



TECHNICAL DATASHEET



The TCM CLASSIC product line meets general industrial requirements out of the box.

- The TCM sensors work with TCA 1000, TCE 8000 and TCE 6000 transmitters for application specific performance
- Economically-priced with excellent repeatability
- Optional custom-calibrated meters with high performance specifications



Our passion is
your *Process*



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DESCRIPTION

The TRICOR Coriolis Mass Flow Meters from TASI Flow are extremely reliable and robust sensors in a broad range of applications. They provide simultaneous measurement of mass flow, density and temperature and provide a calculated volumetric flow value. The electronics use customizable process parameters to make interfacing easy. The ISO 9001 certified production and the unique design ensure the delivery of an excellent meter for any application.

FEATURES

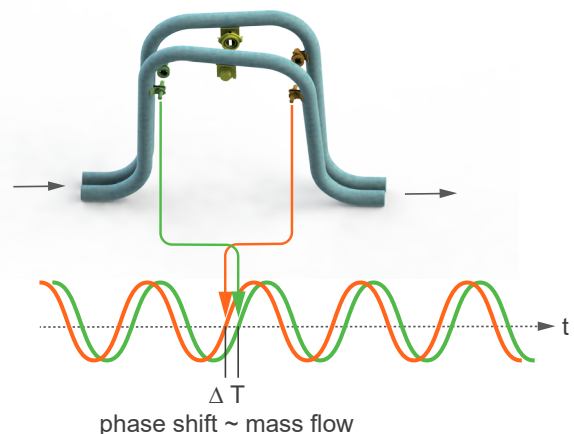
- All-in-one instrument: direct measurement of mass flow, density and temperature, calculated measurement of volumetric flow
- No moving parts: low maintenance, no need for recalibration
- Easy to install: no straight run of pipe required and multiple mounting options available
- Exceptional mechanical design resists external interference
- Determination of the API gravity
- Ease of use and fast setup with optional preprogrammed process parameters.
- Frequency output up to 10,000 Hz
- Superior meter calibration according to DIN EN ISO/IEC 17025:2018 on DAkkS certified calibration rig available.
- Easily accessible, integrated meter diagnostics to verify meter health & performance
- Hazardous area certifications: ATEX, IECEx, cCSAus, KC

ADDITIONAL OPTIONS

- High pressure designs available up to 345 bar [5,000 psi]
- Special calibrations for an oil viscosity up to 100 mPas
- Optional external pressure compensation
- Customizable installation length
- Optional extended warranty

PRINCIPLE OF OPERATION

Coriolis Mass Flow Meters (TCM) measure based on the Coriolis effect, which is measurable in rotating systems when a mass moves towards or from the center of rotation. The TCM Coriolis sensors operate with two parallel tubes, which are oscillated by an electro-mechanical system at their natural frequency. Two electro-mechanical sensors, one on the inlet and one on the outlet side of the sensor, will show a phase aligned signal under no flow condition. When a fluid is flowing through the sensor, the Coriolis effect will cause the tubes to flex and the sensor signals will show a phase shift. This phase shift is directly proportional to the mass flow. The natural frequency of the sensor is used to measure the density and a temperature sensor allows to compensate for changes in elastic properties of the tube material under varying temperatures. With the measurement of mass flow and density it is possible to calculate a volumetric flow.



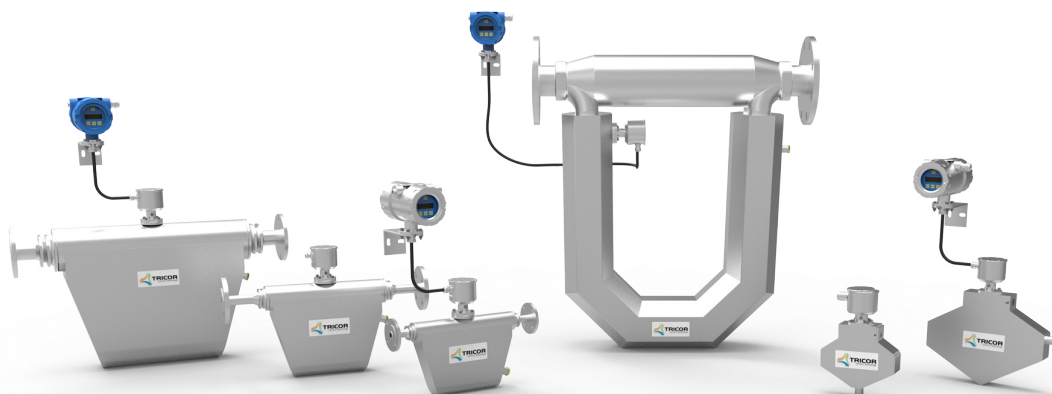


PRODUCT OVERVIEW

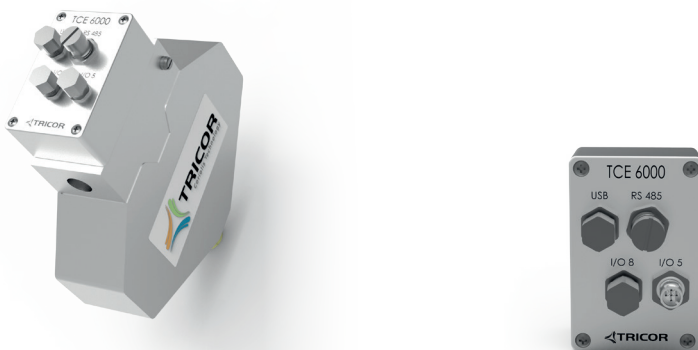
Compact version



Exd housing: Wall mounted (remote version)



Version with TCE 6000 (including options)



Version with TCA 1000





CLASSIC Series | TRICOR Coriolis Mass Flow Meters

TCM SENSOR – TECHNICAL DATA FOR LIQUIDS

	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
Max. Flow Rate (kg/h)	325	650	1,550	3,100	5,500	7,900	28,000	65,000	230,000
Max. Flow Rate (lb/min)	12	24	57	114	202	290	1,029	2,388	8,450
Basic Accuracy (Mass Flow)	±0.1 % of flow rate								±0.15 %
Basic Accuracy (Volume Flow)	±0.15 % of flow rate								±0.2 %
Repeatability	±0.05 % of flow rate								
Zero Stability (kg/h)	0.0325	0.065	0.155	0.31	0.55	0.79	2.8	6.5	23
Zero Stability (lb/min)	0.0012	0.0024	0.0057	0.0114	0.020	0.029	0.103	0.239	0.845
Density Range	up to 2,500 kg/m ³ [2.5 g/cm ³] (higher ranges on request)								
Density Accuracy	±1.0 kg/m ³ [±0.001 g/cm ³]								
Density Repeatability	±0.5 kg/m ³ [±0.0005 g/cm ³]								
Process Temperature Range	±1 °C ±0.5 % of reading [±1.8 °F ±0.5 % of reading]								
Temperature Repeatability	±0.2 °C [±0.36 °F]								

Process and Ambient

Process Connections	female thread ½" adaptors for flanges, dairy and tri-clamp	flanges EN1092, ANSI B16.5, DIN2512, tri-clamp, internal thread	
Max. Pressure Standard	200 bar [2,900 psi] (higher pressure options on request)		100 bar [1,450 psi]
Pressure Drop at max. Flow	for detail information please contact us		
Process Temperature (non Ex)	-60 °C ... +100 °C [-76 °F ... +212 °F] (standard) -60 °C ... +150 °C [-76 °F ... +302 °F] (option) -60 °C ... +200 °C [-76 °F ... +392 °F] (option)		
Process Temperature (Ex)	meter mount	-40 °C ... +70 °C [-40 °F ... +158 °F] (T4)	n/a
	remote version	-40 °C ... +70 °C [-40 °F ... +158 °F] (T4) -40 °C ... +135 °C [-40 °F ... +275 °F] (T3) -60 °C ... +200 °C [-76 °F ... +392 °F] (T2)	
Ambient Temperature	-40 °C ... +70 °C [-40 °F ... +158 °F]		
Storage Temperature	-40 °C ... +100 °C [-40 °F ... +212 °F]		
Electr. Connections Remote	screw type terminals		
Electr. Connections Meter Mount	none (internally connected to the electronics)		
Ingress Protection	IP65 (IP66/IP67 on request)		

General

Tube Arrangement	serial	parallel	serial	parallel	parallel	parallel	parallel	parallel	parallel
Tube Inner Diameter	4 mm	4 mm	8 mm	8 mm	7 mm	9 mm	16 mm	28 mm	43 mm
Tube Material	1.4404 [AISI 316L]								
Housing Material	1.4404 [AISI 316L]								
Dimensions	see dimensional drawings (page 12 - 13)								

Calibration for Liquids and Gases: The TRICOR flowmeters are always factory calibrated with water.

Calibration Conditions: Water temperature: 20 °C ... 25 °C [68 °F ... 77 °F], ambient temperature: 20 °C ... 25 °C [68 °F ... 77 °F].

