

SITRANS LR250 Hygienic Encapsulated Antenna

Overview



The SITRANS LR250 Hygienic Encapsulated Antenna is a 2-wire 25 GHz pulse radar level transmitter with sanitary and hygienic approvals for continuous monitoring of liquids, slurries, and pastes within the food, beverage, chemical, and pharmaceutical industries to a range of 20 m (66 ft) (antenna dependent).

Picture shown with accessories sold separately.

Benefits

- Fully encapsulated horn antenna design with FDA approved and USP Class VI compliant, TFM 1600 PTFE lens
- $0.8 \mu\text{ Ra}$ surface finish for maximum cleanability and hygiene requirements commonly required in sanitary environments
- Chemically resistant TFM 1600 PTFE lens is also suitable for aggressive or corrosive materials
- Approved device in accordance with 3-A, EHEDG EL Class I and/or EHEDG EL Aseptic Class I
- Cost effective replacement for transmitters made of exotic materials
- Graphical local user interface (LUI) makes operation simple with plug-and-play set-up using the intuitive Quick Start Wizard
- Industry standard process connections including ISO 2852, DIN 11851, DIN 11864-1, DIN 11864-2, DIN 11864-3, and Tuchenhagen Varivent Type F and N
- LUI displays echo profiles for diagnostic support
- 25 GHz high frequency and 2 inch (50 mm) process connection/antenna allow for easy mounting
- Insensitive to mounting location and obstructions, and less sensitive to nozzle interference
- Communication using HART, PROFIBUS PA, or FOUNDATION Fieldbus
- Process Intelligence signal processing for improved measurement reliability and Auto False-Echo Suppression of fixed obstructions
- Programming using infrared Intrinsically Safe handheld programmer or over a network using SIMATIC PDM, Emerson AMS, or Field Device Tools, such as PAC Tware or Fieldcare via SITRANS DTM.
- Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511

Application

SITRANS LR250 includes a graphical local user interface (LUI) that improves set-up and operation by including an intuitive Quick Start Wizard, and echo profile displays for diagnostic support. Startup is easy using the Quick Start wizard with few parameters required for basic operation.

The 25 GHz frequency creates a narrow, focused beam allowing for smaller antenna options and decreasing sensitivity to obstructions.

SITRANS LR250's unique design allows safe and simple programming using the Intrinsically Safe handheld programmer without having to open the instrument's lid.

SITRANS LR250 measures superbly in small vessels and in tanks/vessels up to 20 m (66 ft) on materials with $dk > 1.6$.

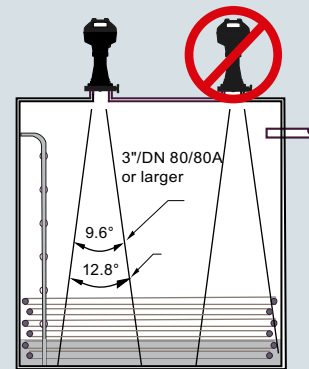
- Key Applications: applications within the food, beverage, chemical and pharmaceutical industries where sanitary, aseptic, or hygienic approvals are required or easy install/clean flush antennas are preferable, such as ice cream, fruit juice, milk, beer, and pharmaceutical or chemical additives and ingredients.

Configuration

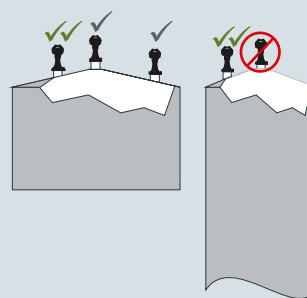
Installation

Note:

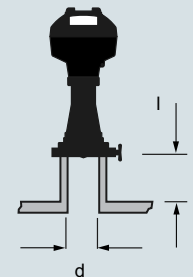
- Beam angle is the width of the cone where the energy density is half of the peak energy density.
- The peak energy density is directly in front of and in line with the antenna.
- There is a signal transmitted outside of the beam angle; therefore false targets may be detected.



Mounting on vessel



Mounting on a nozzle



Nozzles should be maximum l/d ratio 1:1 (Eg. 50 mm length, 50 mm diameter)

LR250 Hygienic Encapsulated Antenna, dimensions in mm (inch)

Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Technical specifications

Mode of Operation

Measuring principle	Radar level measurement
Frequency	K-band (25.0 GHz)
Minimum measuring range	50 mm (2 inch) from end of antenna
Maximum measuring range	20 m (66 ft)

Output

HART	Version 5.1
• Analog output	4 ... 20 mA
• Accuracy	± 0.02 mA
• Fail-safe	<ul style="list-style-type: none"> • Programmable as high low or hold (loss of echo) • NE 43 programmable
PROFIBUS PA	Profile 3.01
• Function blocks	2 Analog Input (AI)
FOUNDATION Fieldbus	H1
• Functionality	Basic or LAS
• Version	ITK 5.2.0
• Function blocks	2 Analog Input (AI)

Performance (according to reference conditions IEC60770-1)

Maximum measured error	<ul style="list-style-type: none"> • > 500 mm from sensor reference point: 3 mm (0.118 inch) • < 500 mm from sensor reference point: 25 mm (1 inch)
Influence of ambient temperature	< 0.003 %/K

Rated operating conditions

Installation conditions	
• Location	Indoor/outdoor
Ambient conditions (enclosure)	
• Ambient temperature	-40 ... +80 °C (-40 ... +176 °F)
• Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
• Installation category	I
• Pollution degree	4

Medium conditions

Dielectric constant ϵ_r	≥ 1.6 (antenna dependent)
Process temperature	-40 ... +170 °C (-40 ... +338 °F) at process connection
Process pressure	See Pressure/Temperature curves for more information

Design

Enclosure	
• Material	Aluminum, polyester powder coated
• Cable inlet	2 x M20 x 1.5 or 2 x ½" NPT
Degree of protection	Type 4X/NEMA 4X, Type 6/NEMA 6, IP67, IP68
Weight (dependent on process connection)	<ul style="list-style-type: none"> • Approx. 4.7 kg (10.4 lb) for 2" ISO 2852 (smallest size) • Approx. 7.9 kg (17.4 lb) for DN 100 DIN 11864-2 (largest size)
Display (local)	Graphic local user interface including quick start wizard and echo profile display
Antenna	
• Material	Stainless steel 316L (1.4435 or 1.4404) and TFM 1600 PTFE Lens (lens is the only wetted part)
• Lens surface finish (R_a)	0.8 μm

Process connections

Hygienic/Sanitary connections	<ul style="list-style-type: none"> • 2", 3" & 4" Sanitary Clamp according to ISO 2852 • DN 50, DN 80 & DN 100 Aseptic/Hygienic threaded to DIN 11864-1 [Form A] • DN 50, DN 80 & DN 100 Aseptic/Hygienic flanged to DIN 11864-2 [Form A] • DN 50, DN 80 & DN 100 Aseptic/Hygienic Clamp according to DIN 11864-3 [Form A] • DN 50, DN 80 & DN 100 Hygienic Union according to DIN 11851 • Type F (50 mm) & Type N (68 mm) Tuchenhagen Varivent
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Power supply

4 ... 20 mA/HART	Nominal 24 V DC (max. 30 V DC) with max. 550 Ω
PROFIBUS PA	<ul style="list-style-type: none"> • 15 mA • Per IEC 61158-2
FOUNDATION Fieldbus	<ul style="list-style-type: none"> • 20.0 mA • Per IEC 61158-2

Certificates and approvals

General	CSA _{US/C} , CE, FM, RCM
Radio	FCC, Industry Canada, RED, RCM
Hazardous	
• Explosion Proof (Brazil)	INMETRO Ex d ia mb IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da
• Increased Safety (Brazil)	INMETRO Ex e ia mb IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da
• Intrinsically Safe (Brazil)	INMETRO Ex ia IIC T4 Ga, Ex ia ta IIIC T100 °C Da
• Explosion Proof (Canada/USA)	CSA/FM Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III T4
• Intrinsically Safe (Canada/USA)	CSA/FM Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III T4
• Non-incendive (Canada/USA)	CSA/FM Class I, Div. 2, Groups A, B, C, D T5
• Flame Proof/Increased Safety (China)	NEPSI Ex d ia mb IIC T4 Ga/Gb, Ex e ia mb IIC T4 Ga/Gb, Ex iaD tD A20 IP67 T100 °C
• Intrinsically Safe (China)	NEPSI Ex ia IIC T4 Ga, Ex iaD tD A20 IP67 T100 °C
• Non-sparking (China)	NEPSI Ex nA IIC T4 Gc
• Intrinsically Safe (Europe)	ATEX II 1G Ex ia IIC T4 Ga ATEX II 1D Ex ia ta IIIC T100 °C Da
• Non-sparking (Europe)	ATEX II 3G Ex nA IIC T4 Gc
• Flame Proof (International/Europe)	IECEx/ATEX II 1/2 GD, 1D, 2D Ex d mb ia IIC T4 Ga/Gb, Ex ia ta IIC T100 °C Da
• Increased Safety (International/Europe)	IECEx/ATEX II 1/2 GD, 1D, 2D, Ex e mb ia IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da
• Intrinsically Safe (International)	IECEx/ATEX II 1 G Ex ia IIC T4 Ga, IECEx/ATEX II 1D Ex ia ta IIIC T100 °C Da
• Explosion Proof (Russia/Kazakhstan)	EAC Ex d
• Increased Safety (Russia/Kazakhstan)	EAC Ex e
• Intrinsically Safe (Russia/Kazakhstan)	EAC Ex ia
Hygienic/Sanitary	EHDG EL Class I EHDG EL Aseptic Class I

Technical specifications (continued)

Programming

Intrinsically Safe Siemens handheld programmer	Infrared receiver
<ul style="list-style-type: none"> • Approvals for handheld programmer 	IS model: ATEX II 1 GD Ex ia IIC T4 Ga Ex ia D 20 T135 °C Ta = -20 ... +50 °C CSA/FM Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G, T6 T _a = 50 °C IECEx SIR 09.0073
Handheld communicator	HART communicator 375/475
PC	<ul style="list-style-type: none"> • SIMATIC PDM • Emerson AMS • SITRANS DTM (for connection into FDT, such as PACTware or Fieldcare)
Display (local)	Graphic local user interface including quick start wizard and echo profile displays

Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Selection and ordering data

Article No.

