °F ... +212 °F (-40 °C ... +100 °C)
Optional: -76 °F ... +392 °F (-60 °C ... +200 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: CF3M/AISI 316L
Brazing Alloy: BNI-2

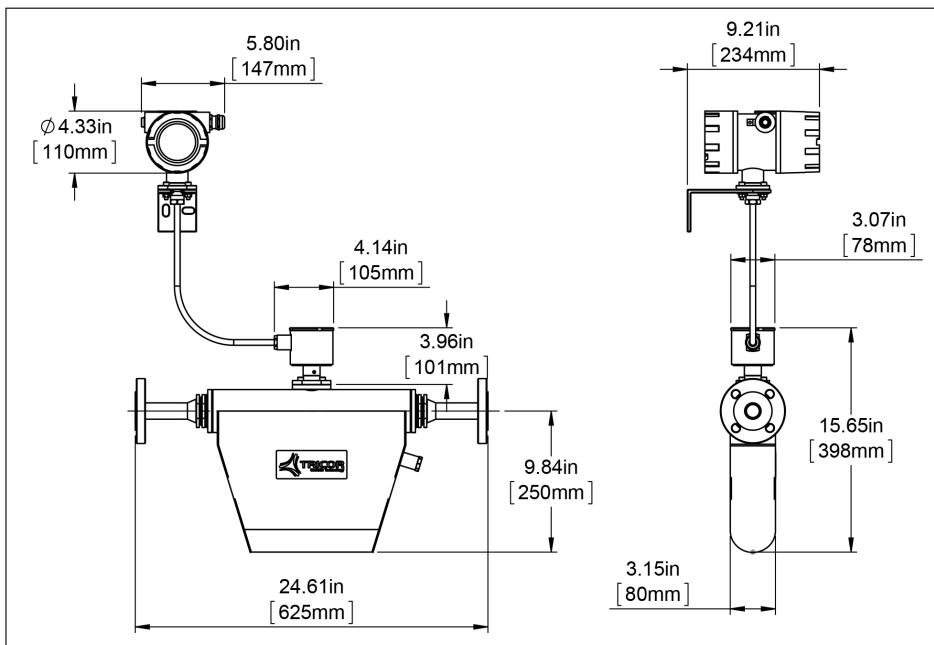


Meter Dimensions:²⁾



Compact Version

weight: 13.1 kg/30.2 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection:
DN25 PN40/1" ANSI CL 300



Remote Version

weight: 14.4 kg/33 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:

Outputs:

Interface:

More options on request

Remote Field Mount⁴⁾



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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 065K Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Optional net oil functionality

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Increased well efficiency

Pressure Rating: 100 bar, 1450 psi

Specifications:

Mass Flow Rate (max.): 65000 kg/h, 2388 lb/min
Volumetric Flow Rate (max.): 65000 l/h, 288 gpm, 9812 bbl/d
Nominal Meter Size: DN50, 2"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

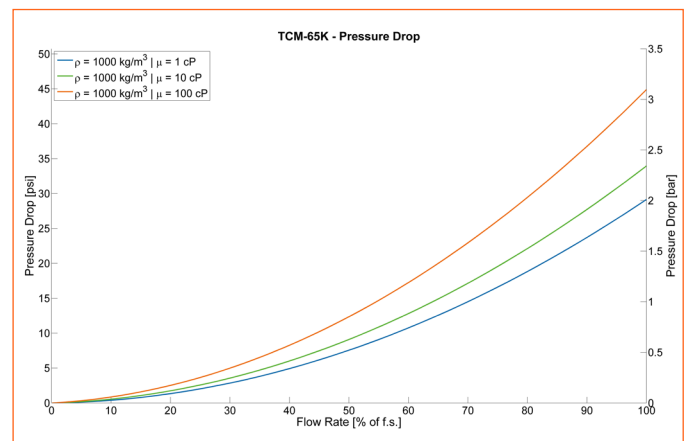
Process Temperature Range: Standard:
-40 °F ... +212 °F (-40 °C ... +100 °C)
Optional:
-76 °F ... +392 °F (-60 °C ... +200 °C)

Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)

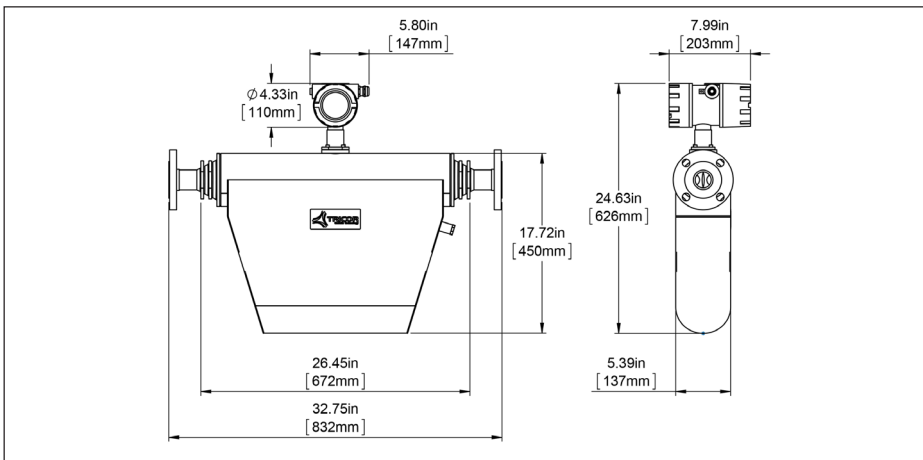
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: CF3M/AISI 316L
Brazing Alloy: BNI-2