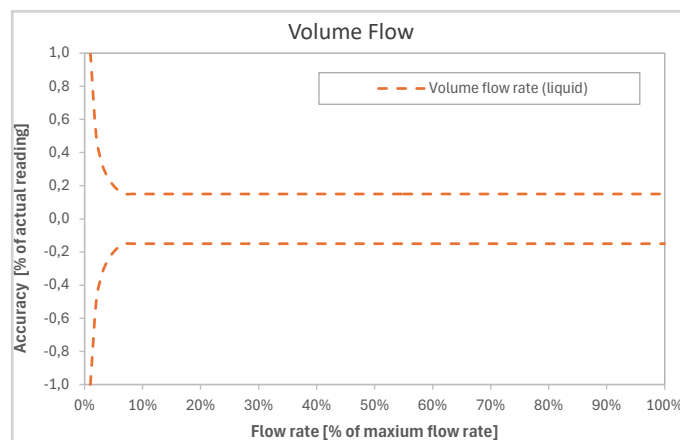
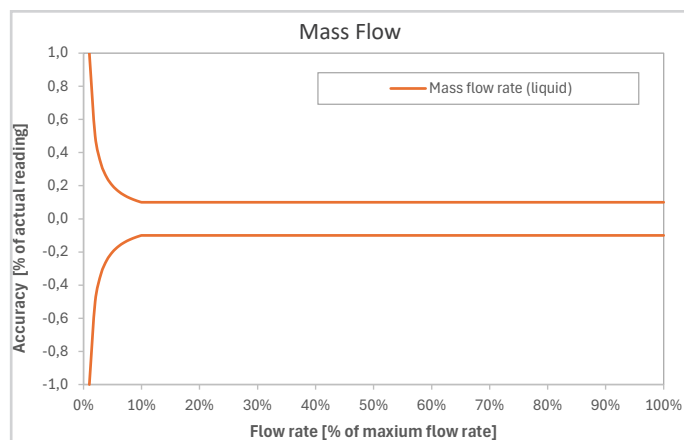
All specifications are based on above mentioned calibration pressure: 1.5 bar ... 2.5 bar [21.7 psi ... 36.3 psi] reference conditions, a flow calibration protocol is attached to each instrument.

Stated accuracy combines the effects of repeatability, linearity and hysteresis.

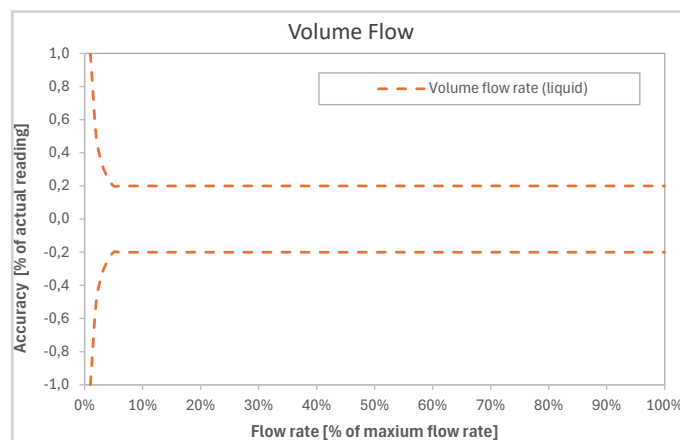
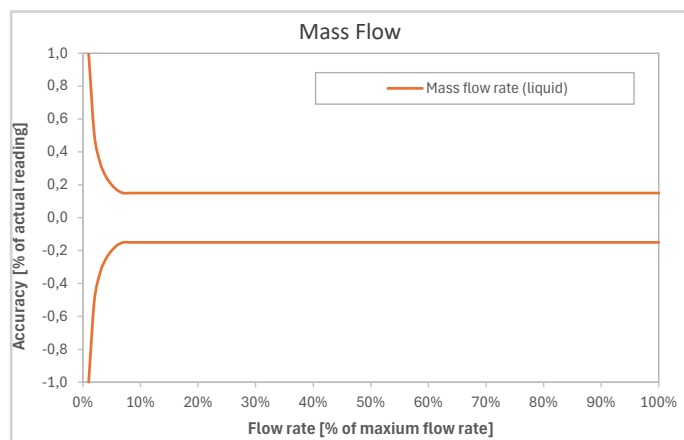
Typical flow dynamics based on max. flow rate is 100:1.



ACCURACY FOR LIQUIDS (TCM 0325 TO TCM 065K)



ACCURACY FOR LIQUIDS (TCM 230K)



Flow Rate of Full Scale	Accuracy
$\geq \frac{\text{Zero Point}}{\text{Basic Accuracy}} * 100$	$\pm \text{Basic Accuracy}$
$< \frac{\text{Zero Point}}{\text{Basic Accuracy}} * 100$	$\pm \frac{\text{Zero Point}}{\text{Measured Value}} * 100$

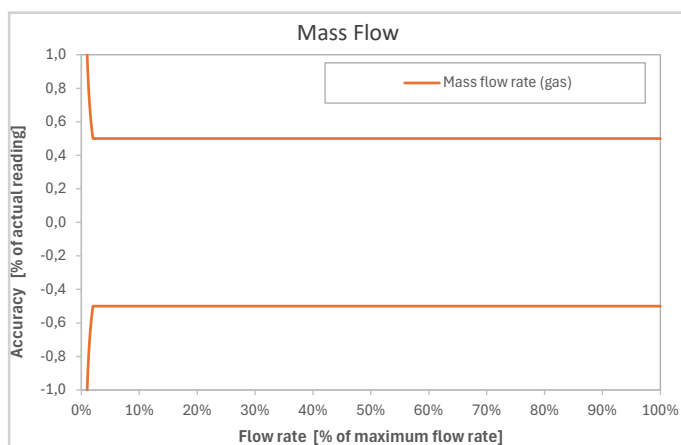


CLASSIC Series | TRICOR Coriolis Mass Flow Meters

TCM SENSOR – TECHNICAL DATA FOR GASES

	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
Nom. Flow Rate (kg/h) ^{1) 3)}	78	177	333	740	910	1,430	5,100	15,650	48,900
Nom. Flow Rate (lb/min) ^{1) 3)}	3	7	12	27	34	53	188	575	1,797
Nom. Flow Rate (Nm ³ /h) ^{1) 2)}	109	247	464	1,031	1,268	1,993	7,109	21,813	68,157
Nom. Flow Rate (SCFM) ^{1) 2)}	64	146	273	607	747	1,173	4,184	12,838	40,115
Basic Accuracy (Mass Flow)	±0.5 % of flow rate								
Repeatability	±0,25 % of flow rate								

ACCURACY FOR GASES



Flow Rate of Full Scale	Accuracy
$\geq \frac{\text{Zero Point}}{\text{Basic Accuracy}} * 100$	± Basic Accuracy
$< \frac{\text{Zero Point}}{\text{Basic Accuracy}} * 100$	$\pm \frac{\text{Zero Point}}{\text{Measured Value}} * 100$

APPROVALS & CERTIFICATIONS

TCM 0325, 0650, 1550, 3100, 5500 and 7900			TCM 028K, 065K and 230K		
ATEX Zone 1	Compact version:	II 2G Ex db ia IIC T4 Gb	Compact version:	II 2G Ex db ia IIB T4 Gb	
	Remote version ⁴⁾ :	Sensor: II 1G Ex ia IIC T4...T2 Ga Transm.: II 2(1)G Ex db [ia Ga] IIC T4 Gb	Remote version ⁴⁾ :	Sensor: II 1G Ex ia IIB T4...T2 Ga Transm.: II 2(1)G Ex db [ia Ga] IIC T4 Gb	
ATEX Zone 2	All versions:	II 3G Ex nA IIC T4 Gc	All versions:	II 3G Ex nA IIB T4 Gc	
IECEX	Compact version:	Ex db ia IIC T4 Gb	Compact version:	Ex db ia IIB T4 Gb	
	Remote version ⁴⁾ :	Sensor: Ex ia IIC T4...T2 Ga Transm.: Ex db [ia Ga] IIC T4 Gb	Remote version ⁴⁾ :	Sensor: Ex ia IIB T4...T2 Ga Transm.: Ex db [ia Ga] IIC T4 Gb	
cCSAus³⁾	Compact version:	Class I, Div. 1, Groups A, B, C and D, T4 (US, Can) Ex db ia IIC T4 Gb (Can) Class I, Zone 1, AEx db ia IIC T4 Gb (US)	Compact version:	Class I, Div. 1, Groups C and D, T4 (US, Can) Ex db ia IIB T4 Gb (Can) Class I, Zone 1, AEx db ia IIB T4 Gb (US)	
	Remote version ⁴⁾ :	Sensor: IS Class I, Div. 1, Groups A, B, C and D, T4...T2 (US, Can) Ex ia IIC T4...T2 Ga (Can) Class I, Zone 0, AEx ia IIC T4...T2 Ga (US) Transm.: Class I, Div. 1, Groups A, B, C and D, T4 associated device for IS Class I, Division 1 (US, Can) Ex db [ia Ga] IIC T4 Gb (Can) Class I, Zone 1, AEx db [ia Ga] IIC T4 Gb (US)	Remote version ⁴⁾ :	Sensor: IS Class I, Div. 1, Groups C and D, T4...T2 (US, Can) Ex ia IIB T4...T2 Ga (Can) Class I, Zone 0, AEx ia IIB T4...T2 Ga (US) Transm.: Class I, Div. 1, Groups A, B, C and D, T4 associated device for IS Class I, Division 1 (US, Can) Ex db [ia Ga] IIC T4 Gb (Can) Class I, Zone 1, AEx db [ia Ga] IIC T4 Gb (US)	
KGS (Korean)	Compact version:	Ex db ia IIC T4 Gb	Compact version:	Ex db ia IIB T4 Gb	
	Remote version ⁴⁾ :	Sensor: Ex ia IIC T4...T2 Ga Transm.: Ex d [ia Ga] IIC T4 Gb	Remote version ⁴⁾ :	Sensor: Ex ia IIB T4...T2 Ga Transm.: Ex d [ia Ga] IIC T4 Gb	

Max. allowed flow velocity (0.3 x Mach under process conditions).