Article No.

SITRANS LR250 Radar level transmitter with encapsulated horn and PTFE lens

Continuous, non-contact, 20 m (66 ft) range, for liquids, solids, and slurries. For use in hygienic applications.

➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Hygienic/Sanitary Approvals

EHEDG EL Class I¹⁾
EHEDG EL Aseptic Class I¹⁾
3-A (Tuchenhagen connections only - FC ... FF)²⁾³⁾
EHEDG EL Class I & 3-A (excludes Tuchenhagen connections)²⁾⁴⁾

Process Connection Types (all types have TFM1600 PTFE lens)

316L st/st [1.4435 or 1.4404]
2" Sanitary Clamp according to ISO 2852⁵⁾
3" Sanitary Clamp according to ISO 2852
4" Sanitary Clamp according to ISO 2852

316L st/st (1.4435 or 1.4404) & 304L st/st (1.4301)
DN 50 Aseptic/Hygienic nozzle/ slotted nut (instrument side) to DIN 11864-1 [Form A]⁵⁾
DN 80 Aseptic/Hygienic nozzle/ slotted nut (instrument side) to DIN 11864-1 [Form A]
DN 100 Aseptic/Hygienic nozzle/ slotted nut (instrument side) to DIN 11864-1 [Form A]

316L st/st [1.4435 or 1.4404]
DN 50 Aseptic/Hygienic flanged to DIN 11864-2 [Form A]⁵⁾
DN 80 Aseptic/Hygienic flanged to DIN 11864-2 [Form A]
DN 100 Aseptic/Hygienic flanged to DIN 11864-2 [Form A]

316L st/st [1.4435 or 1.4404]
DN 50 Aseptic/Hygienic Clamp according to DIN 11864-3 [Form A]⁵⁾
DN 80 Aseptic/Hygienic Clamp according to DIN 11864-3 [Form A]
DN 100 Aseptic/Hygienic Clamp according to DIN 11864-3 [Form A]

316L st/st (1.4435 or 1.4404) & 304L st/st (1.4301)
DN 50 Hygienic nozzle/ slotted nut (instrument side) to DIN 11851⁵⁾
DN 80 Hygienic nozzle/ slotted nut (instrument side) to DIN 11851
DN 100 Hygienic nozzle/ slotted nut (instrument side) to DIN 11851

7ML5433-	0	-	A
1			
2			
3			
4			
AA			
AB			
AC			
BA			
BB			
BC			
CA			
CB			
CC			
DA			
DB			
DC			
EA			
EB			
EC			

SITRANS LR250 Radar level transmitter with encapsulated horn and PTFE lens

Continuous, non-contact, 20 m (66 ft) range, for liquids, solids, and slurries. For use in hygienic applications.

316L st/st [1.4435 or 1.4404]

Type F (50 mm) Tuchenhagen Varivent (EHEDG only)⁵⁾
Type N (68 mm) Tuchenhagen Varivent (EHEDG only)⁵⁾
Type F (50 mm) Tuchenhagen Varivent [3-A only & EPDM process seal -40 ... 120 °C (-40 ... 248 °F)]⁵⁾
Type N (68 mm) Tuchenhagen Varivent [3-A only & EPDM process seal -40 ... 120 °C (-40 ... 248 °F)]⁵⁾
Type F (50 mm) Tuchenhagen Varivent [3-A only & FKM process seal -20 ... 170 °C (-4 ... 338 °F)]⁵⁾
Type N (68 mm) Tuchenhagen Varivent [3-A only & FKM process seal -20 ... 170 °C (-4 ... 338 °F)]⁵⁾

Communication

PROFIBUS PA
4 ... 20 mA HART, start-up at < 3.6 mA
FOUNDATION Fieldbus

Enclosure (with Cable Inlets)

Aluminum, Epoxy paint, 2 X 1/2" NPT
Aluminum, Epoxy paint, 2 X M20 x 1.5

Approvals

General Purpose, CE, CSA, FM, FCC, RED, RCM
Intrinsically Safe: CSA/FM Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G, Class III T4 FCC, Industry Canada
Intrinsically Safe: IECEx/ATEX II 1 GD Ex ia IIC T4 Ga, Ex ia ta IIIC T100 °C Da, INMETRO Ex ia IIC T4 Ga, Ex ia ta IIIC T100 °C Da, CE, RED, RCM
Non-incendive: CSA/FM Class I, Div. 2, Groups A, B, C, D T5, FCC, Industry Canada
Non Sparking: ATEX II 3G Ex nA IIC T4 Gc, CE, RED, RCM
Increased Safety: IECEx/ATEX II 1/2 GD, 1D, 2D Ex e mb ia IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da, INMETRO Ex e ia mb IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da, CE, RED, RCM⁶⁾
Flameproof: IECEx/ATEX II 1/2 GD 1D, 2D Ex d mb ia IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da, INMETRO Ex d ia mb IIC T4 Ga/Gb, Ex ia ta IIIC T100 °C Da, CE, RED, RCM⁶⁾
Explosion proof: CSA/FM Class I, II and III, Div. 1, Groups A, B, C, D, E, F, G, FCC, Industry Canada⁶⁾
Non Sparking: NEPSI Ex nA IIC T4 Gc
Intrinsically Safe: NEPSI Ex ia IIC T4 Ga, Ex iaD tD A20 IP67 T100 °C
Flameproof: NEPSI Ex d ia mb IIC T4 Ga/Gb, Ex iaD tD A20 IP67 T100 °C⁶⁾
Increased Safety: NEPSI Ex e ia mb IIC T4 Ga/Gb, Ex iaD tD A20 IP67 T100 °C⁶⁾

Pressure Rating

Rating per pressure/temperature curves in instruction manual

7ML5433-	0	-	A
FA			
FB			
FC			
FD			
FE			
FF			
1			
2			
3			
0			
1			
AA			
AB			
AC			
BA			
BB			
BC			
CA			
CB			
CC			
DA			
DB			
DC			
EA			
EB			
EC			
0			

SITRANS LR250 Hygienic Encapsulated Antenna

Selection and ordering data	Order code	Article No
Further designs		
Please add "-Z" to Article No. and specify Order code(s).		
Electrical Connection cable entry:		
Plug M12 (IP 67 rating) with mating connector ²⁾⁷⁾⁸⁾	A50	
Plug 7/8" (IP 67 rating) with mating Connector ²⁾⁸⁾⁹⁾	A55	
Test Certificates		
Manufacturer's Test Certificate M to DIN 55350, Part 18 and to ISO 9000	C11	
Material inspection Certificate 3.1 of EN 10204	C12	
Functional Safety		
Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511 ⁶⁾¹⁰⁾	C20	
Namur		
Namur NE43 compliant, device preset to failsafe < 3.6 mA ⁶⁾	N07	
Tagging		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97 inch)]		
Measuring-point number / identification (max. 27 characters) specify in plain text	Y15	
Operating Instructions		
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation		
		Accessories
		Handheld programmer, Intrinsically safe, EEx ia (LUI enabled)
		7ML1930-1BK
		HART modem/USB (for use with a PC and SIMATIC PDM)
		7MF4997-1DB
		One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), HART (two are required) ⁶⁾
		7ML1930-1AP
		One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), PROFIBUS PA and FOUNDATION Fieldbus (two are required) ⁸⁾
		7ML1930-1AQ
		SITRANS RD100, loop powered display - see Chapter 7
		7ML5741-.....-
		SITRANS RD150, remote digital display for 4 ... 20 mA and HART devices - see Chapter 7
		7ML5742-.....-
		SITRANS RD200, universal input display with Modbus conversion - see Chapter 7
		7ML5740-.....-
		SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7
		7ML5744-.....-
		For applicable back up point level switch - see point level measurement section
		1) Available with Process connection options AA ... FB & FF only.
		2) Available with Approval options A, B, C, L only.
		3) Available with Process connections FC ... FF only.
		4) Available with Process connection options AA ... EC & FF only.
		5) Max. range 10 m (32.8 ft), dk > 3 [20 m (66 ft) and dk > 1.6 if installed in a stillpipe].
		6) Applicable with Communication option 2 only.
		7) Available with Enclosure option 1 only.
		8) Available with Communication options 1 and 3 only.
		9) Available with Enclosure option 0 only.
		10) Available with Approval options A, B, C, D, E, K, L only.

Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Selection and ordering data

Article No.

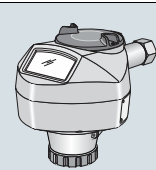
Article No.

SITRANS LR250 hygienic encapsulated Specials

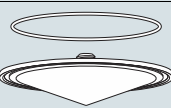
For "Electronics Head only" follow the standard configuration and choose YY option on positions 9 and 10 of the full part number.

For example: 7ML5433-1YY20-1AA0 will order an electronics head for the following:

EHEDG EL Class 1 approval, 4 ... 20 mA HART, M20 cable entries, General purpose Haz Loc approval, pressure rating as per manual.