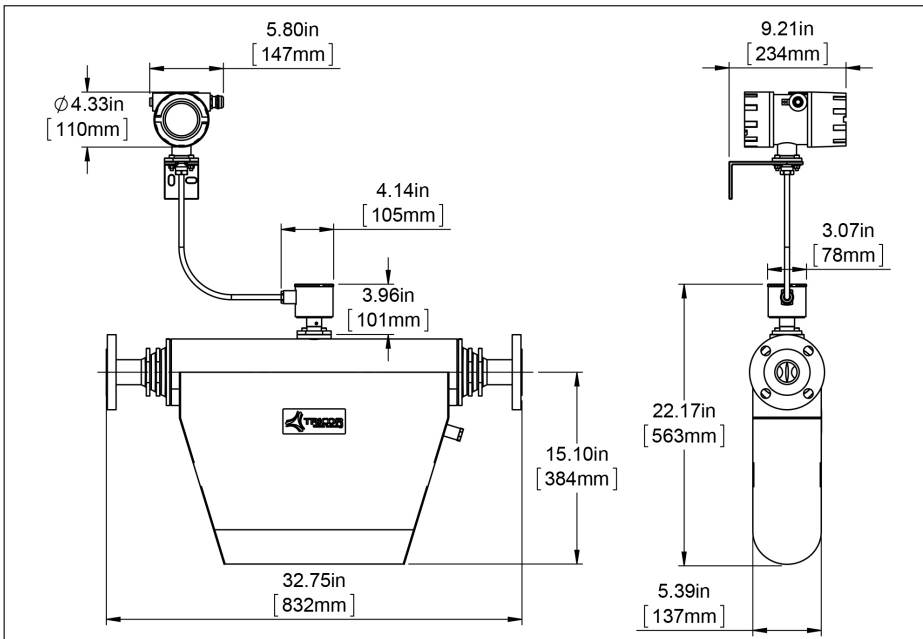


Meter Dimensions:²⁾



Compact Version

weight: 35.2 kg/81.9 lb
with meter mount ex-electronics
with aluminum diecast housing
meter connection:
DN50 PN40/2" ANSI CL 300



Remote Version

weight: 36.5 kg/84.7 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:

Outputs:

Interface:

More options on request

Remote Field Mount⁴⁾



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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCM 230K Series Coriolis Mass Flow Meter

Advantages:

- > Robust for long life
- > Customized installation length
- > Excellent repeatability
- > Optional net oil functionality

Benefits:

- > Increased productivity
- > Considerable cost savings for installation
- > Increased product quality
- > Increased well efficiency

Pressure Rating: 100 bar, 1450 psi

Specifications:

Mass Flow Rate (max.): 230000 kg/h, 8450 lb/min
Volumetric Flow Rate (max.): 230000 l/h, 1012 gpm, 34700 bbl/d
Nominal Meter Size: DN80, 3"

Accuracy [liquids]:¹⁾

Basic Accuracy [Mass Flow]: ± 0.1 % of flow rate
Mass Flow Repeatability: ± 0.05 % of flow rate
Basic Accuracy [Volume Flow]: ± 0.15 % of flow rate
Volume Flow Repeatability: ± 0.05 % of flow rate
Zero Stability: ± 0.01 % of full scale

Accuracy [gases]:

Basic Accuracy [Mass Flow]: ± 0.5 % of flow rate
Mass Flow Repeatability: ± 0.25 % of flow rate

Density:

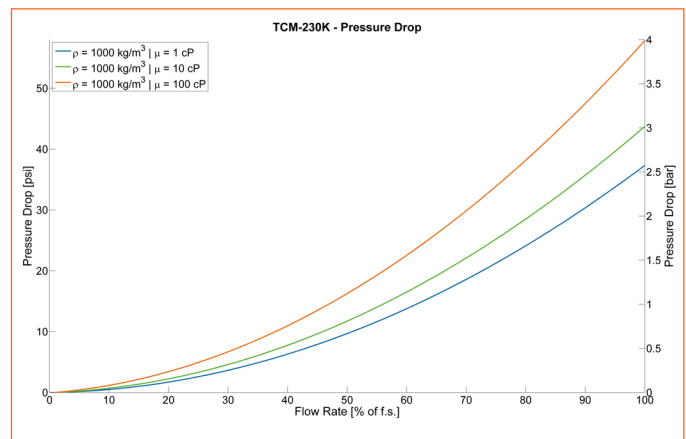
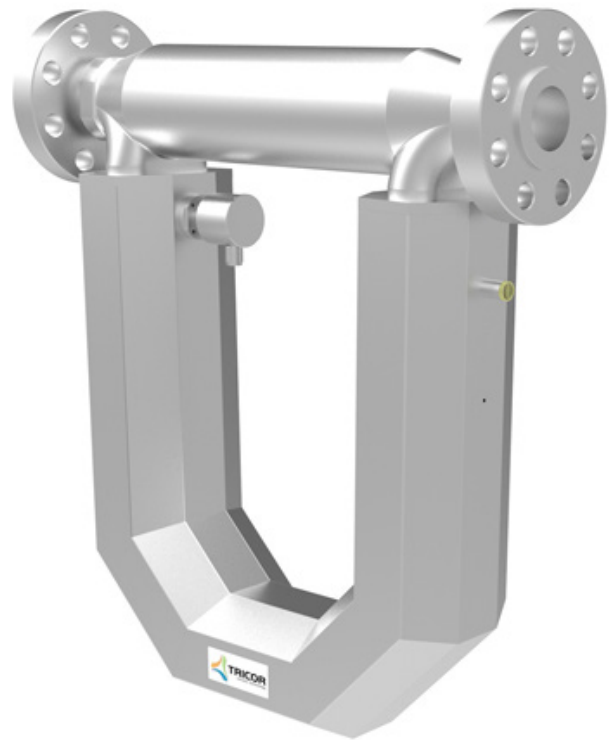
Density Range: up to 2500 kg/m³, 2.5 g/cm³
Density Accuracy: Liquids ± 1.0 kg/m³, ± 0.001 g/cm³
Density Repeatability: ± 0.5 kg/m³, ± 0.0005 g/cm³

Temperature:

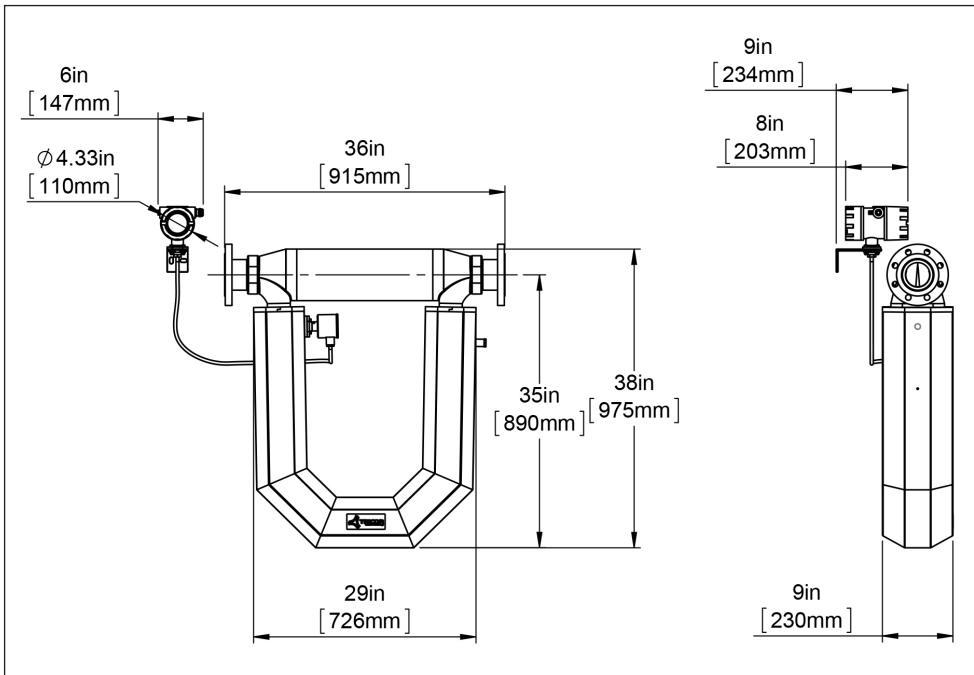
Process Temperature Range: -40 °F ... +212 °F (-40 °C ... +100 °C)
Temperature Accuracy: ± 1.8 °F ± 0.5 % of reading
(± 1 °C ± 0.5 % of reading)
Temperature Repeatability: ± 0.36 °F (± 0.2 °C)

Materials of Construction [wetted parts]:

Tubes: 1.4404/AISI 316L
Case: 1.4404/AISI 316L
Flow Splitter: CF3M/1.4409/AISI 316L
Option: NACE MR 0175/0103 compliant



Meter Dimensions:²⁾



weight: 87 kg/194.4 lb
with junction box & remote field mount
meter connection:
depending on selected connection

Electronics:

The TCE-8000 transmitter offered with the TRICOR Coriolis Mass Flow Meter is also available with other mounting options.

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1) ⁵⁾	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
ATEX + IECEX + cCSAus (Ex3) ^{5) 6)}	Zone 1: Group IIC or IIB, T2...T4 and Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU) ⁵⁾	Group IIC or IIB, T2 ... T4

²⁾ Drawing of the Meter Dimensions reflects one standard connection, other connections on request (Installation length can vary depending on selected connection).

³⁾ Weight: 0.4 kg/0.88 lb.

⁴⁾ Weight with aluminum diecast housing: 3.8 kg/8.3 lb with 3 m cable, Weight with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb.

⁵⁾ For Ex1, Ex3, EAC (TR-CU) the electronic is only available in aluminum housing.

⁶⁾ Only with remote electronics.

Panel Mount³⁾



Power Supply:

Outputs:

Interface:

More options on request

Remote Field Mount⁴⁾



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KEM Küppers Elektromechanik GmbH, Liebigstraße 5, 85757 Karlsfeld, Germany, Tel.: +49 8131 59391-0

TCMH 0450 Coriolis Mass Flow Meter

for high pressure liquid applications

Specification Sensor:

Nom. Flow Rates @ 850 kg/m ³ :	180 kg/h @ 1 cSt, 6.6 lb/min @ 1 cSt
Pressure Drop max. 2 bar	150 kg/h @ 10 cSt, 5.5 lb/min @ 10 cSt
	65 kg/h @ 30 cSt, 2.4 lb/min @ 30 cSt
Connection:	3/8" Autoclave (MP)
Pressure Rating:	
TCMH 0450-HC-SPOS:	1050 bar, 15200 psi
TCMH 0450-HC-SROS:	690 bar, 10000 psi
TCMH 0450-HC-SSOS:	414 bar, 6000 psi

Accuracy:

Flow:	±0.2 % of reading
Mass Repeatability:	±0.1 % of reading
Zero Stability ¹⁾ :	0.34 kg/h (0.16 kg/h ¹⁾) 0.012 lb/min (0.005 lb/min ¹⁾)
Temperature:	±1.8 °F ±0.5 % of reading (±1 °C ±0.5 % of reading)

Operating Conditions - Process²⁾:

Medium Temperature:	-40 °F ... +212 °F (-40 °C ... +100 °C)
Fluid:	Liquid
Pressure Effect on Sensitivity:	0.0002 %/bar, 0.000014 %/psi

Operation Conditions - Environment:

Ambient Temperature:	-40 °F ... +158 °F (-40 °C ... +70 °C)
Relative Humidity:	max. 95 %

Material of Construction:

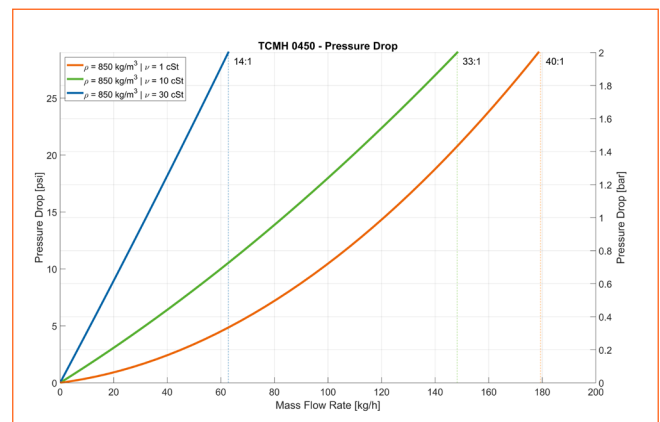
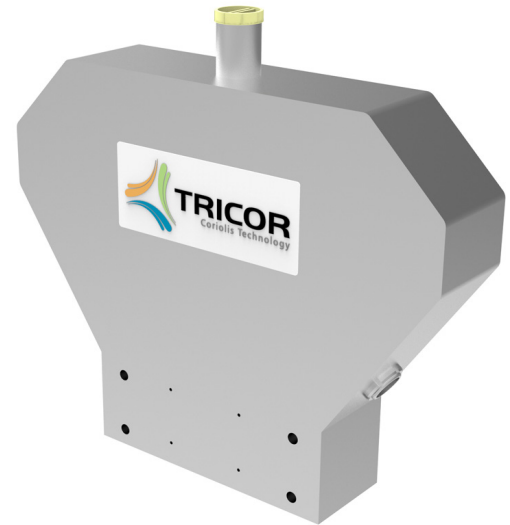
Tubes:	1.4404/AISI 316L
Manifold:	1.4435/AISI 316L
Housing:	1.4404/AISI 316L