For gas applications, flow rate and pressure drop for individual sensor sizes are dependent on operating temperature, pressure and fluid composition.

Therefore, when selecting a sensor for any particular gas application, please use the TSP (TRICOR Sizing Program) or contact us.

¹⁾ Nominal flow rates that produce approximately 3 bar [43 psi] pressure drop for natural gas at 50 bar [725 psi] operational pressure.

²⁾ Normal reference conditions (Nm³/h) are 1,013 bar und 0 °C. Standard (SCFM) reference conditions are 14.7 psi und 60 °F.

³⁾ For cCSAus the electronic is only available in aluminum housing.

⁴⁾ Only wall mounting, not panel mounting.



TCA1000 TRANSMITTER – TECHNICAL DATA

General	
Supply Voltage	24 V DC
Power Consumption	max. 4 W
Environmental Conditions	Transient over voltages up to the levels of overvoltage category II Altitude up to 2.000 m
Reverse Polarity Protection	yes
Galvanic Isolation	500 V
Programming	via Windows-based TRICOR configurator program (Modbus) or direct Modbus access
Interface	RS485 (Modbus-RTU)
Connector	M12, 5-pin, A-coded
Material	1.4404 [AISI 316L]

Visual Status Feedback	
Green	Normal Operation
Yellow	Startup or Indication of worse
Red	Critical system Error



TCE 8000/8100 TRANSMITTER – TECHNICAL DATA

General	
Supply Voltage	24 V DC or 100 ... 240 V AC (version dependent)
Power Consumption	max. 4 W (DC version) max. 11 W (AC version)
Environmental Conditions	• Transient over voltages up to the levels of overvoltage category II • Temporary over voltages occurring on mains supply only • POLLUTION DEGREE 2 • MAINS AC supply voltage fluctuations up to ± 10 % of the nominal voltage • Altitude up to 2.000 m
Reverse Polarity Protection	yes
Galvanic Isolation	2,500 V AC
Display	back-lit LCD screen, 132 x 32 dot
Programming	via front keyboard or Windows-based TRICOR configurator program (Modbus)
Interfaces	RS485 (Modbus-RTU), option HART®
Cable Glands	Suitable for $\varnothing$ 7 - 13 mm cables Material: Brass/Ni plated (option: 1.4404 [AISI 316]) Thread: 2 x ½" NPT or 2 x M20 x 1.5
Housing: Wall-mounted	
Dimensions	see dimensional drawing (page 14 - 15)
Electrical Connections	cage clamp terminals
Sensor Cable Glands	barrier cable gland: applied by manufacturer (thread: ½" NPT)
Housing Material	aluminum diecast (option: 1.4404 [AISI 316L])
Protection Class	IP65 (IP66/IP67 on request)
Weight	with aluminum diecast housing: 3.8 kg [8.3 lb] with 3 m cable with 1.4404 [AISI 316L] housing: 6.15 kg [13.56 lb]
Temperature	ambient: -40 °C ... +70 °C [-40 °F ... +158 °F] storage and transport: -20 °C ... +70 °C [-4 °F ... +158 °F]
Housing: Panel-mounted (only TCE 8000)	
Dimensions	see dimensional drawing (page 17)
Electrical Connections	cage clamp terminals
Housing Material	Noryl
Protection Class	front: IP50, rear: IP30
Weight	0.4 kg [0.88 lb]
Temperature	ambient: ± 0 °C ... +60 °C [32 °F ... +140 °F] storage and transport: -20 °C ... +70 °C [-4 °F ... +158 °F]
Analog Output	
Current Outputs (2x)	4 ... 20 mA passive, two-wire, isolated
Resolution	14 bit
Linearity	± 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
I/O Output	
Frequency Range	0.5 - 10,000 Hz (in TOTAL mode: 0 - 100 Hz)
Output Signal	active push pull output for flow rate
Status In- and Output	
Status Output	push pull programmable (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	± 0.05 % of full scale
Temperature Drift	0.05 % per 10 K
Supply Voltage	> 20 V (at 20 mA sensor current)



TCE 6000 TRANSMITTER – TECHNICAL DATA

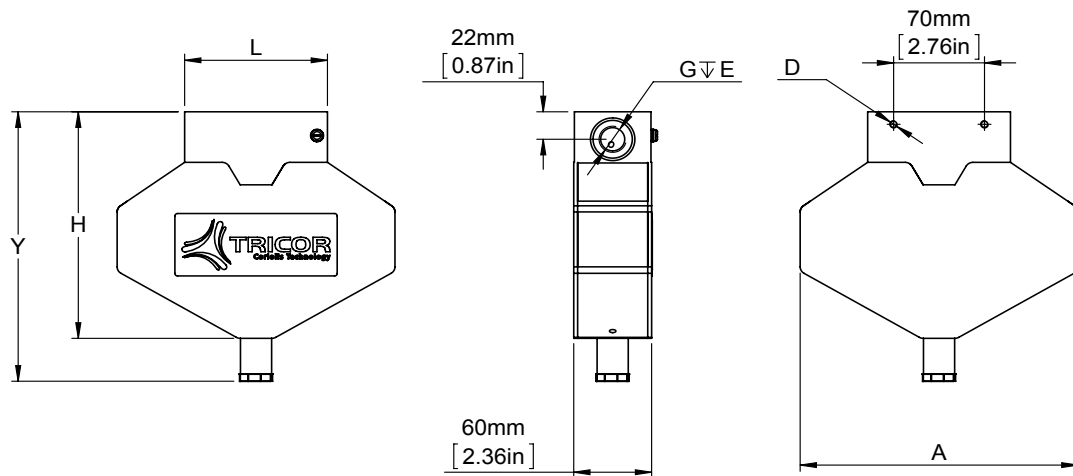
General	
Supply Voltage	24 V DC
Programming	via Modbus
Interfaces	RS485, USB (option)
EMC	according to EN 61000-6-4 and EN 61000-6-2
Power Consumption	max. 4 W
Dimensions	see dimensional drawing (page 17)
Electrical Connections	connectors M12
Housing Material	aluminum diecast
Temperature	ambient: : -40 °C ... +70 °C [-40 °F ... +158 °F] storage and transport: -40 °C ... +80 °C [-40 °F ... +176 °F]
Protection Class	IP65
Analog Output	
Current Output	4 ... 20 mA active
Resolution	14 bit
Linearity	±0.05 %
Temperature Drift	0.05 % per 10 K
Load	< 800 Ω
Output Value	programmable: flow, total, density, temperature
I/O 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: insulated optical frequency 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) option: 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.*



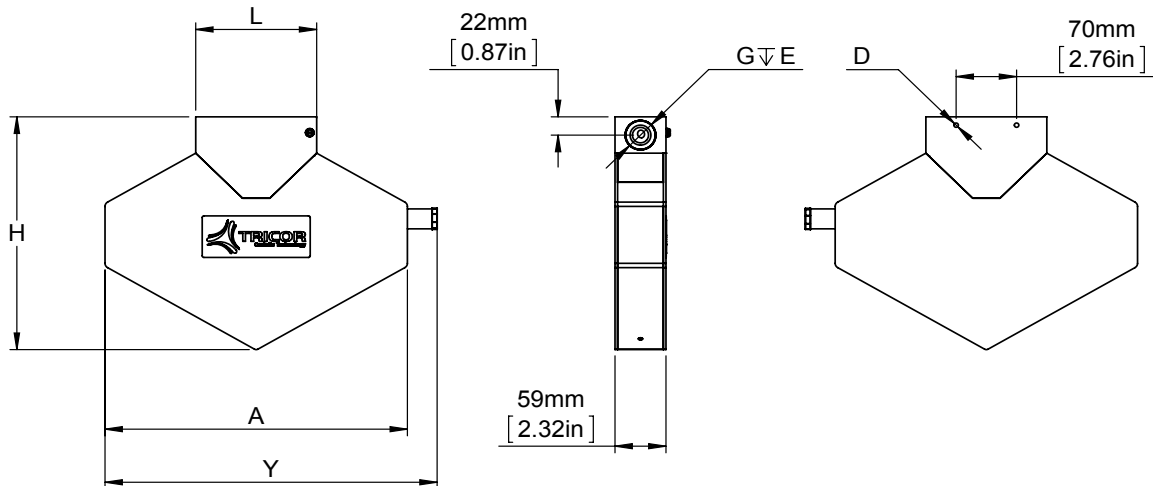
CLASSIC Series | TRICOR Coriolis Mass Flow Meters