Spare Lens Kits (Lens and O-ring)



Kit, 2 inch, ISO 2852, HEA, Lens, silicone secondary O-ring

A5E32572731

Kit, 3 inch, ISO 2852, HEA, Lens, silicone secondary O-ring

A5E32572745

Kit, 4 inch, ISO 2852, HEA, Lens, silicone secondary O-ring

A5E32572747

Kit, DN 50, DIN 11851, HEA, Lens, silicone secondary O-ring

A5E32572758

Kit, DN 80, DIN 11851, HEA, Lens, silicone secondary O-ring

A5E32572770

Kit, DN 100, DIN 11851, HEA, Lens, silicone secondary O-ring

A5E32572772

Kit, DN 50, DIN 11864-1, HEA, Lens, silicone secondary O-ring

A5E32572773

Kit, DN 80, DIN 11864-1, HEA, Lens, silicone secondary O-ring

A5E32572779

Kit, DN 100, DIN 11864-1, HEA, Lens, silicone secondary O-ring

A5E32572782

Kit, DN 50, DIN 11864-2/3, HEA, Lens, silicone secondary O-ring

A5E32572785

Kit, DN 80, DIN11864-2/3, HEA, Lens, silicone secondary O-ring

A5E32572790

Kit, DN 100, DIN11864-2/3, HEA, Lens, silicone secondary O-ring

A5E32572791

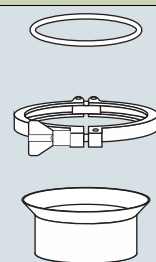
Kit, Tuchenhagen, Type F, HEA, Lens, silicone secondary O-ring

A5E32572794

Kit, Tuchenhagen, Type N, HEA, Lens, silicone secondary O-ring

A5E32572795

Accessories (customer side process connection and FKM and EPDM seal for each size and type)



Kit DN50 DIN11864-1 GS Form A tank connection, EPDM Seal Class II

A5E32910638

Kit, DN80 DIN11864-1 GS Form A tank connection, EPDM Seal Class II

A5E32910649

Kit, DN100 DIN11864-1 GS Form A tank connection, EPDM Seal Class II

A5E32910657

Kit DN50 DIN11864-1 GS Form A tank connection, FKM Seal Class I

A5E32910658

Kit, DN80 DIN11864-1 GS Form A tank connection, FKM Seal Class I

A5E32910671

Kit, DN100 DIN11864-1 GS Form A tank connection, FKM Seal Class I

A5E32910681

Kit 2" ISO2852 tank connection, Clamp, Cleanable EPDM Seal Class II

A5E32910686

Kit 3" ISO2852 tank connection, Clamp, Cleanable EPDM Seal Class II

A5E32910697

Kit 4" ISO2852 tank connection, Clamp, Cleanable EPDM Seal Class II

A5E32910708

Kit 2" ISO2852 tank connection, Clamp, Cleanable FKM Seal

A5E32910718

Kit 3" ISO2852 tank connection, Clamp, Cleanable FKM Seal

A5E32910723

Kit 4" ISO2852 tank connection, Clamp, Cleanable FKM Seal

A5E32910734

Kit DN50 DIN11851 SC Tank connection, EPDM Seal Class II¹⁾

A5E32910746

Kit DN80 DIN11851 SC Tank connection, EPDM Seal Class II¹⁾

A5E32910771

Kit DN100 DIN11851 SC Tank connection, EPDM Seal Class II¹⁾

A5E32910780

Kit DN50 DIN11851 SC Tank connection, FKM Seal Class II

A5E32910784

Kit DN80 DIN11851 SC Tank connection, FKM Seal Class II

A5E32910789

Kit DN100 DIN11851 SC Tank connection, FKM Seal Class II

A5E32910790

Kit DN50 DIN11864-2 Form A tank connection, M8 Hardware (nut/bolt/washer), EPDM Seal Class II

A5E32910791

Kit DN80 DIN11864-2 Form A tank connection, M10 Hardware (nut/bolt/washer), EPDM Seal Class II

A5E32910793

Kit DN100 DIN11864-2 Form A tank connection, M10 Hardware (nut/bolt/washer), EPDM Seal Class II

A5E32910799

Kit DN50 DIN11864-2 Form A tank connection, M8 Hardware (nut/bolt/washer), FKM Seal Class I

A5E32910805

Kit DN80 DIN11864-2 Form A tank connection, M10 Hardware (nut/bolt/washer), FKM Seal Class I

A5E32910809

Kit DN100 DIN11864-2 Form A tank connection, M10 Hardware (nut/bolt/washer), FKM Seal Class I

A5E32910812

Kit DN50 DIN11864-3 Form A tank connection, Clamp, EPDM Seal Class II

A5E32910813

Kit DN80 DIN11864-3 Form A tank connection, Clamp, EPDM Seal Class II

A5E32910814

Kit DN100 DIN11864-3 Form A tank connection, Clamp, EPDM Seal Class II

A5E32910815

Kit DN50 DIN11864-3 Form A tank connection, Clamp, FKM Seal Class I

A5E32910816

Kit DN80 DIN11864-3 Form A tank connection, Clamp, FKM Seal Class I

A5E32910817

Kit DN100 DIN11864-3 Form A tank connection, Clamp, FKM Seal Class I

A5E32910818

Kit Type F, Tuchenhagen, Clamp, EPDM Seal Class II (EHEDG only) - no tank connection

A5E33489537

Kit Type N, Tuchenhagen, Clamp, EPDM Seal Class II (EHEDG only) - no tank connection

A5E33489543

Kit Type F, Tuchenhagen, Clamp, FKM Seal Class I (EHEDG only) - no tank connection

A5E33489828

Kit Type N, Tuchenhagen, Clamp, FKM Seal Class I (EHEDG only) - no tank connection

A5E33489830

Ex-proof plugs

Ex-proof plugs kit, 1/2" NPT, qty 5

A5E39979991

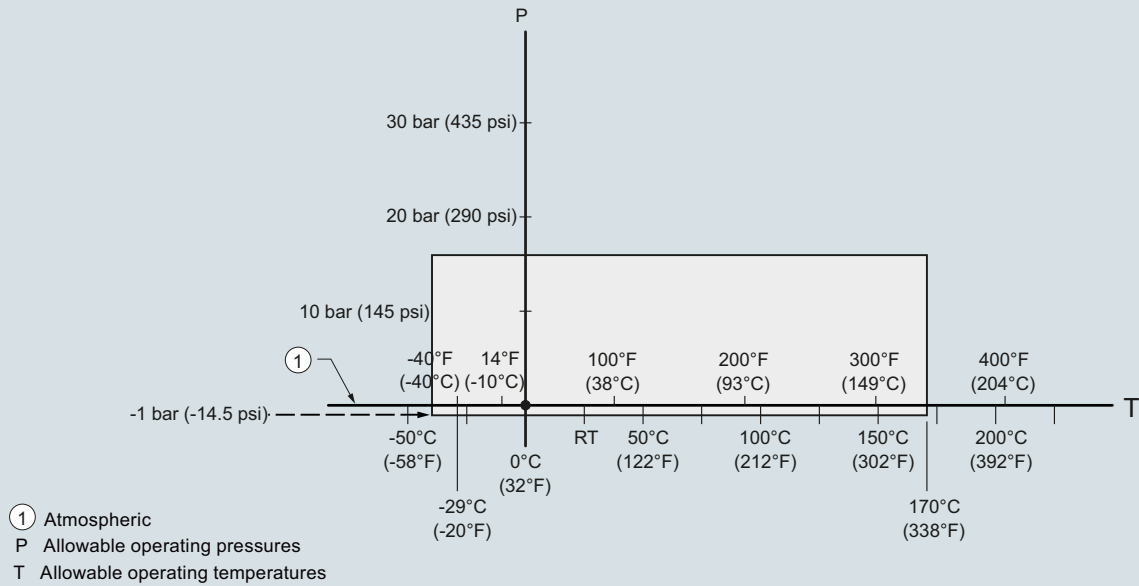
Ex-proof plugs kit, M20, qty 5

A5E39979992

¹⁾Class II for low fat applications when EPDM seal used on DIN11851

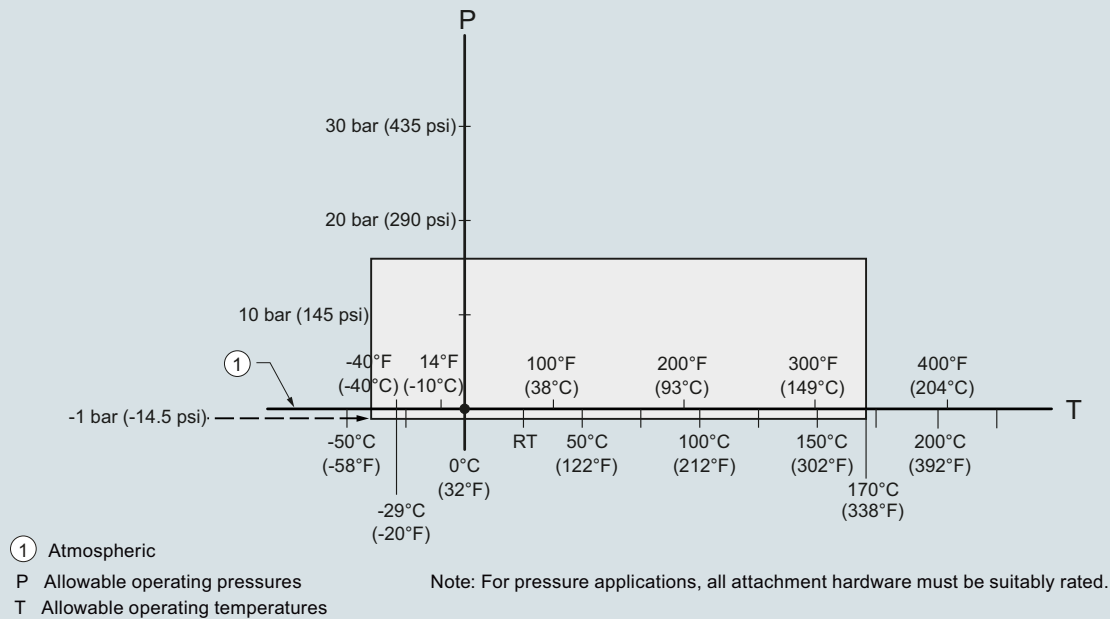
Characteristic curves

DIN 11851 Sanitary/Hygienic nozzle/slotted nut: DN 50, DN 80, and DN 100
 DIN 11864-1 Aseptic/Hygienic nozzle/slotted nut: DN 50, DN 80, and DN 100