Burst Protection:

Rupture Disc:	G1/2"
---------------	-------

Cabling:

Signal Cable Connection:	Push-Pull connector
For triple Ex approval (Ex3) ³⁾	



¹⁾ P respectively 1.4404/AISI 316L = NACE compliant, M respectively HP160 = not NACE compliant.

²⁾ Customer specific pressure compensation curves on request.

³⁾ With connector M23 (TCE) and with connector Lemo (TCM), x m cable length (TCC-06-xx).

Specification Electronics:

Power Supply: 24 V DC \pm 20 % or 90 ... 264 V AC
Housing: aluminum diecast (1.4404/AISI 316L)
Display: LCD Display

Output signals:

Analog : 2 x 4 ... 20 mA passive two-wire, galvanically free
Accuracy \pm 0.05 % of f.s.
Temperature drift 0.05 % per 10 K
Load $<$ 620 Ω (with 24 V supply)
Output value programmable
Frequency/Pulse: 5 - 10,000 Hz / Active Push-Pull for flowrate
Status: Push-Pull programmable

Input signals:

Control Input: 0/24 V DC
Analog (optional): 4 ... 20 mA active for passive 2-wire-pressure sensor
Supply $>$ 20 V (sensor current 20 mA)
Interface: RS485 RTU (Modbus), optional HART[®]

Ingress Protection:

IP65 (NEMA 4)
IP66 (NEMA 4X) optional

Dimensions:

Meter Dimensions: see drawing
Meter Weight: 7.5 kg/16.5 lb
Electronics Dimensions: see drawing
Electronics Weight
with aluminum diecast housing: 3.8 kg/8.3 lb
with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb

Remote Field Mount



Ex-Certifications:

ATEX (Ex)	Zone 1: Group IIC, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Gruppe IIC, T2...T4
cCSAus (Ex1) ⁴⁾	Class 1, Division 1: Group A, B, C, D, T2...T4
ATEX + IECEX + cCSAus triple approval (Ex3) ⁴⁾	Zone 1: Group IIC, T2...T4 and Class 1, Division 1: Group A, B, C, D, T2...T4

⁴⁾ For cCSAus the electronic is only available in aluminum housing.



Users of explosion proof instruments should first refer to "Installation Manual for Hazardous Areas"!



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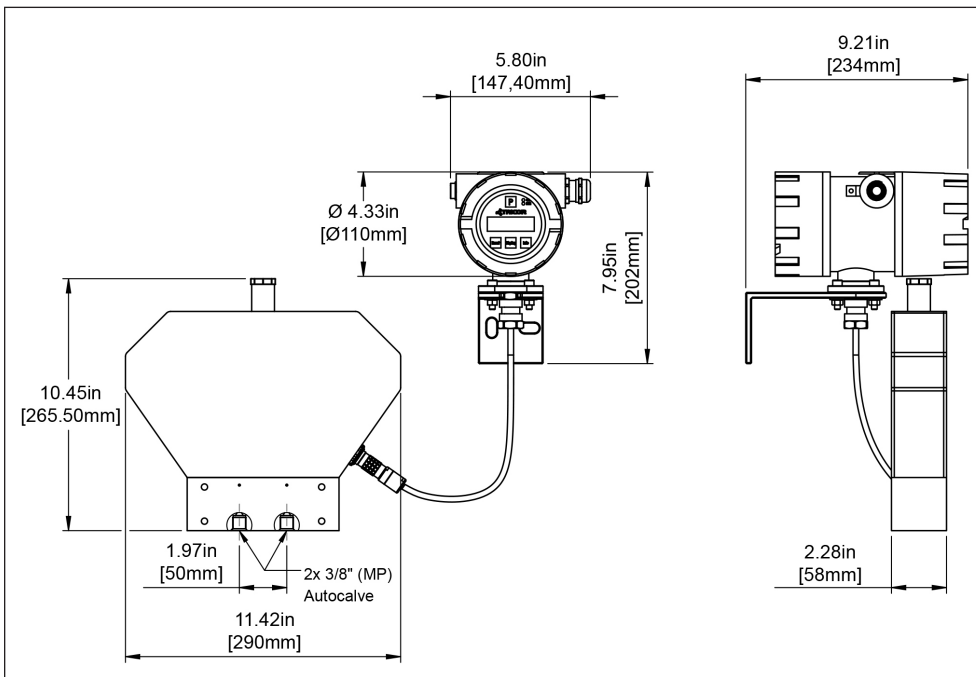
CHINA:

TASI Flow China
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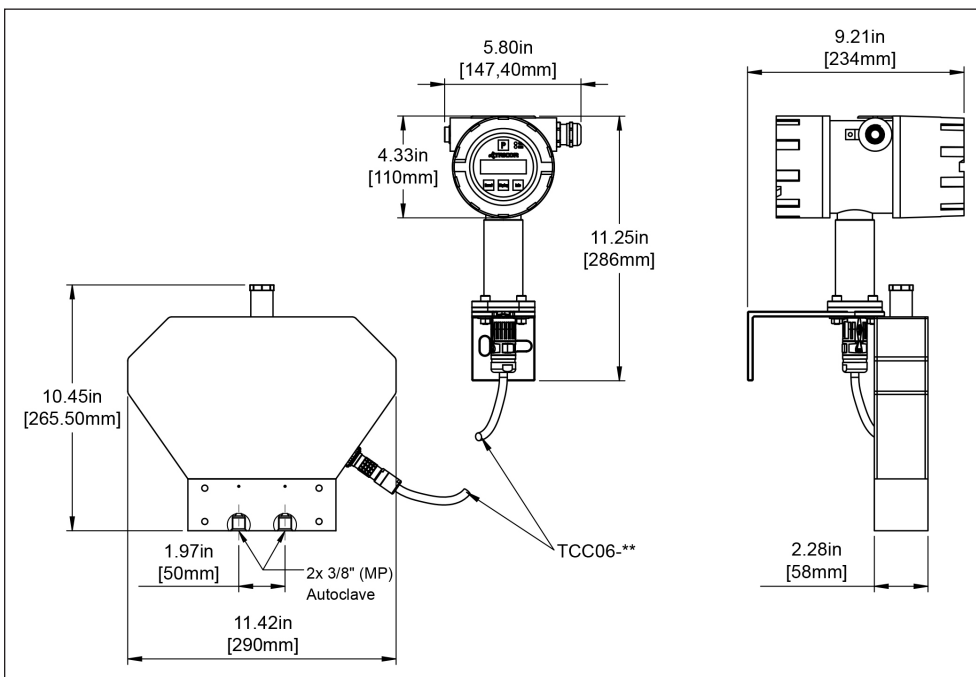
Rest of the World:

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Meter Dimensions:



Ex/Ex1



Ex3



TCMH 0450 Coriolis Mass Flow Meter

for high pressure gas applications

Specification Sensor (* reference gases):

Nom. Flow Rates:

*@ 20°C air, pressure drop 10 bar: 394 kg/h @ 1050 bar, 14.5 lb/min @ 15200 psi
 362 kg/h @ 690 bar, 13.3 lb/min @ 10000 psi
 316 kg/h @ 414 bar, 11.6 lb/min @ 6000 psi

*@ 20°C H₂, pressure drop 50 bar: 254 kg/h @ 1050 bar, 9.30 lb/min @ 15200 psi
 240 kg/h @ 875 bar, 8.80 lb/min @ 12690 psi
 222 kg/h @ 690 bar, 8.15 lb/min @ 10000 psi
 184 kg/h @ 414 bar, 6.75 lb/min @ 6000 psi

Pressure Drop (max.):

see curves

Connection:

3/8" Autoclave (MP), other connections available

Pressure Rating:

TCMH 0450-HC-SPPS (or -SPMS)¹⁾ 1050 bar, 15200 psi

TCMH 0450-HC-SRPS (or -SRMS)¹⁾ 690 bar, 10000 psi

TCMH 0450-HC-SSPS (or -SSMS)¹⁾ 414 bar, 6000 psi



Accuracy:

Flow: ±1 % of reading
 Mass Repeatability: ±0.5 % of reading
 Zero Stability: 0.45 kg/h, 0.0165 lb/min
 Temperature: ±1.8 °F ±0.5 % of reading
 (±1 °C ±0.5 % of reading)

Operating Conditions - Process²⁾:

Medium Temperature: -40 °F ... +212 °F (-40 °C ... +100 °C)

Fluid: Gas

Pressure Effect on Sensitivity: 0.0002 %/bar, 0.000014 %/psi

Operation Conditions - Environment:

Ambient Temperature: -40 °F ... +158 °F (-40 °C ... +70 °C)

Relative Humidity: max. 95 %

Material of Construction:

Tubes: 1.4404/AISI 316L¹⁾ or Sandvik Alloy HP160¹⁾

Manifold: 1.4435/AISI 316L

Housing: 1.4404/AISI 316L

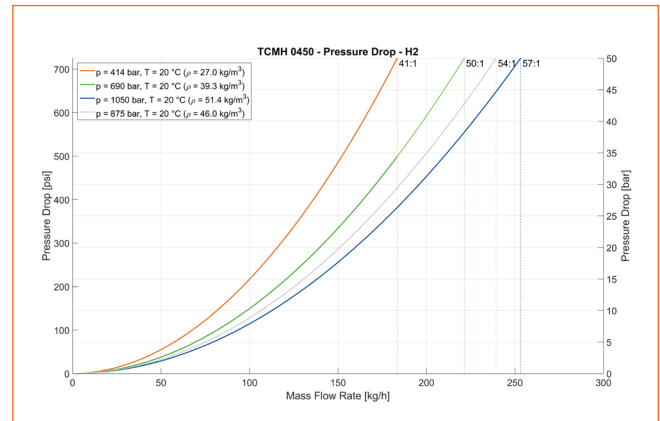
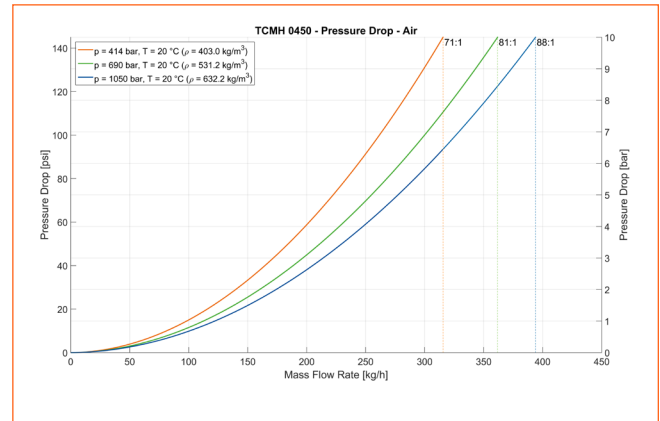
Burst Protection:

Rupture Disc: G1/2"

Cabling:

Signal Cable Connection: Push-Pull connector

For triple Ex approval (Ex3)³⁾



¹⁾ P respectively 1.4404/AISI 316L = NACE compliant, M respectively HP160 = not NACE compliant.

²⁾ Customer specific pressure compensation curves on request.