SENSORES TCM 0325 TO TCM 0650



Sensor Type	A	D	E	G ⁵⁾	H	L ⁶⁾	Y
TCM 0325	214 mm [8.43 in]	M6 ∇ 10	21 mm [0.83 in]	G 1/2"	182 mm [7.17 in]	110 mm [4.33 in]	216 mm [8.50 in]
TCM 0650	214 mm [8.43 in]	M6 ∇ 10	21 mm [0.83 in]	G 1/2"	182 mm [7.17 in]	110 mm [4.33 in]	216 mm [8.50 in]

SENSORS TCM 1550 TO TCM 3100



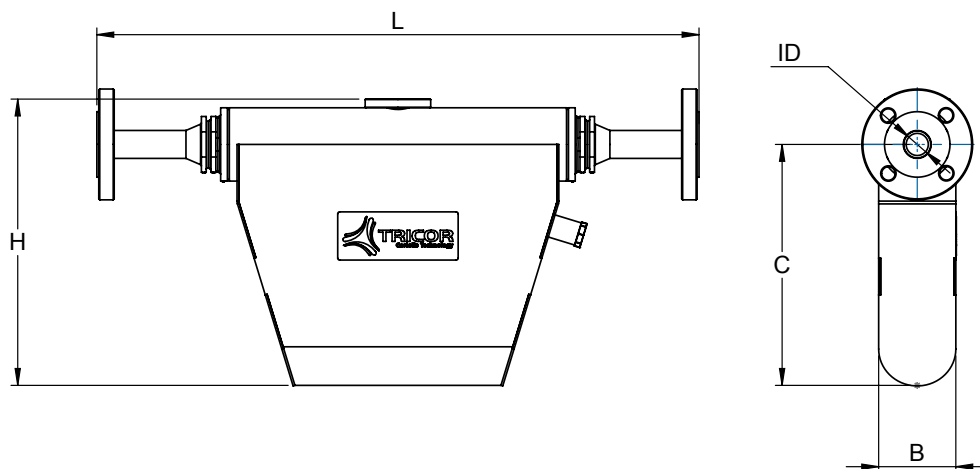
Sensor Type	A	D	E	G ⁵⁾	H	L ⁶⁾	Y
TCM 1550	350 mm [13.78 in]	M6 ∇ 10	18 mm [0.71 in]	G 1/2"	280 mm [11.02 in]	140 mm [5.51 in]	384 mm [15.12 in]
TCM 3100	350 mm [13.78 in]	M6 ∇ 10	18 mm [0.71 in]	G 1/2"	280 mm [11.02 in]	140 mm [5.51 in]	384 mm [15.12 in]

⁵⁾ Other connections on request.

⁶⁾ Further lengths on request.

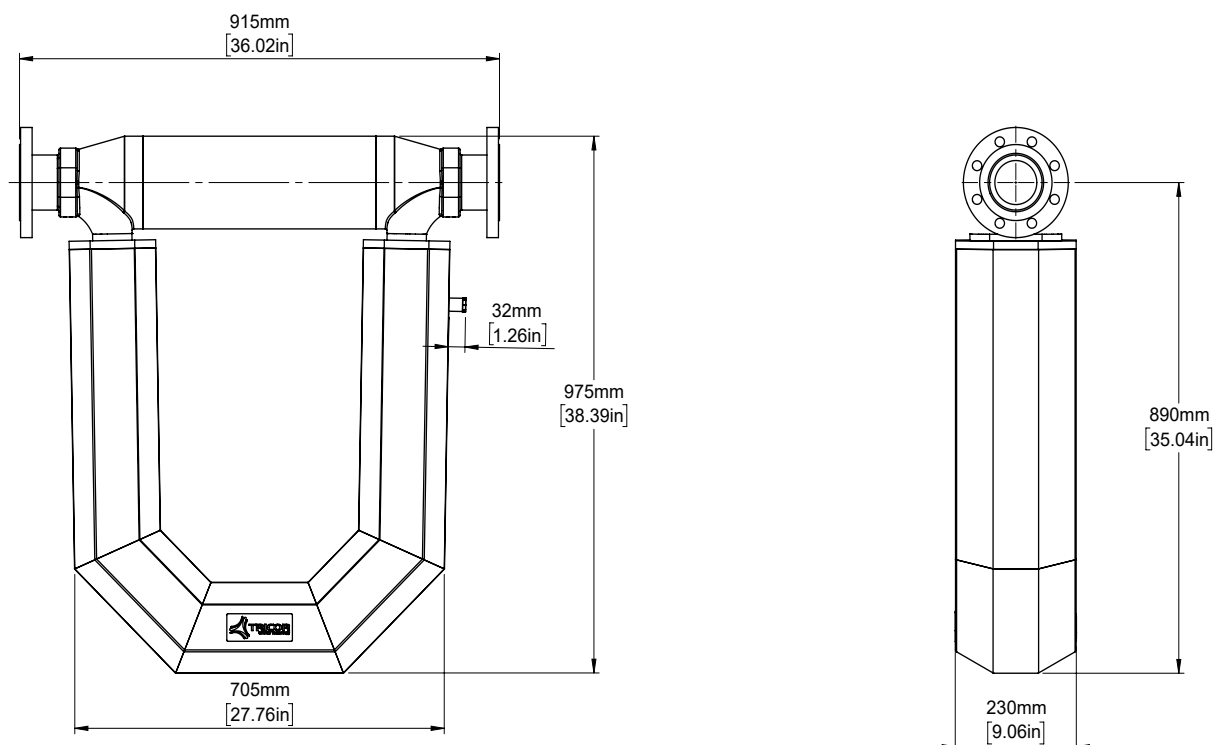


SENSORS TCM 5500 TO TCM 065K



Sensor Type	B	C	H	L ⁷⁾	I.D.	Connection
TCM 5500, 7900	61 mm [2.40 in]	204 mm [8.03 in]	260 mm [10.24 in]	460 mm [18.11 in]	Ø 13 mm [Ø 0.51 in]	on request
TCM 028K	80 mm [3.15 in]	253 mm [9.96 in]	315 mm [12.40 in]	625 mm [24.61 in]	Ø 23 mm [Ø 0.91 in]	on request
TCM 065K	151 mm [5.94 in]	387 mm [15.24 in]	480 mm [18.90 in]	830 mm [32.68 in]	Ø 40 mm [Ø 1.57 in]	on request