SITRANS LR250 Hygienic Encapsulated Antenna, process pressure/temperature rating curve

DIN 11864-2 Aseptic/Hygienic flanged: DN 50, DN 80, and DN 100



SITRANS LR250 Hygienic Encapsulated Antenna, process pressure/temperature rating curve

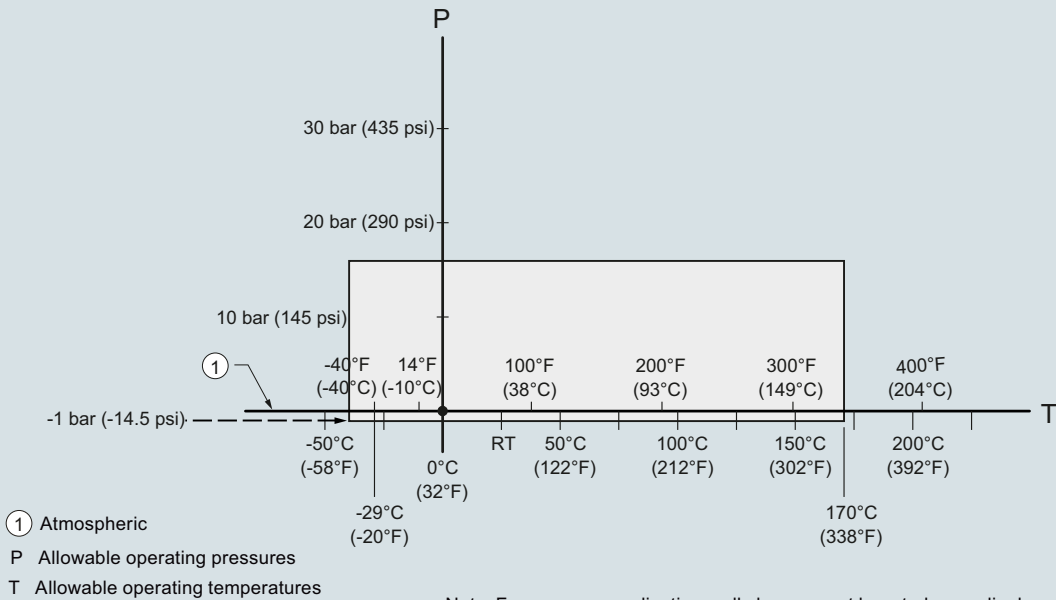
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Characteristic curves (continued)

DIN 11864-3 Aseptic/Hygienic clamp: DN 50, DN 80, and DN 100
ISO 2852 Sanitary/Hygienic clamp: 2", 3", and 4"
Tuchenhagen Varivent face seal clamp: Type N (68 mm) and Type F (50 mm)

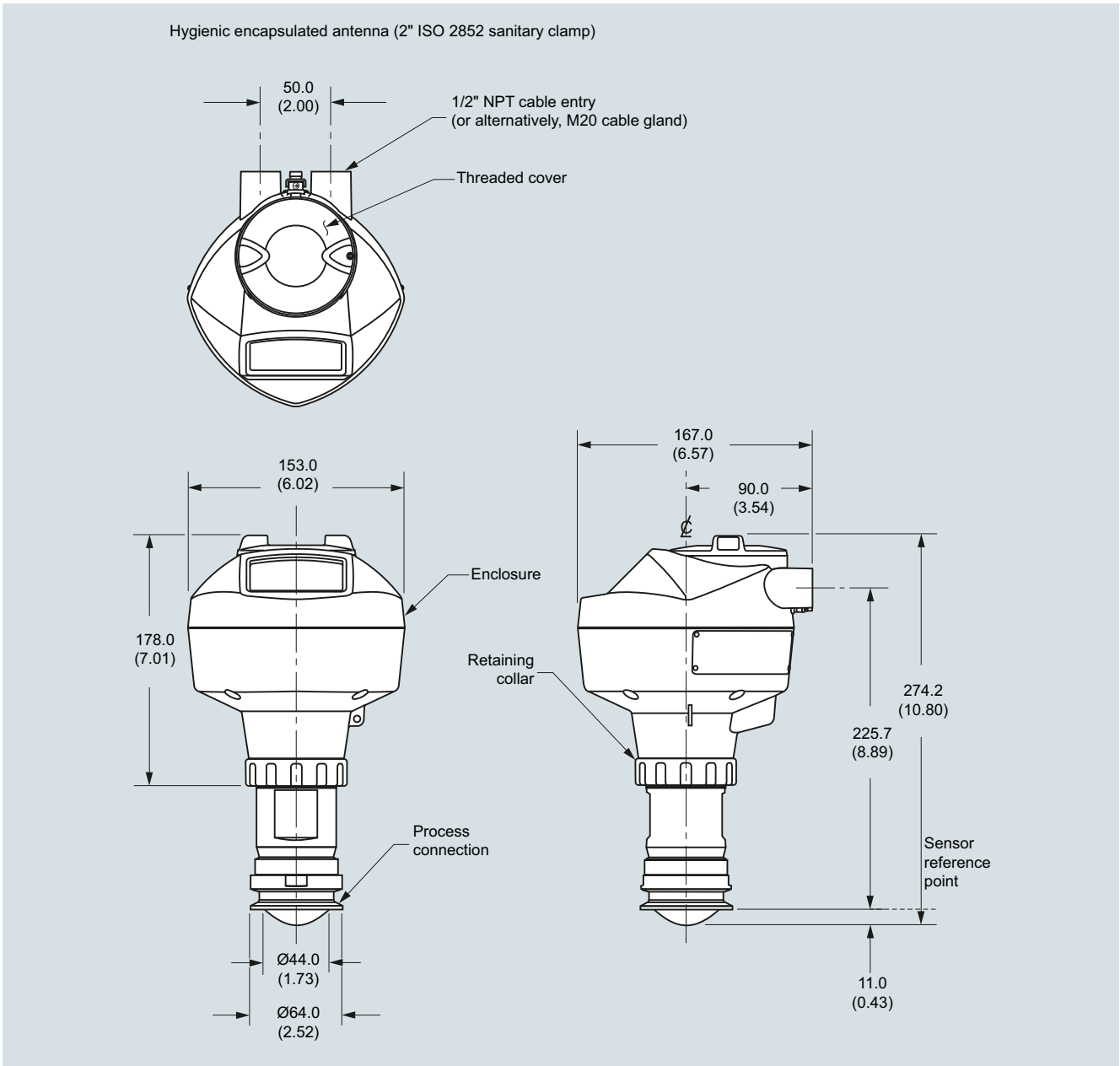


Note: For pressure applications, all clamps must be rated accordingly.

SITRANS LR250 Hygienic Encapsulated Antenna, process pressure/temperature rating curve

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings



SITRANS LR250 Hygienic Encapsulated Antenna (2" ISO 2852 sanitary clamp), dimensions in mm (inch)