³⁾ With connector M23 (TCE) and with connector Lemo (TCM), x m cable length (TCC-06-xx).

Specification Electronics:

Power Supply: 24 V DC \pm 20 % or 90 ... 264 V AC
Housing: aluminum diecast (1.4404/AISI 316L)
Display: LCD Display

Output signals:

Analog : 2 x 4 ... 20 mA passive two-wire, galvanically free
Accuracy \pm 0.05 % of f.s.
Temperature drift 0.05 % per 10 K
Load <620 Ω (with 24 V supply)
Output value programmable
Frequency/Pulse: 5 - 10,000 Hz / Active Push-Pull for flowrate
Status: Push-Pull programmable

Input signals:

Control Input: 0/24 V DC
Analog (optional): 4 ... 20 mA active for passive 2-wire-pressure sensor
Supply >20 V (sensor current 20 mA)
Interface: RS485 RTU (Modbus), optional HART[®]

Ingress Protection:

IP65 (NEMA 4)
IP66 (NEMA 4X) optional

Dimensions:

Meter Dimensions: see drawing
Meter Weight: 7.5 kg/16.5 lb
Electronics Dimensions: see drawing
Electronics Weight
with aluminum diecast housing: 3.8 kg/8.3 lb
with 1.4404/AISI 316L housing: 6.15 kg/13.56 lb

Remote Field Mount



Ex-Certifications:

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ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Gruppe IIC, T2...T4
cCSAus (Ex1) ⁴⁾	Class 1, Division 1: Group A, B, C, D, T2...T4
ATEX + IECEX + cCSAus triple approval (Ex3) ⁴⁾	Zone 1: Group IIC, T2...T4 and Class 1, Division 1: Group A, B, C, D, T2...T4

⁴⁾ For cCSAus the electronic is only available in aluminum housing.



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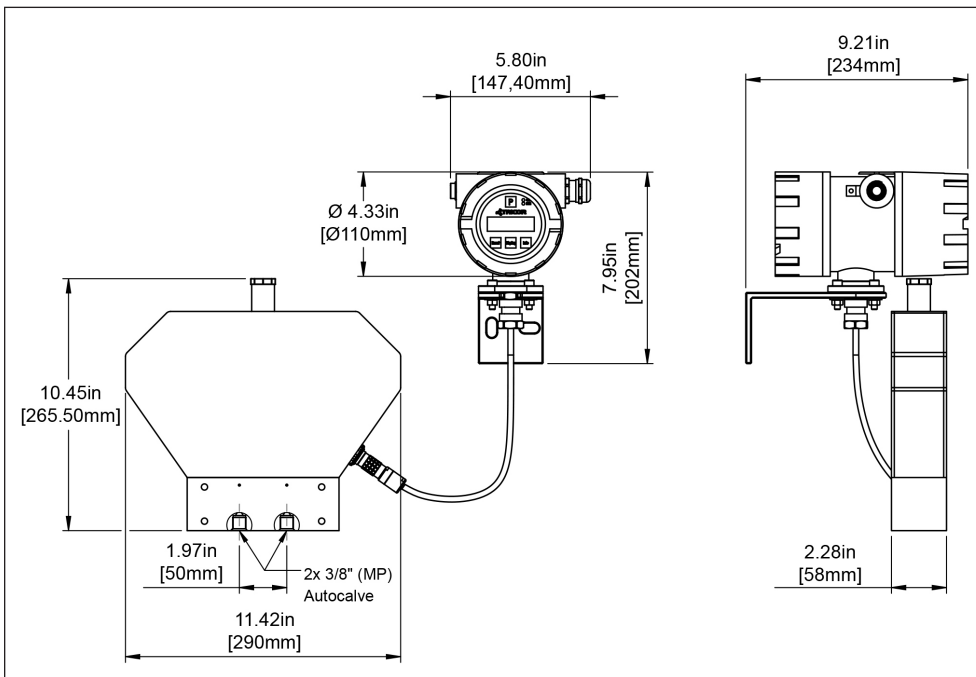
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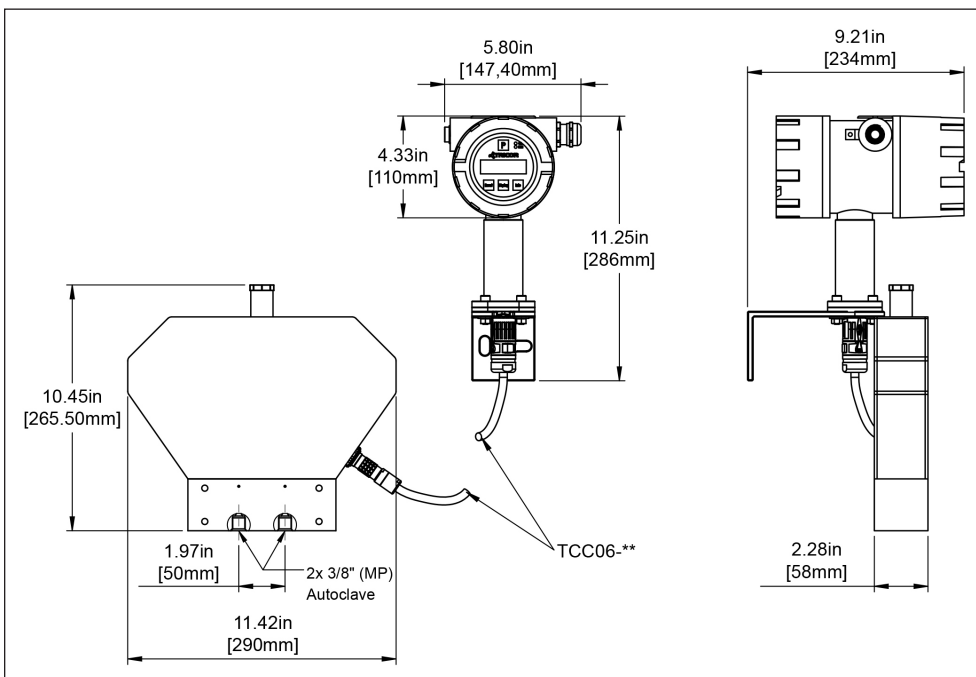
Rest of the World:

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Meter Dimensions:



Ex/Ex1



Ex3



TCE 8000 Panel Mount Coriolis Transmitter

Features:

- > LCD display
- > Programmable control inputs
- > Analog, pulse and status outputs

Benefits:

- > Transmits flow rate, total, density or temperature
- > Approvals for use in Hazardous Areas

Specifications:

Display:	back-lit LCD screen, 132 x 32 dot
Supply Voltage:	24 V DC, $\pm 20\%$ or 90 ... 264 V (version dependent)
Programming:	via front keyboard or Windows-based TRICOR configurator program (Modbus)
Interface:	RS485 (Modbus RTU), HART®, Foundation Fieldbus®, other options on request
EMC:	according to EN 61000-6-4 and 61000-6-2
Power Consumption:	max. 6 W
Electrical Connections:	cage clamp terminals
Housing Material:	Noryl
Protection Class:	front: IP50, rear: IP30
Weight:	0.4 kg/0.88 lb

Temperature:

Ambient:	32 °F ... +140 °F (0 °C ... +60 °C)
Storage and Transport:	-4 °F ... +158 °F (-20 °C ... +70 °C)

Analog Output:

Current Outputs (2x):	4 ... 20 mA passive, two-wire, isolated
Resolution:	14 bit
Linearity:	$\pm 0.05\%$ of full scale
Temperature Drift:	0.05 % per 10 K
Load:	< 620 Ω (at 24 V supply)
Output Value (programmable):	flow, total, density, temperature

Pulse Output:

Frequency Range:	0.5 - 10,000 Hz
Output Signal:	active push-pull output for flow rate

Status In- and Output:

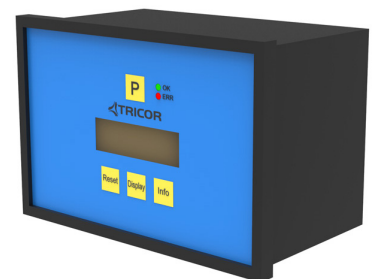
Status Output:	push pull programmable (in TOTAL mode: 0.5 - 100 Hz; in FREQUENCY mode: 0.5 - 10,000 Hz)
Control Input:	programmable

Analog Input (option):

Input Type:	4 .. 20 mA active for two-wire passive pressure sensor
Resolution:	12 bit
Linearity:	$\pm 0.05\%$ of full scale
Temperature Drift:	0.05 % per 10 K
Supply Voltage:	> 20 V (at 20 mA sensor current)

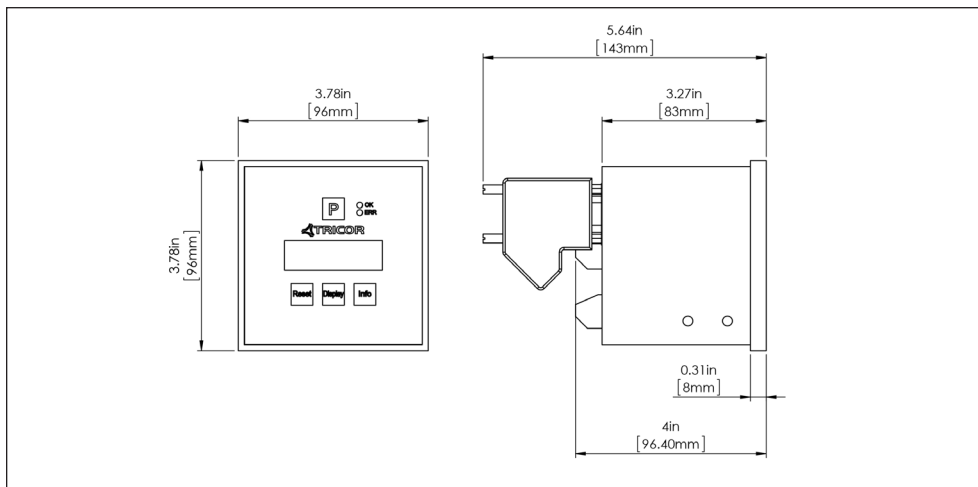


Standard Version

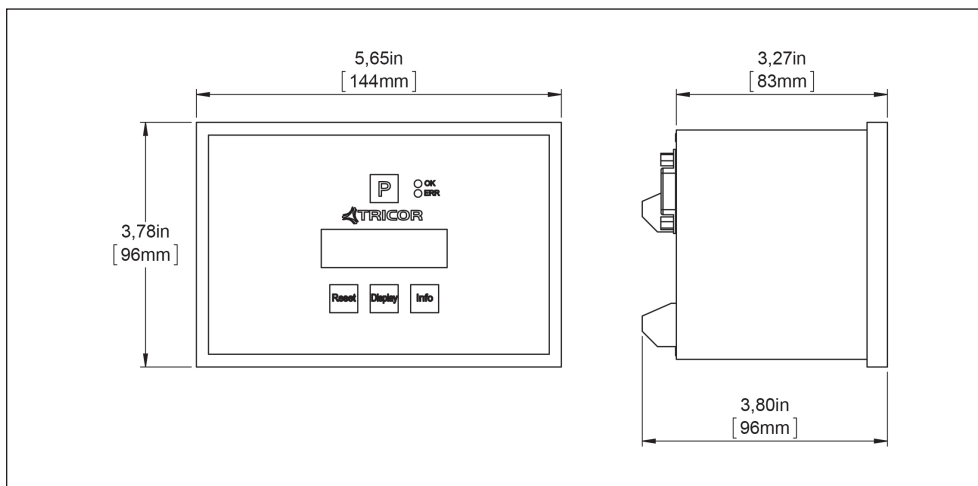


Ex Version

Transmitter Dimensions:



Standard Version



Ex Version

Ex Certifications:

ATEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
IECEX (Ex)	Zone 1: Group IIC or IIB, T2...T4
cCSAus (Ex1)	Class 1, Division 1: Group A, B, C, D or C, D, T2...T4
EAC (TR-CU)	Group IIC or IIB, T2 ... T4