SENSOR TCM 230K

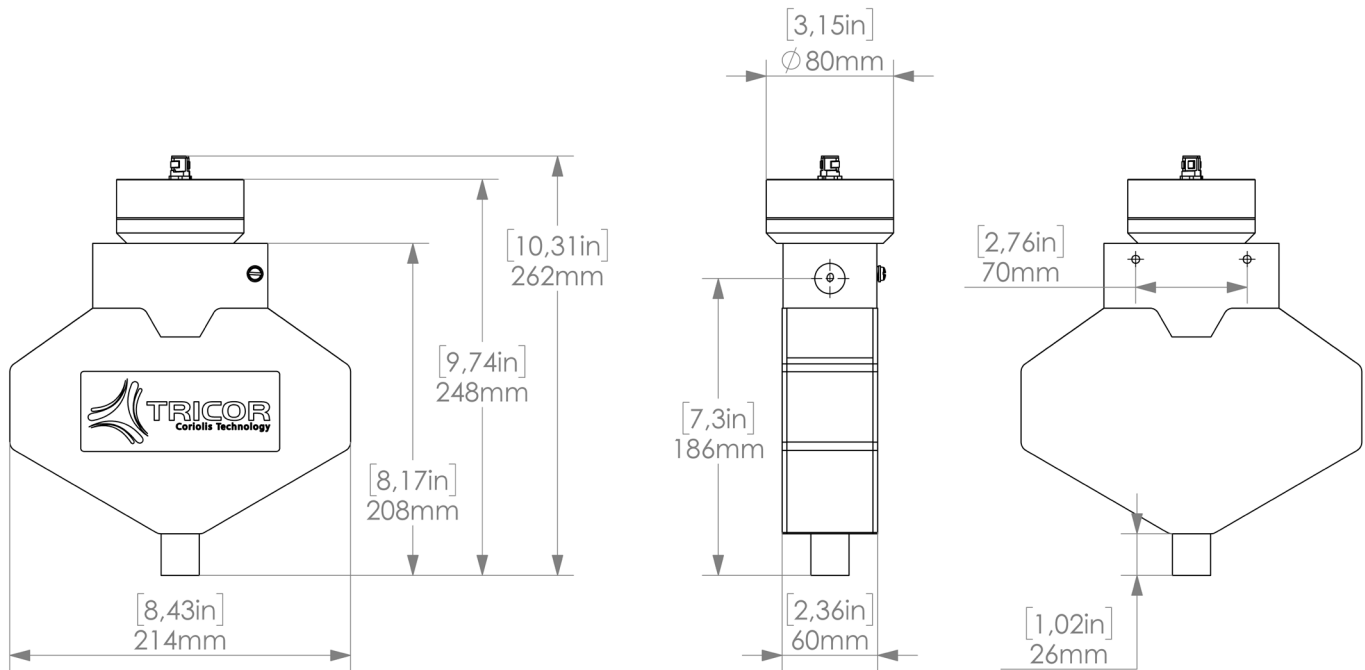


⁷⁾ Connection-dependent

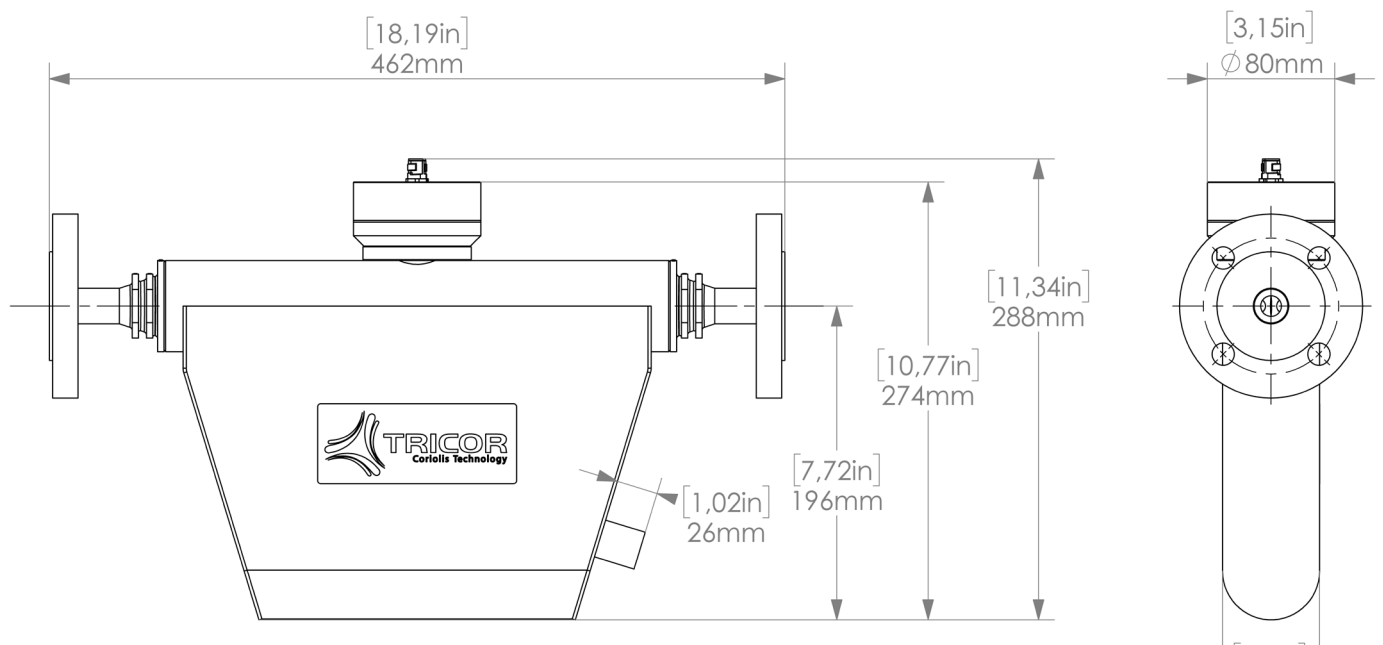


CLASSIC Series | TRICOR Coriolis Mass Flow Meters

TCA 1000 FOR TCM 0325 TO TCM 0650

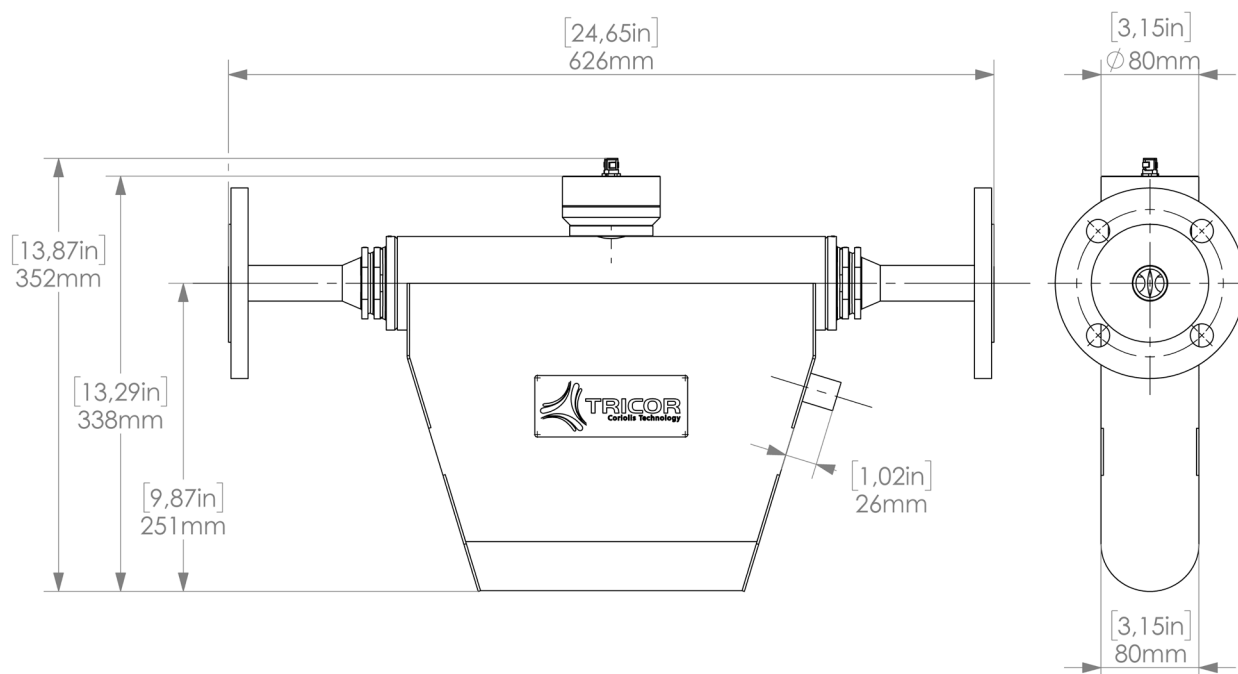


TCA 1000 FOR TCM 5500 TO TCM 7900

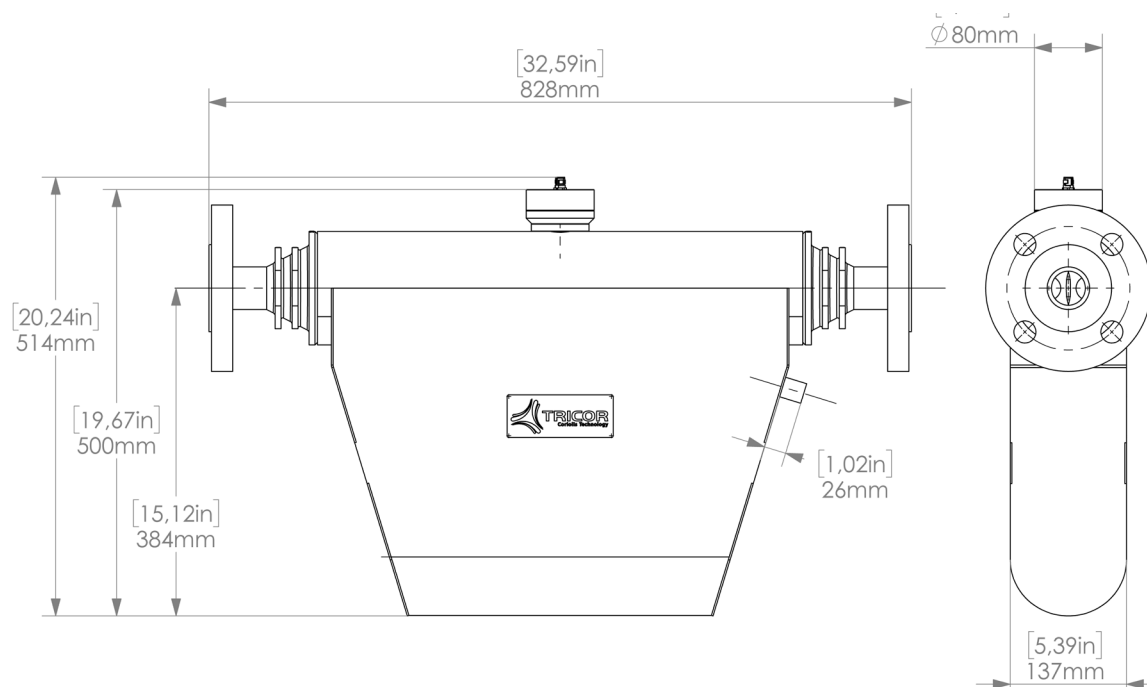




TCA 1000 FOR TCM 28K

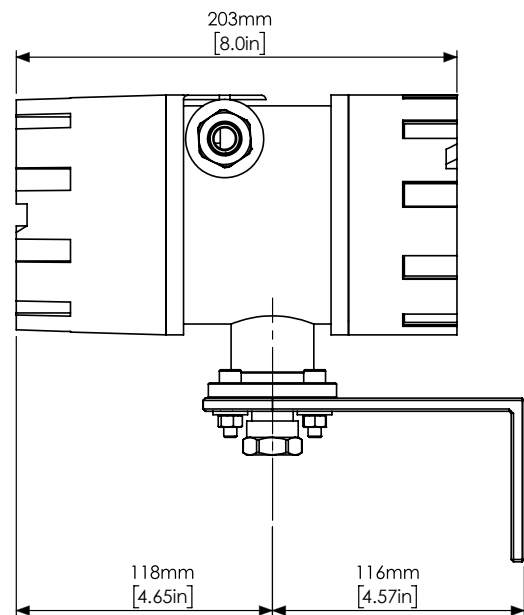
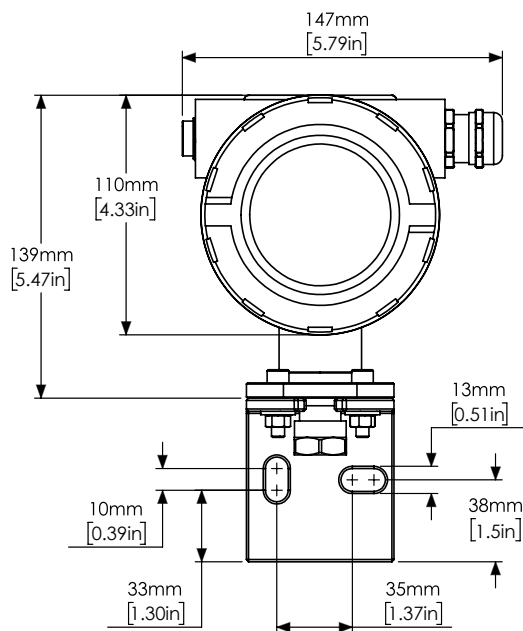