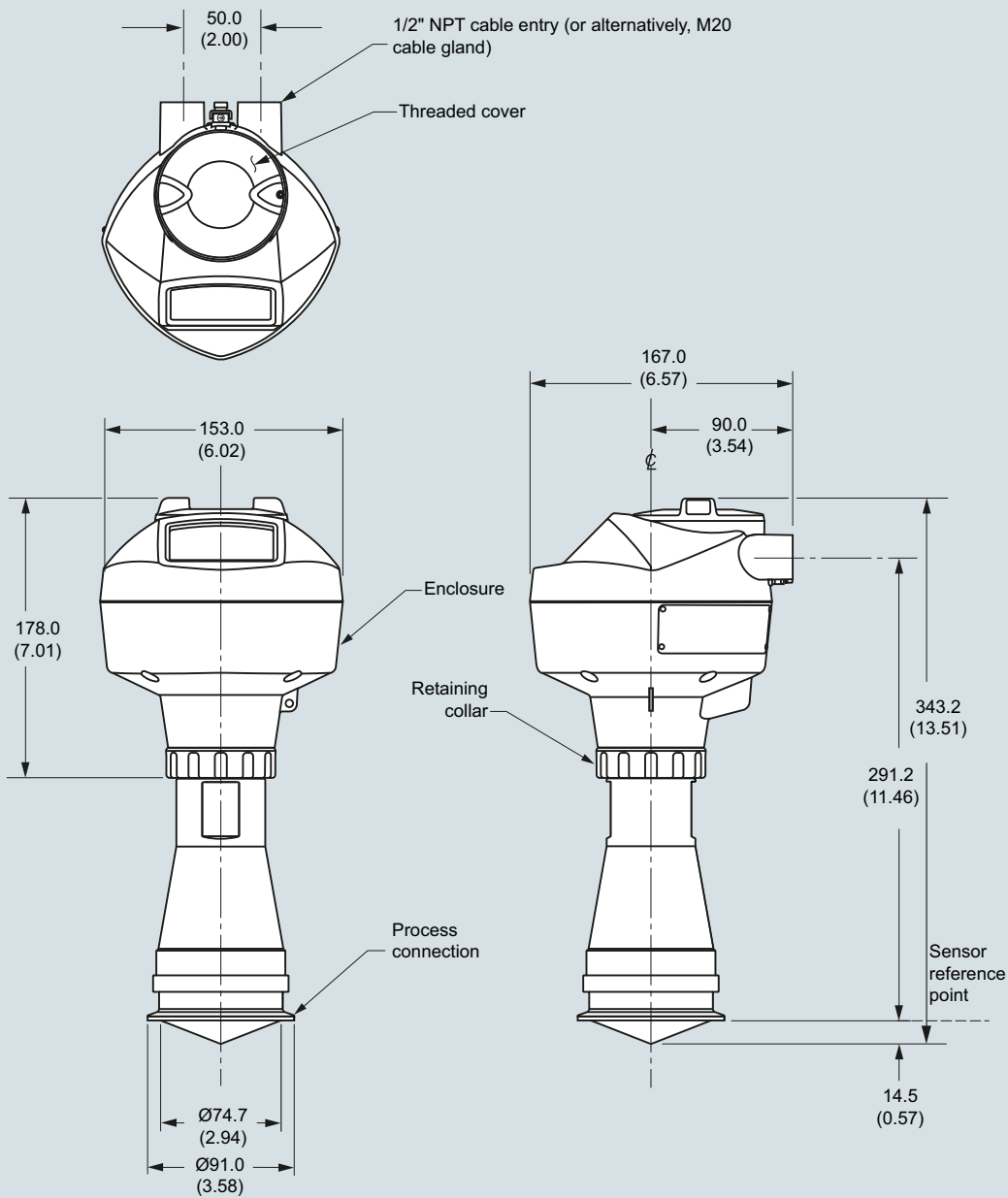
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (3" ISO 2852 sanitary clamp)

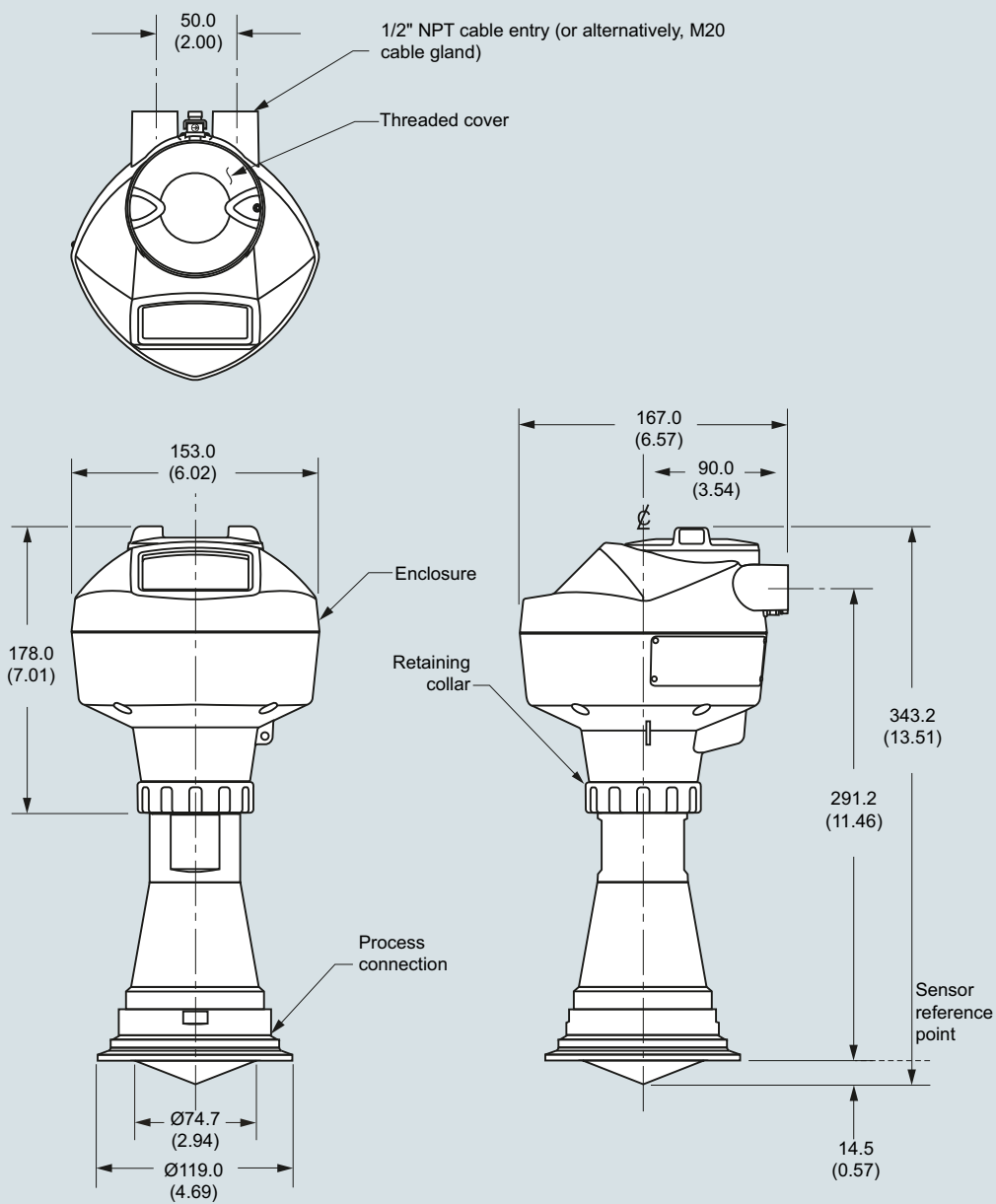


SITRANS LR250 Hygienic Encapsulated Antenna (3" ISO 2852 sanitary clamp), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (4" ISO 2852 sanitary clamp)



SITRANS LR250 Hygienic Encapsulated Antenna (4" ISO 2852 sanitary clamp), dimensions in mm (inch)

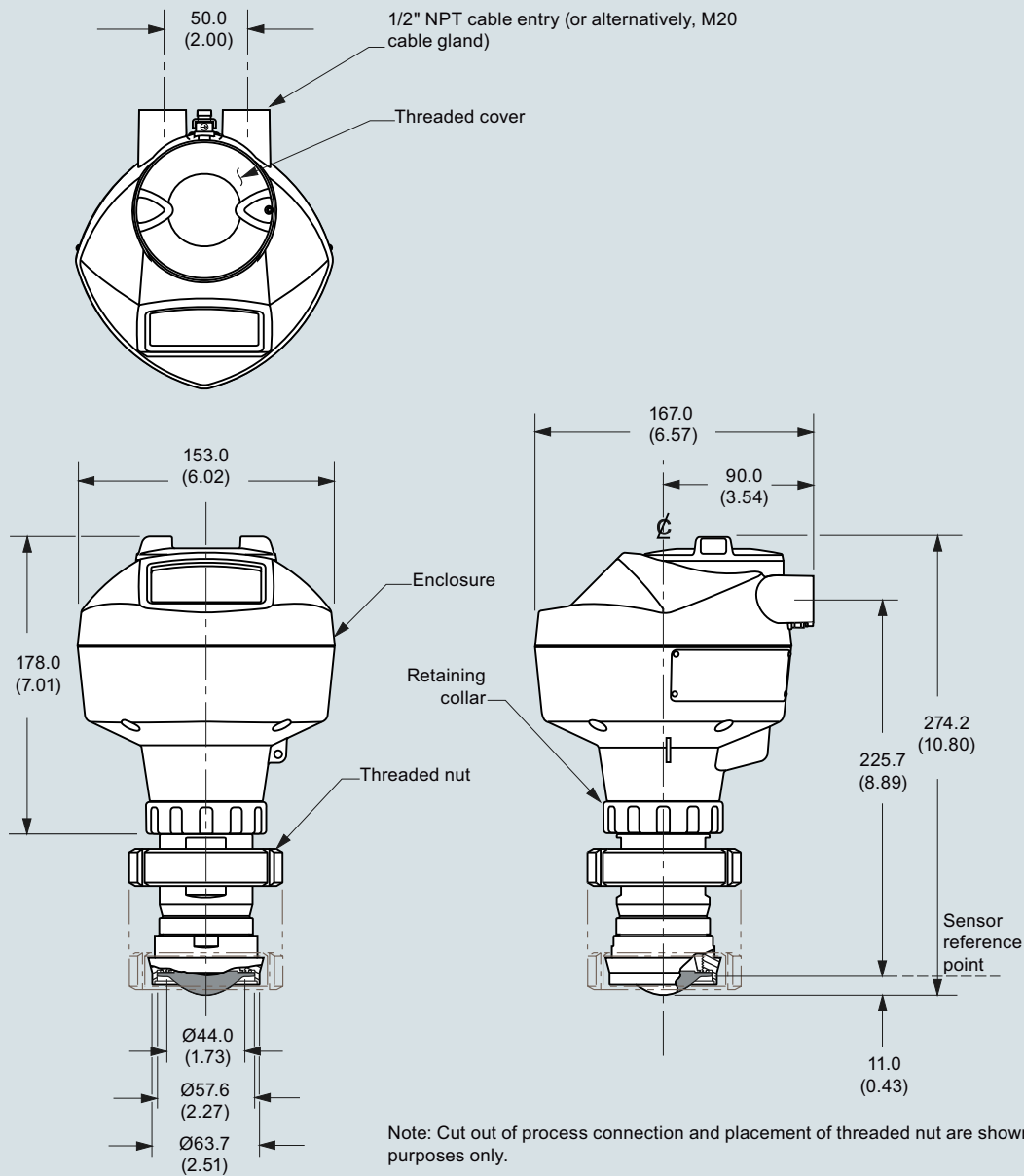
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 50 nozzle/slotted nut to DIN 11851)