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Rest of the World:

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TCE 6000 Coriolis Transmitter

Features:

- > Programmable control inputs
- > Ready for ESTA applications
- > For use with TRD 8001 Remote Display
- > RS485 (Modbus RTU) and USB interface

Benefits:

- > Transmits flow rate, total, density or temperature
- > Economy version
- > Simple meter configuration
- > Easy interfacing with TRICOR Configuration tool

Specifications:

Supply Voltage:	24 V DC, $\pm 20\%$
Programming:	via TRD 8001 or via interface
Interface:	RS485, USB (option)
EMC:	according to EN 61000-6-4 and 61000-6-2
Power Consumption:	max. 4 W
Electrical Connections:	connectors M12
Housing Material:	aluminum diecast
Protection Class:	IP65

Temperature:

Ambient:	-40 °F ... +158 °F (-40 °C ... +70 °C)
Storage and Transport:	-40 °F ... +176 °F (-40 °C ... +80 °C)

Analog Output:

Current Output:	4 ... 20 mA active
Resolution:	14 bit
Linearity:	$\pm 0.05\%$
Temperature Drift:	0.05 % per 10 K
Load:	$< 800 \Omega$
Output Value (programmable):	flow, total, density, temperature

Pulse Output:

Frequency Range:	0.5 - 10,000 Hz (for ESTA (OPTV receiver) 0.5 – 5,000 Hz)
Output Signal:	active push-pull output for flow rate optional: isolated optical pulse output

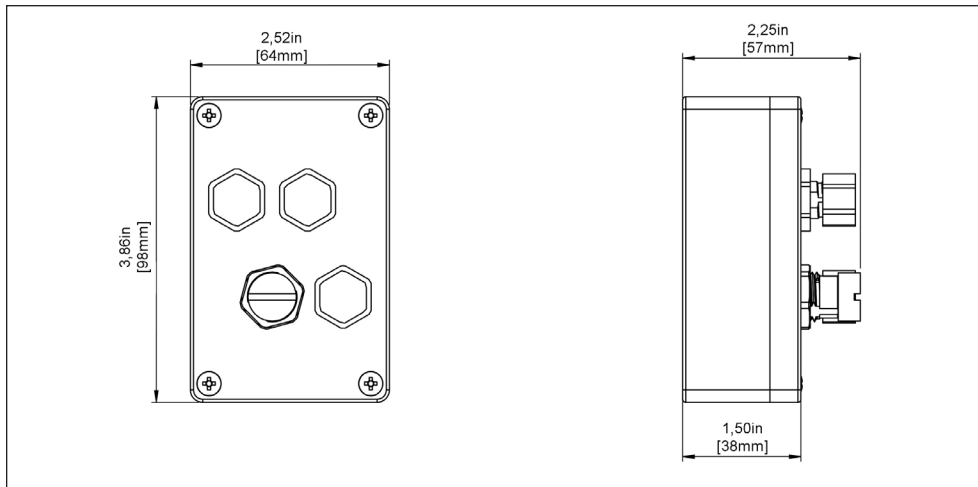
Status In- and Output:

Status Output:	push pull programmable (option) (in TOTAL mode: 0.5 - 100 Hz)
Control Input (programmable):	standard: 1 input/option: 2 inputs optional: insulated optical control input



Note: For parameterization of the flow meter, the interface may be used.
Prerequisite: Parameter setting is not allowed during active ESTA operation.

Transmitter Dimensions:



Ex Certifications:

ATEX (Exn) ¹⁾	Zone 2: II 3G Ex nA IIC T2...T4 Gc
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¹⁾ Only if powered by an SELV supply.

TRD 8001 Coriolis Remote Display

Features:

- > Remote Display
- > For use with TCE 6000
- > For use with Multiple Sensors

Benefits:

- > Can be mounted up to 1000 m/3280 feet away from meter
- > Easy Installation
- > User-friendly setup procedures

Specifications:

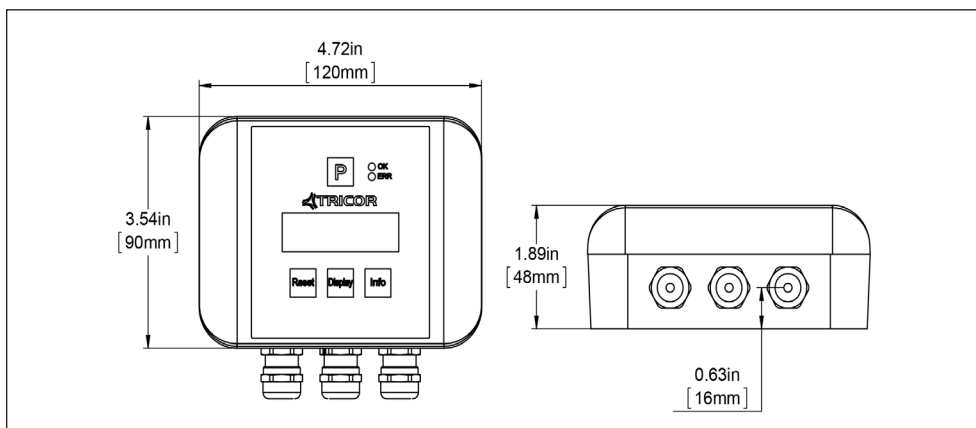
Display:	back-lit LCD screen, 132 x 32 dot
Supply Voltage:	via interface
Programming:	via front keyboard
Interface to TCE:	RS485
EMC:	according to EN 61000-6-4 and 61000-6-2
Electrical Connections:	connectors M12, B coded
Housing Material:	ABS-FR (plastic, flame retardant)
Protection Class:	IP64
Weight:	0.4 kg/0.88 lb
Wall Mount:	hidden screws



Temperature:

Ambient:	32 °F ... +140 °F (0 °C ... +60 °C)
Storage and Transport:	-4 °F ... +176 °F (-20 °C ... +80 °C)

Meter Dimensions:



Ex Certification:

ATEX (Exn)	Zone 2: II 3G Ex nA IIC T2...T4 Gc
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