TCA 1000 FOR TCM 65K

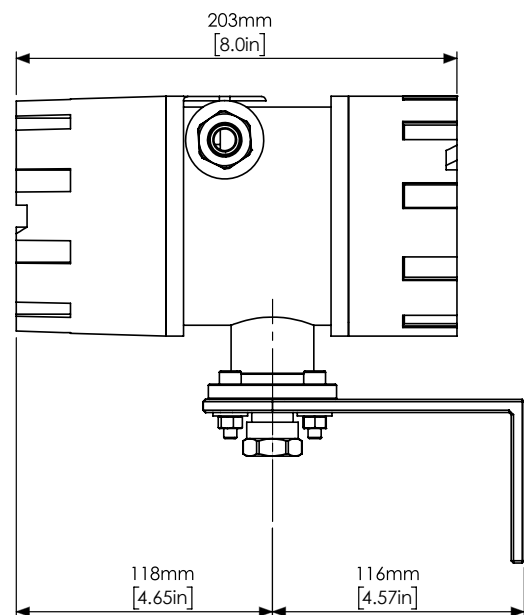
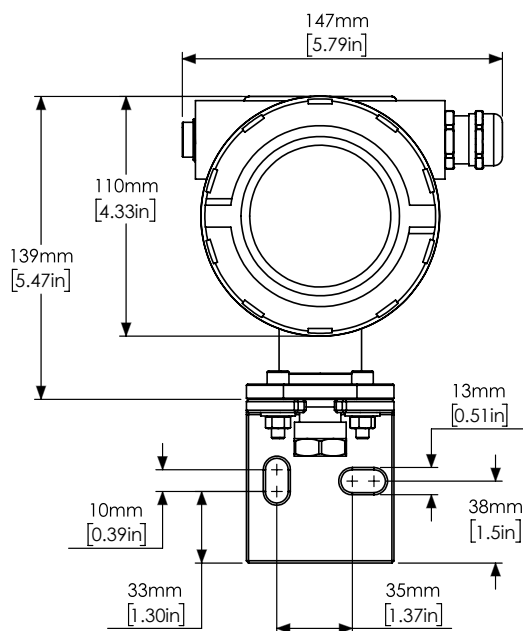




WALL-MOUNT TRANSMITTER TCE 8000/8100 (NOT FOR HAZARDOUS AREA)

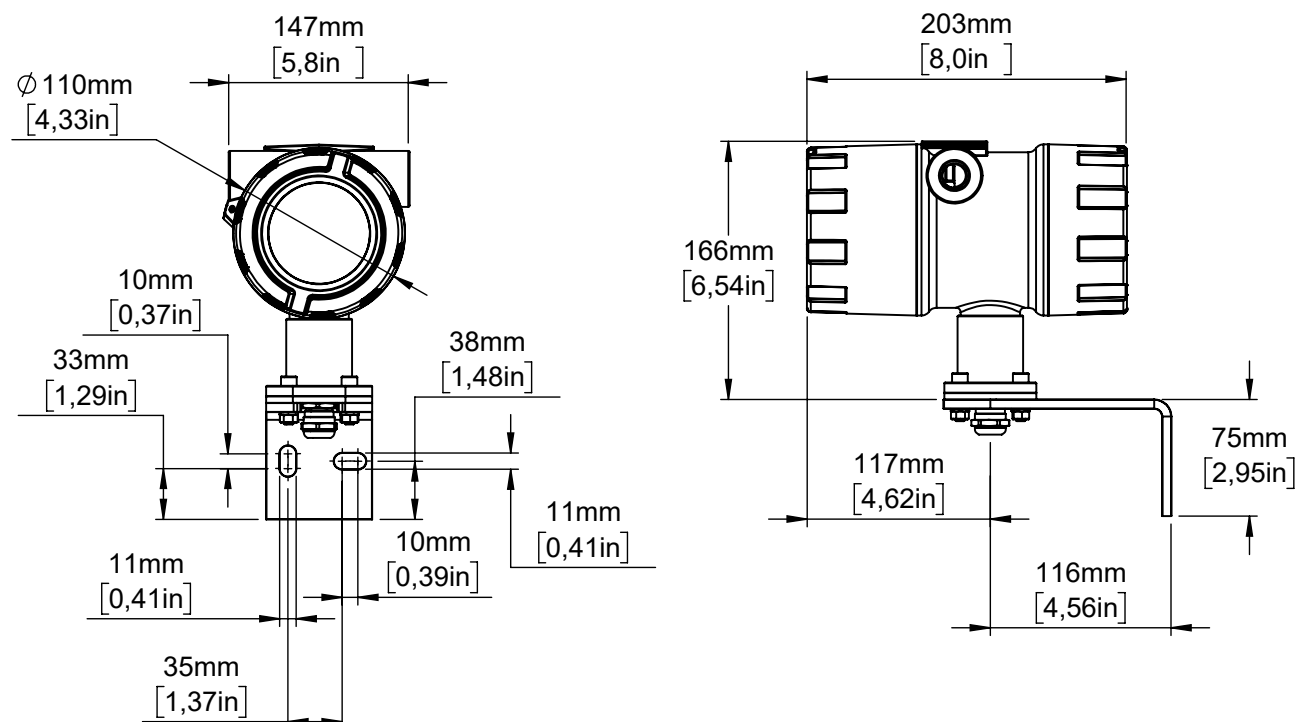


WALL-MOUNT TRANSMITTER TCE 8000/8100 (NOT FOR HAZARDOUS AREA)

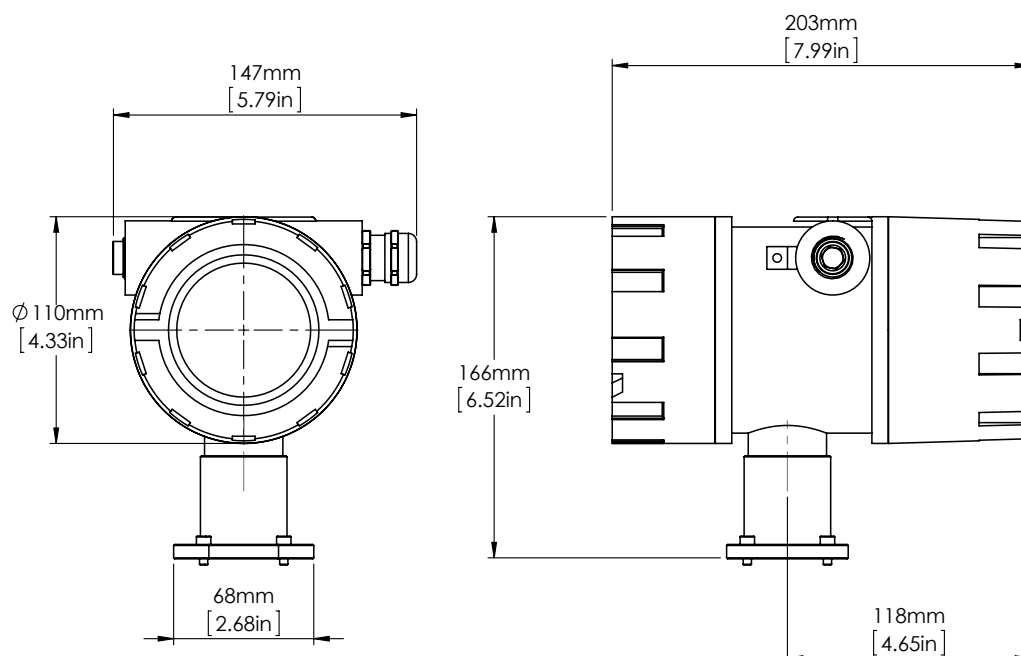




WALL-MOUNT TRANSMITTER TCE 8000/8100 (FOR HAZARDOUS AREA)