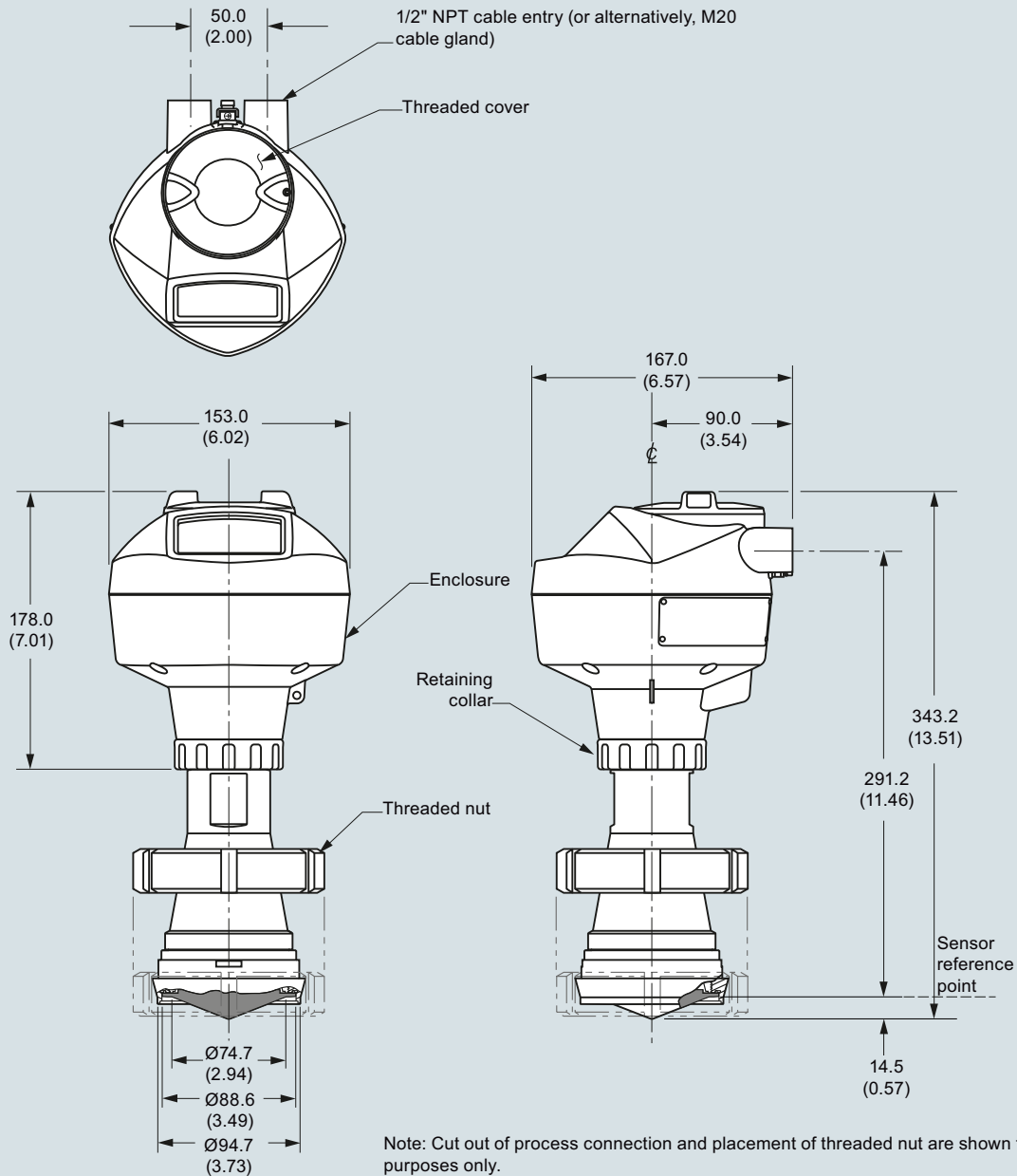


SITRANS LR250 Hygienic Encapsulated Antenna (DN 50 nozzle/slotted nut to DIN 11851), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 80 nozzle/slotted nut to DIN 11851)



SITRANS LR250 Hygienic Encapsulated Antenna (DN 80 nozzle/slotted nut to DIN 11851), dimensions in mm (inch)

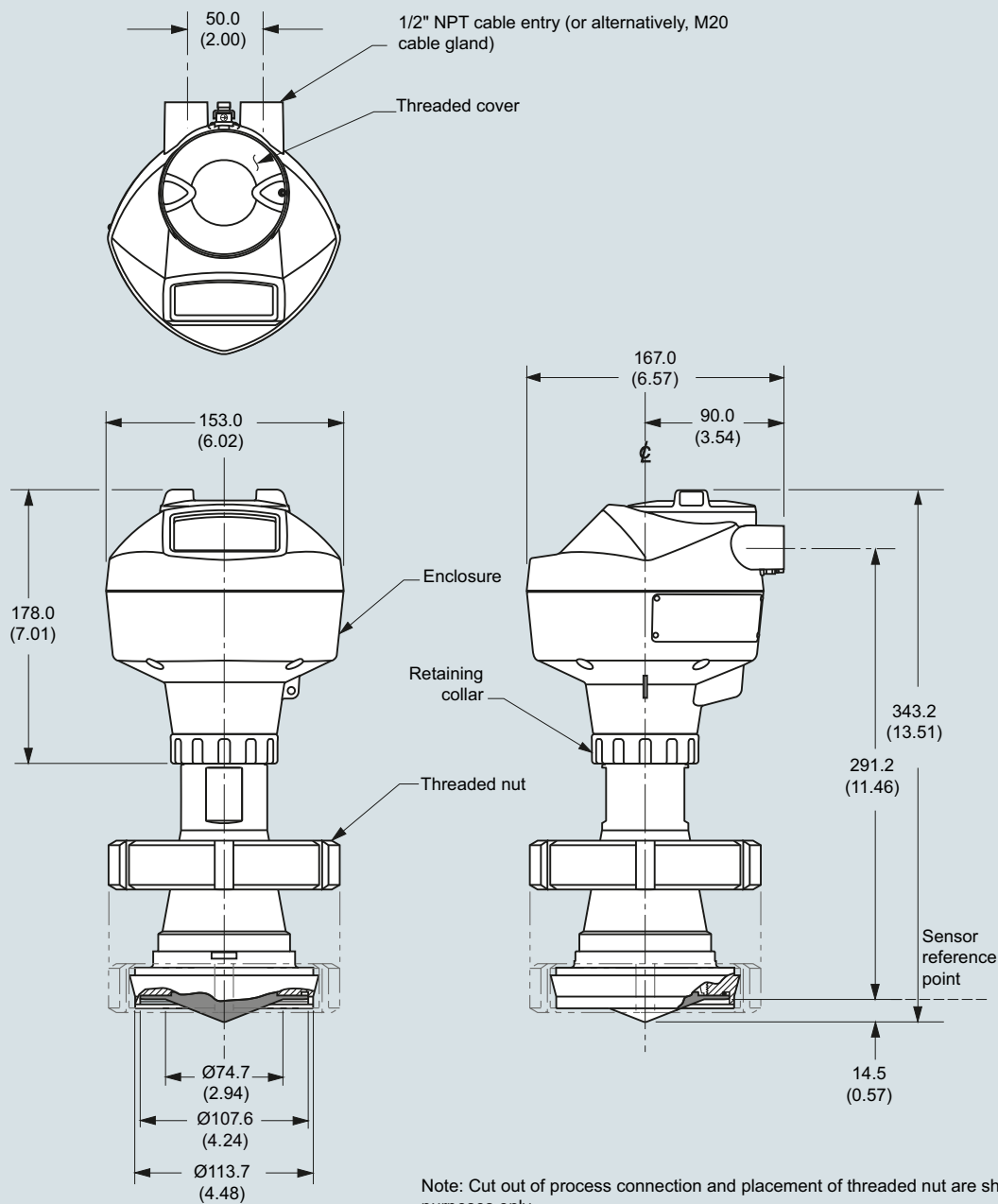
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 100 nozzle/slotted nut to DIN 11851)