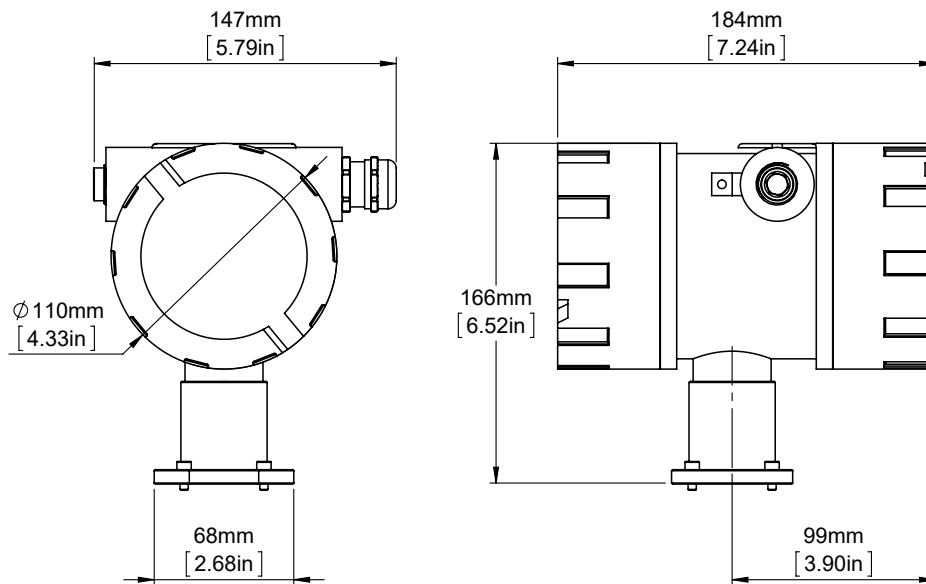


METER-MOUNT TRANSMITTER TCE 8000/8100

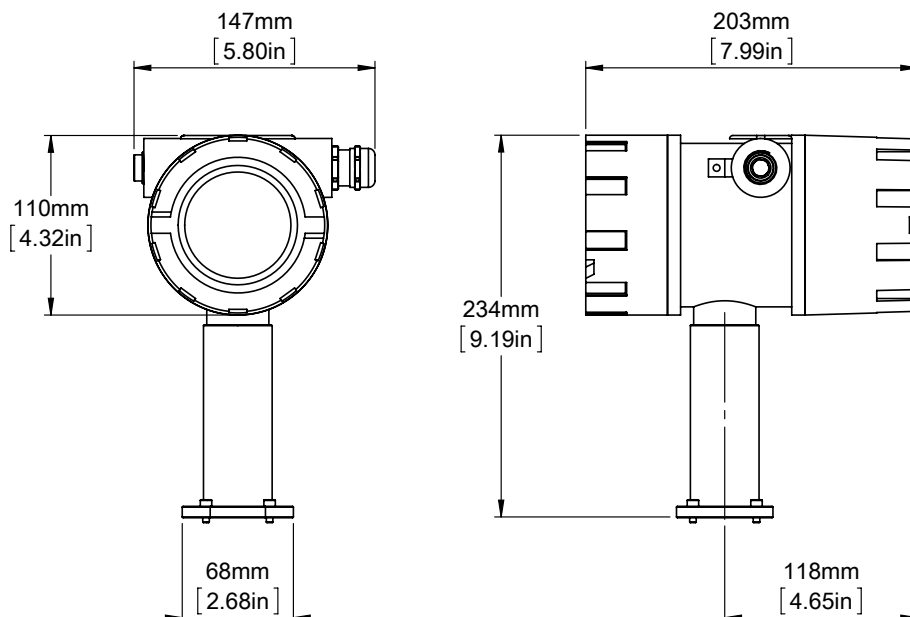




METER-MOUNT TRANSMITTER TCE 8000/8100 WITH BLIND COVER

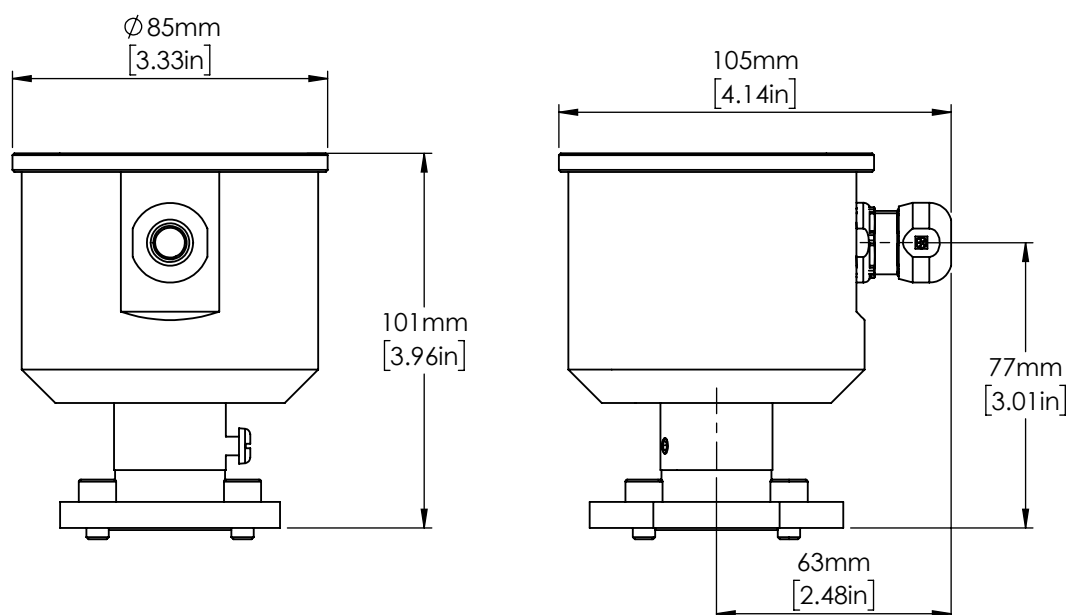


METER-MOUNT TRANSMITTER TCE 8000/8100 HIGH TEMPERATURE (NOT FOR HAZARDOUS AREAS)

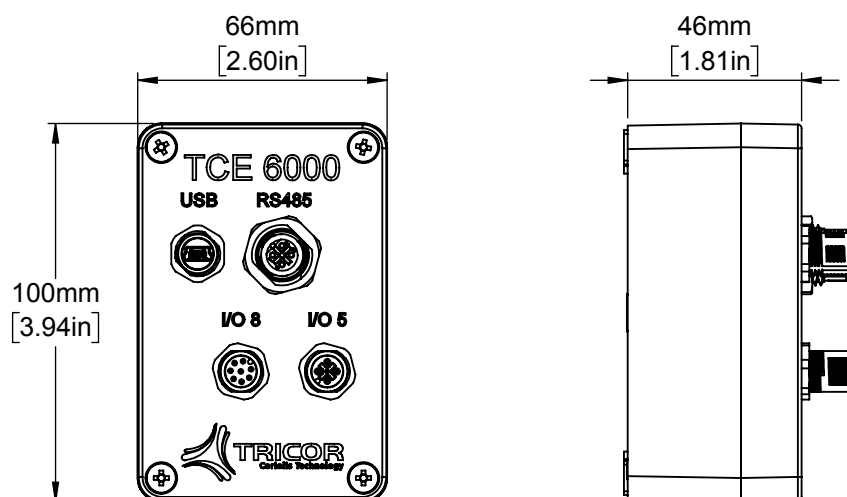




HIGH TEMPERATURE CONNECTION HEAD (H)



METER-MOUNT TRANSMITTER TCE 6000 (F)





ORDERING CODE TCM SENSOR (TRICOR CLASSIC SERIES)

	TCM	XXXX	-	XX	-	X	X	X	X	-	X	X	X	X	-	Ex
Process Connections⁸⁾																
see page 23 ff				XX												
Mechanical Options																
Medium Temperature Range																
-60 °C ... +100 °C [-40 °F ... +212 °F]						S										
-60 °C ... +150 °C [-40 °F ... +302 °F], Ex _{max} : -40 ... 135 °C [275 °F]						H										
-40 °C ... +70 °C [-40 °F ... +158 °F], Ex, compact						E										
-60 °C ... +200 °C [-76 °F ... +392 °F]						T										
Pressure Range																
Standard pressure							G									
Mechanical Design																
Standard								S								
Face to Face Length																
Standard (other length on request)									S							
Electronics Options																
Electronics Type																
Junction box, 1.4404 [316L]										H	Z	Z	S			
Meter mount, die cast aluminum housing for ½" NPT cable glands ⁹⁾										C						
Meter mount, die cast aluminum housing for M20x1.5 cable glands ⁹⁾										K						
Meter mount electronics TCE 6000 ¹⁰⁾										F						
Meter mount electronics TCA 1000										T						
Interface																
RS485 (Modbus RTU)											S					
RS485 (Modbus RTU) and HART®											A					
RS485 (Modbus RTU) + USB (only TCE 6000)											F					
Not used											Z					
Supply Voltage																
24 V DC												D				
100...240 V AC												M				
Not used												Z				
Options																
Pressure compensation, 4 ... 20 mA input														A		
8 pin I/O connector (TCE 6000 only)														B		
Optical I/O (TCE 6000 only)														C		
No option														S		
EX-Protection																
ATEX + IECEx (Zone 1)																Ex
ATEX (Zone 2)																Exn
cCSAus																Ex1
ATEX + IECEx + cCSAus triple approval																Ex3

⁸⁾ For connections not indicated with installation length, please contact manufacturer.