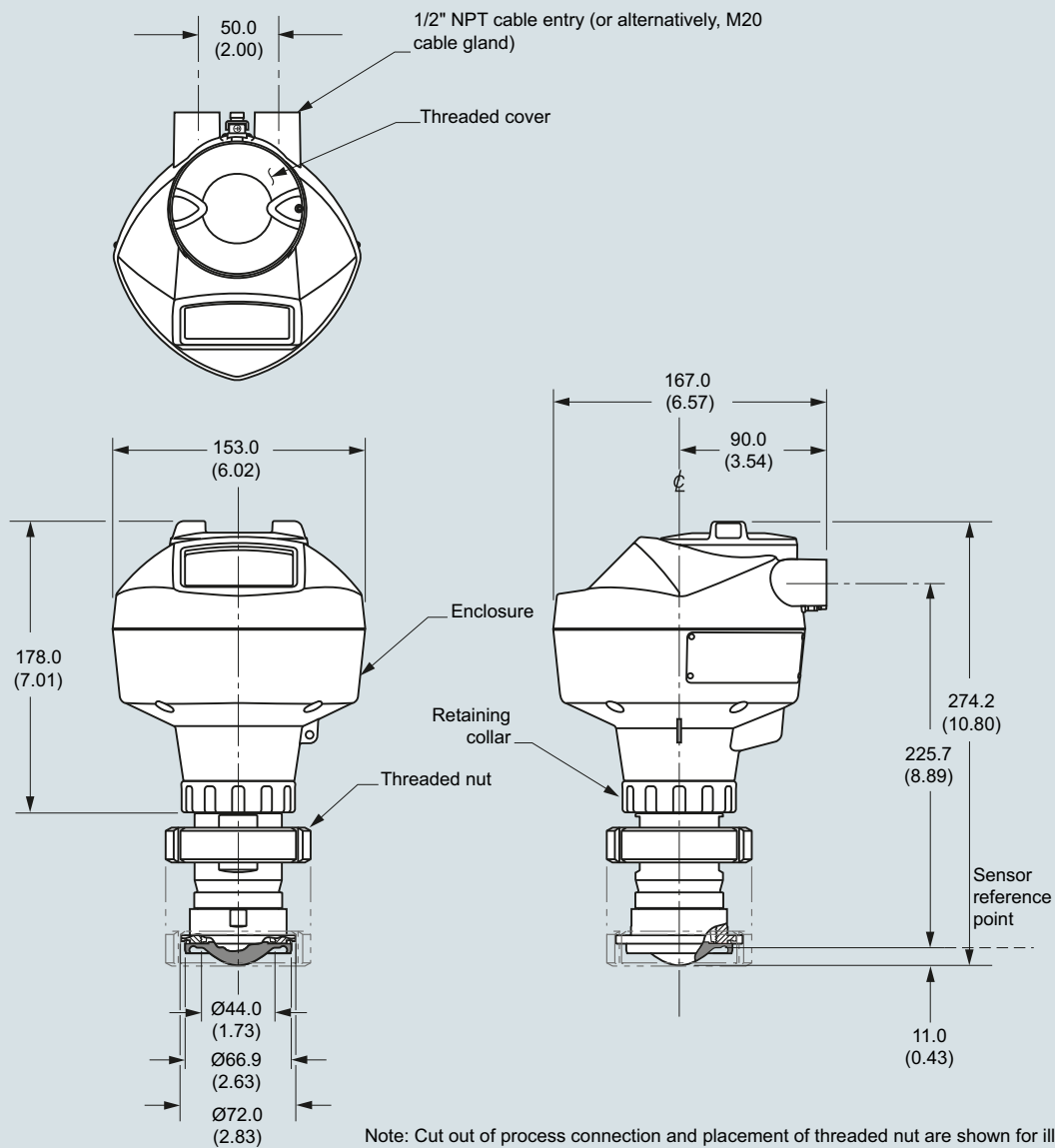


SITRANS LR250 Hygienic Encapsulated Antenna (DN 100 nozzle/slotted nut to DIN 11851), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 50 aseptic clamp to DIN 11864-1)



SITRANS LR250 Hygienic Encapsulated Antenna (DN 50 aseptic clamp to DIN 11864-1), dimensions in mm (inch)

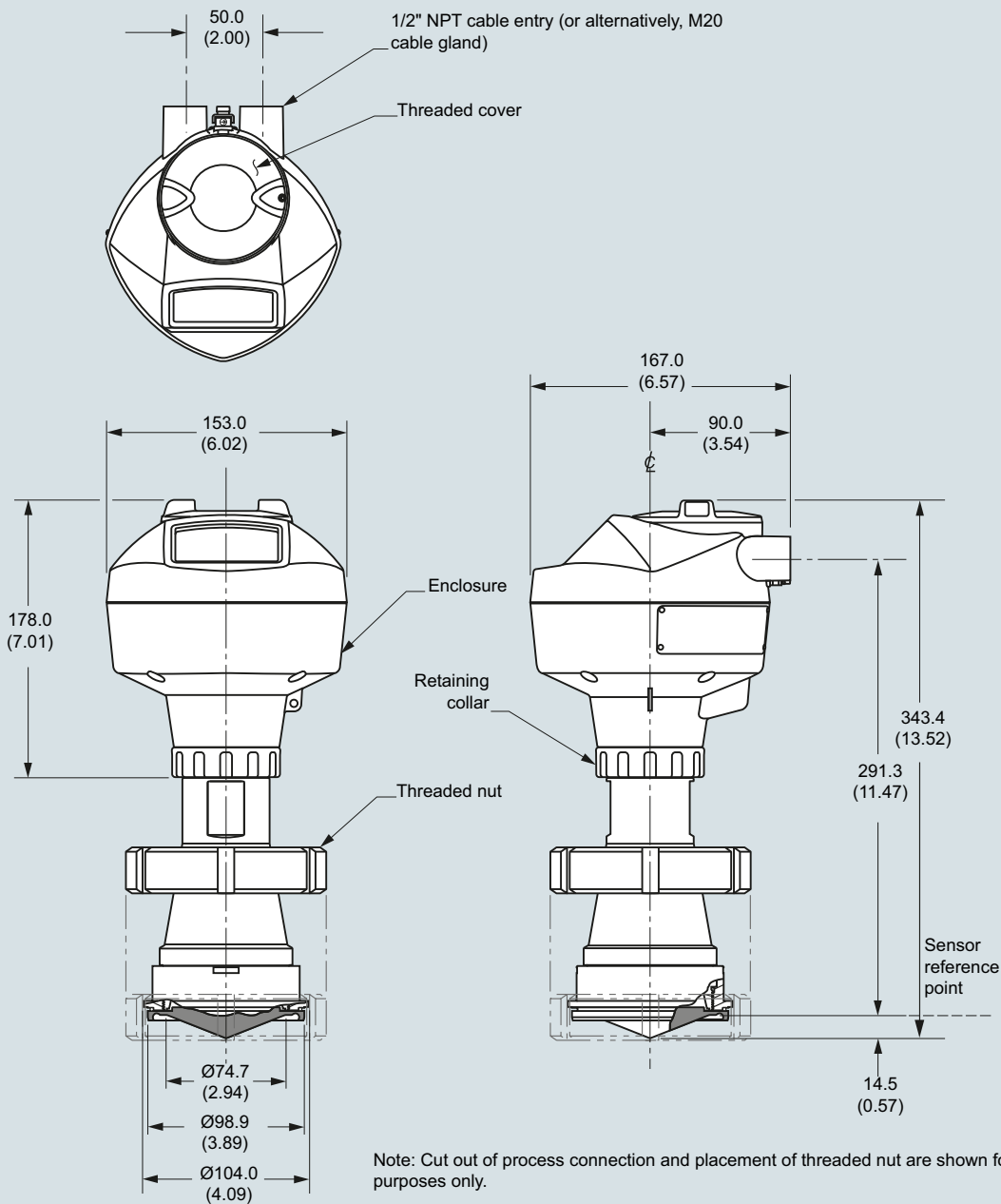
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 80 aseptic clamp to DIN 11864-1)

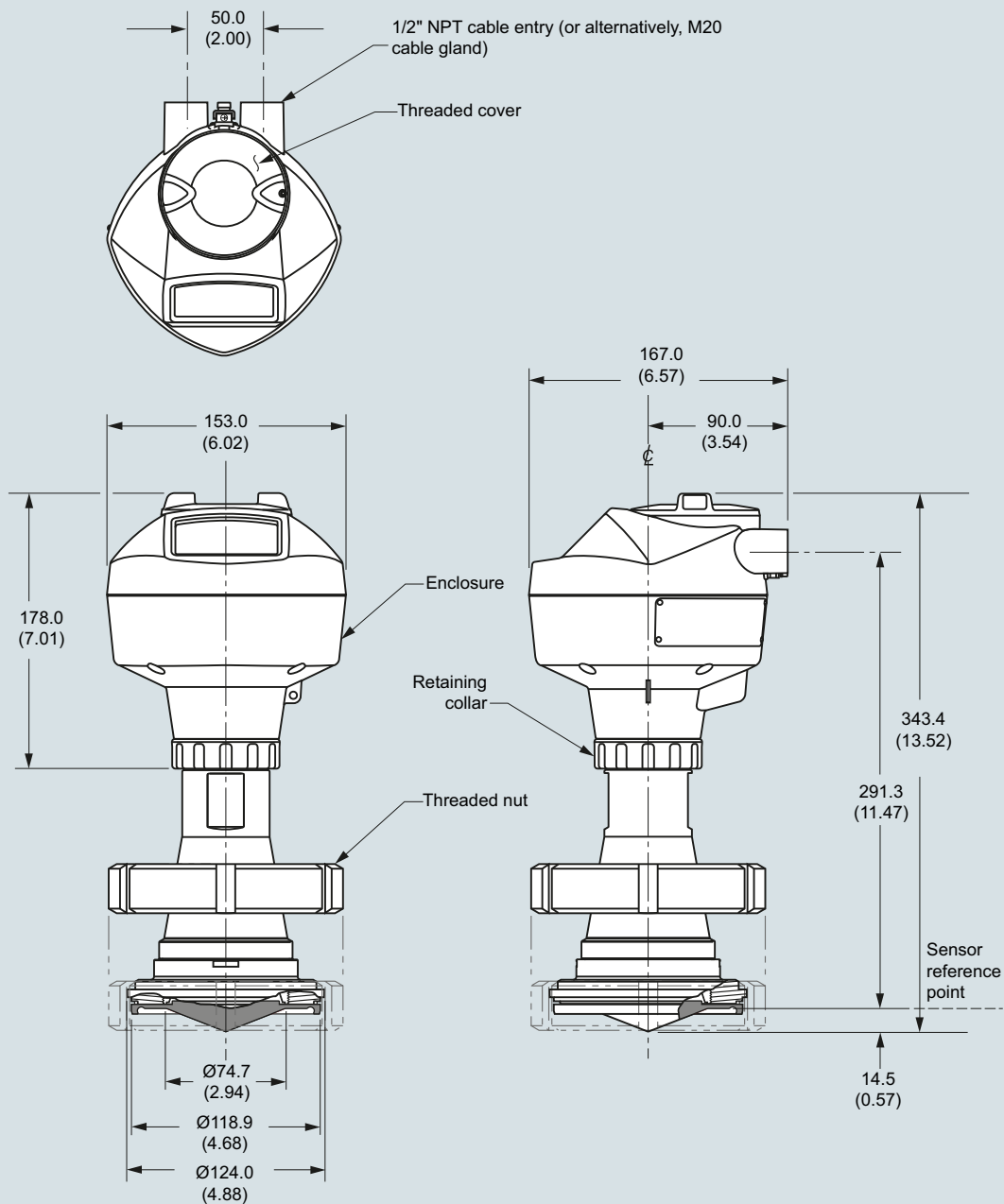


SITRANS LR250 Hygienic Encapsulated Antenna (DN 80 aseptic clamp to DIN 11864-1), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 100 aseptic clamp to DIN 11864-1)