⁹⁾ For TCM compact version with Ex-protection temperature class T4 only.

¹⁰⁾ Ex-protection only available in the option Exn. TCE 6000 electronic is not applicable for TCM 230K.



ORDERING CODE TCE TRANSMITTER (SERIES 8XXX)

	TCE	8	X	X	X	-	X	-	X	X	X	X	-	XX
Housing material: Aluminum		8	0											
Electronics for TCM 0325 to TCM 7900				0	1									
Electronics for TCM 028K to TCM 065K				1	1									
Housing														
Wall mount (housing for ½" NPT cable glands)							W							
Wall mount (housing for M20x1.5 cable glands)							I							
Options														
Interface														
RS485 (Modbus RTU)									S					
R485 (Modbus RTU) + HART®									A					
Supply Voltage														
24 V DC										D				
100 ... 240 V AC (only housing W, I)										M				
Electronic Options														
Standard											S			
Pressure compensation, 4 ... 20 mA input											A			
Cable Length														
3 Meters [≈ 10 ft.], Standard (high temperature)												S (H)		
6 Meters [≈ 20 ft.] (high temperature)												B (I)		
10 Meters [≈ 33 ft.] (high temperature)												C (J)		
15 Meters [≈ 49 ft.] (high temperature)												D (O)		
20 Meters [≈ 65 ft.] (high temperature)												E (P)		
Ex-Protection														
ATEX + IECEx (Zone 1)														Ex
ATEX (Zone 2)														Exn
cCSAus														Ex1
ATEX + IECEx + cCSAus triple approval														Ex3



TRICOR CONNECTION CABLE (TCC) FOR PANEL-MOUNTED HOUSING

Cable Specifications/Connections

				TCC	X	X	-	X	X
Cable	Connector TCE	Connector TCM	Devices						
Standard cable	SUB-D, 9-pin	cable end sleeves (8-pol.)	TCE 8**1-S-	0	2				
Standard cable	SUB-D, 9-pin/	cable end sleeves (8-pol.)	TCE 8**1-S-	0	4				
High temperature cable	SUB-D, 9-pin	cable end sleeves (8-pol.)	TCE 8**1-S-	0	9				
High temperature cable	SUB-D, 9-pin/	cable end sleeves (8-pol.)	TCE 8**1-S-	1	0				
Length									
3 meter (Standard)	[≈ 10 ft.]							0	3
6 meter	[≈ 20 ft.]							0	6
10 meter	[≈ 33 ft.]							1	0
15 meter	[≈ 49 ft.]							1	5
20 meter	[≈ 66 ft.]							2	0

ADDITIONAL ACCESSORIES

Accessories for TCE 8* electronic	Ordering Code
USB interface cable to RS485, 1.8 m (TRICOR configurator)	CON.USB.RS-ISO
Accessories for TCE 6000 electronic	Ordering Code
USB Cable, USB to mini USB M12, 2 m	KAB-USB-TCE
RS485 to USB connector cable 3 m for TCE 6000; versions FSDS;FFDB, FSDC	KAB-RS485-TCE-ISO
Service and calibration	Ordering Code
Accredited Calibration (ILAC) according to DIN EN ISO/IEC 17025:2018	Accredited Calibration
Inspection certificate 3.1 according to DIN 50 049/EN 10204	3.WKZ-0100
TAG Plate 1.4404 [AISI 316L]	TCM-Tag-Plate-1.4404



SLIP ON, PROCESS CONNECTION DIM. + FACING ACC. ANSI B16.5 INSTALLATION LENGTH IN MM [INCH]

Process connection ¹¹⁾	Code	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
½" ANSI flange class 150	AA	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]			
½" ANSI flange class 300	AB	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]			
½" ANSI flange class 600	AC	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]			
½" ANSI flange class 1500	BV	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]				
1" ANSI flange class 150	AE	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]	625 [24.61]		
1" ANSI flange class 300	AF	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]	625 [24.61]		
1" ANSI flange class 600	AG	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]	625 [24.61]		
1" ANSI flange class 1500	AQ	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]				
1½" ANSI flange class 150	AJ					460 [18.11]	460 [18.11]	625 [24.61]		
1½" ANSI flange class 300	AK					460 [18.11]	460 [18.11]	625 [24.61]		
1½" ANSI flange class 600	AL					460 [18.11]	460 [18.11]	625 [24.61]		
1½" ANSI flange class 1500	BI					460 [18.11]	460 [18.11]	625 [24.61]		

¹¹⁾Connections without installation length are not possible or need manufacturer release. Please contact the manufacturer.



SLIP ON, PROCESS CONNECTION DIM. + FACING ACC. ANSI B16.5 INSTALLATION LENGTH IN MM [INCH]

Process connection ¹²⁾	Code	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
2" ANSI flange class 150	AN					420 [16.54]	420 [16.54]	625 [24.61]	830 [32.68]	
2" ANSI flange class 300	AO							625 [24.61]	830 [32.68]	
2" ANSI flange class 600	AP							625 [24.61]	830 [32.68]	
2" ANSI flange class 1500	BU							625 [24.61]	830 [32.68]	
2½" ANSI flange class 150	BT								830 [32.68]	
2½" ANSI flange class 300	BY								830 [32.68]	
2½" ANSI flange class 600	BQ								830 [32.68]	
3" ANSI flange class 150	AS								830 [32.68]	915 [36.02]
3" ANSI flange class 300	AT								830 [32.68]	915 [36.02]
3" ANSI flange class 600	AU								830 [32.68]	915 [36.02]
3" ANSI flange class 900	AV								830 [32.68]	915 [36.02]
4" ANSI Flange class 150	AW									915 [36.02]
4" ANSI flange class 300	AX									915 [36.02]
4" ANSI flange class 600	AY									915 [36.02]
4" ANSI flange class 900	AZ									915 [36.02]

SLIP ON, PROCESS CONNECTION DIM. + FACING ACC. EN 1092-1 FORM B INSTALLATION LENGTH IN MM [INCH]

Process connection ¹²⁾	Code	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
DN 15, EN flange PN 40	DA	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]			
DN 15, EN flange PN 100	DB	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]			
DN 15, EN flange PN 160	EG	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]				
DN 15, EN flange PN 250	EH	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]				
DN 25, EN flange PN 40	DC	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]	625 [24.61]		
DN 25, EN flange PN 100	DD	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]	460 [18.11]	625 [24.61]		
DN 25, EN flange PN 160	DW	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]				
DN 25, EN flange PN 250	DP	390 [15.35]	390 [15.35]	420 [16.54]	420 [16.54]	460 [18.11]				

¹²⁾Connections without installation length are not possible or need manufacturer release. Please contact the manufacturer.



SLIP ON, PROCESS CONNECTION DIM. + FACING ACC. EN 1092-1 FORM B INSTALLATION LENGTH IN MM [INCH]

Process connection ¹³⁾	Code	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
DN 40, EN flange PN 40	DE					460 [18.11]	460 [18.11]	625 [24.61]		
DN 40, EN flange PN 100	DF					460 [18.11]	460 [18.11]	625 [24.61]		
DN 50, EN flange PN 16	EO							625 [24.61]	830 [32.68]	
DN 50, EN flange PN 40	DG							625 [24.61]	830 [32.68]	
DN 50, EN flange PN 100	DH							625 [24.61]	830 [32.68]	
DN 65, EN flange PN 16	EQ								830 [32.68]	
DN 65, EN flange PN 40	DQ								830 [32.68]	
DN 65, EN flange PN 100	ES								830 [32.68]	
DN 80, EN flange PN 16	ET								830 [32.68]	915 [36.02]
DN 80, EN flange PN 40	DJ								830 [32.68]	915 [36.02]
DN 80, EN flange PN 100	DK								830 [32.68]	915 [36.02]
DN 100, EN flange PN 16	EV									915 [36.02]
DN 100, EN flange PN 40	DL									915 [36.02]
DN 100, EN flange PN 100	DM									915 [36.02]

FEMALE THREAD INSTALLATION LENGTH IN MM [INCH]

Process connection ¹³⁾	Code	TCM 0325	TCM 0650	TCM 1550	TCM 3100	TCM 5500	TCM 7900	TCM 028K	TCM 065K	TCM 230K
¼" NPT female thread	FJ	110 [4.33]	110 [4.33]	140 [5.51]	140 [5.51]					
¾" NPT female thread	FL	110 [4.33]	110 [4.33]	140 [5.51]	140 [5.51]	460 [18.11]	460 [18.11]			
½" NPT female thread	FK	110 [4.33]	110 [4.33]	140 [5.51]	140 [5.51]	460 [18.11]	460 [18.11]			
¼" G. female thread	FB	110 [4.33]	110 [4.33]	140 [5.51]	140 [5.51]					
¾" G, female thread	FC	110 [4.33]	110 [4.33]	140 [5.51]	140 [5.51]	460 [18.11]	460 [18.11]			
½" G, female thread	FA	110 [4.33]	110 [4.33]	140 [5.51]	140 [5.51]	460 [18.11]	460 [18.11]			

¹³⁾Connections without installation length are not possible or need manufacturer release. Please contact the manufacturer.



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