Note: Cut out of process connection and placement of threaded nut are shown for illustration purposes only.

SITRANS LR250 Hygienic Encapsulated Antenna (DN 100 aseptic clamp to DIN 11864-1), dimensions in mm (inch)

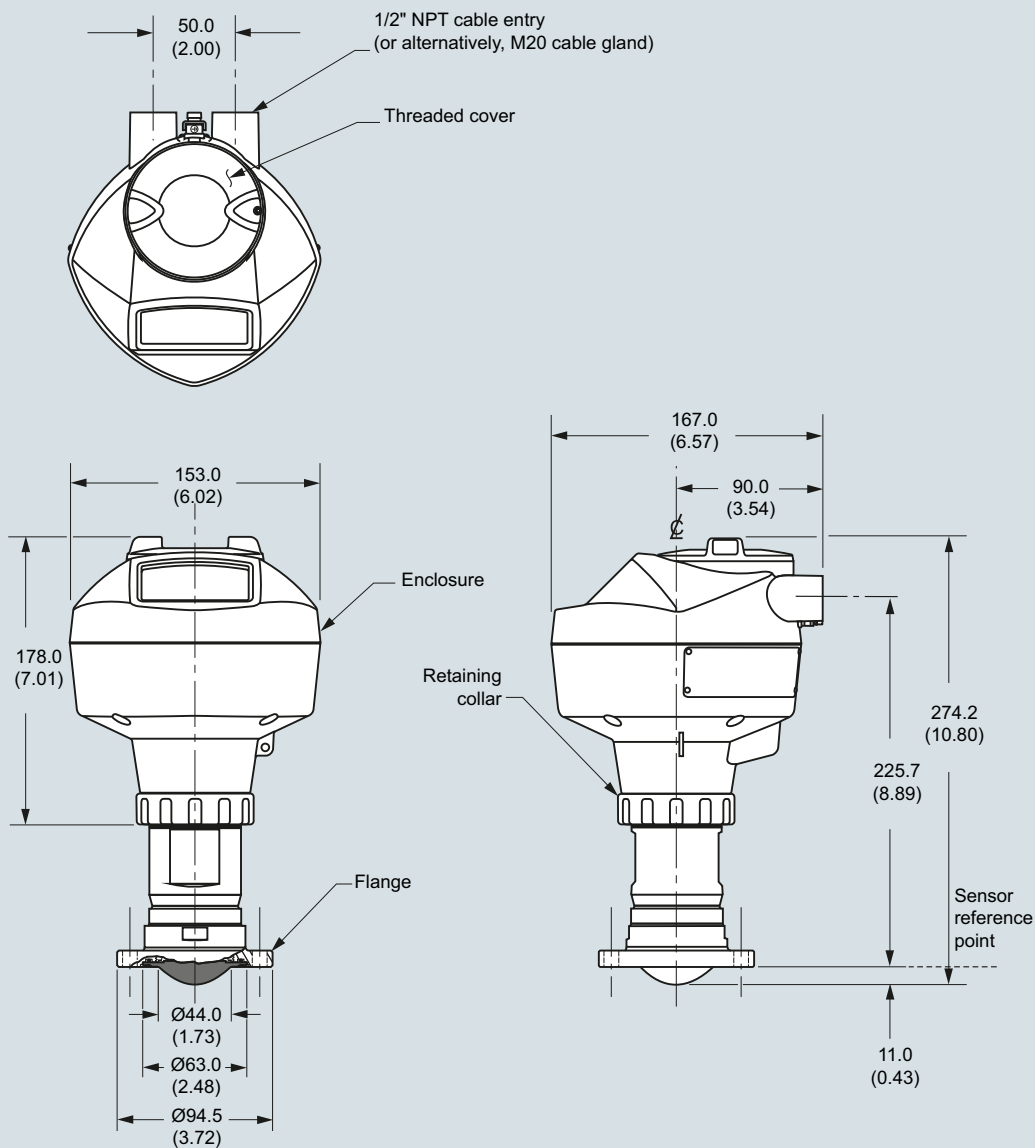
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 50 aseptic flange to DIN 11864-2)

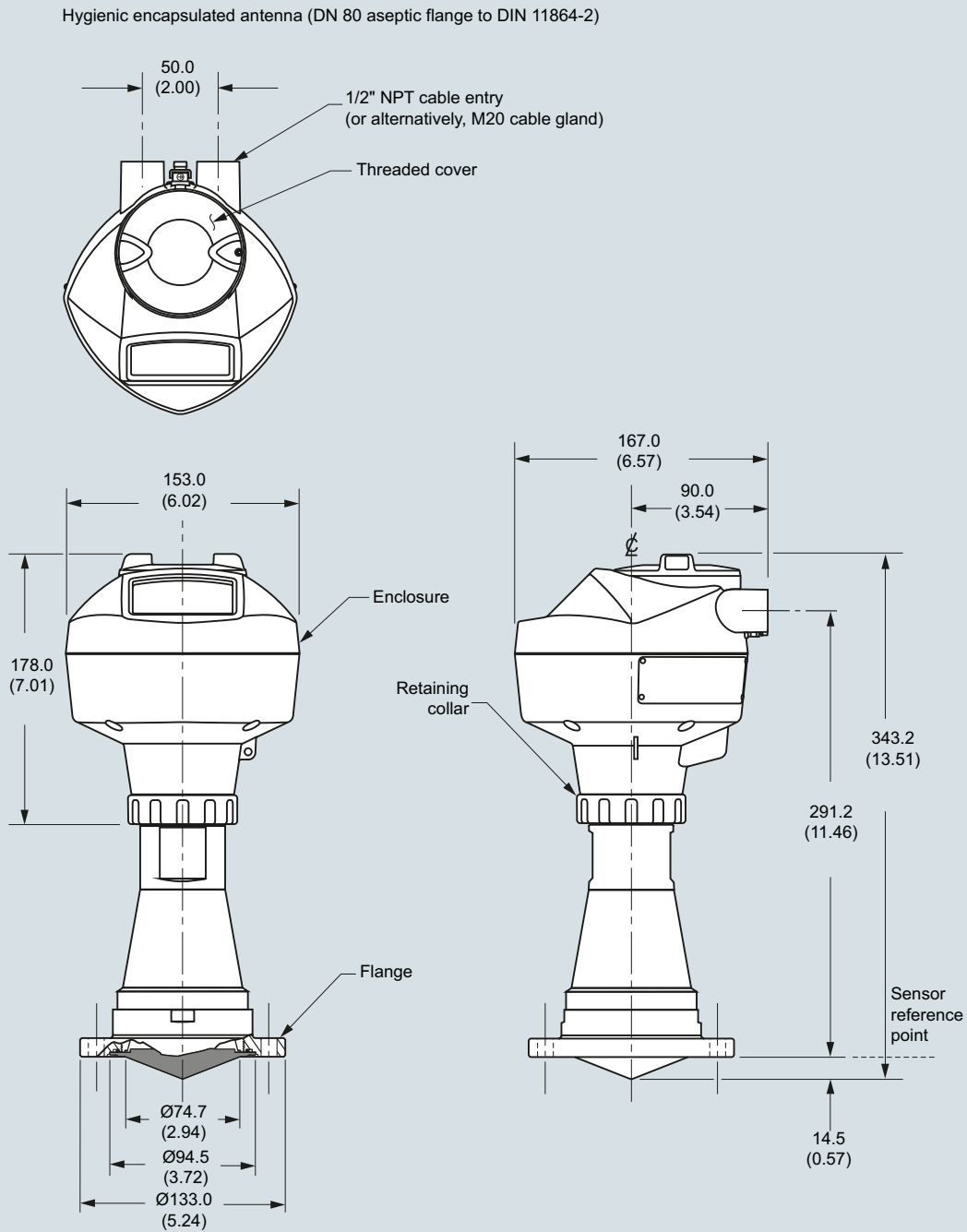


Note: Cut out of process connection and flange are shown for illustration purposes only.

SITRANS LR250 Hygienic Encapsulated Antenna (DN 50 aseptic flange to DIN 11864-2), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)



SITRANS LR250 Hygienic Encapsulated Antenna (DN 80 aseptic flange to DIN 11864-2), dimensions in mm (inch)

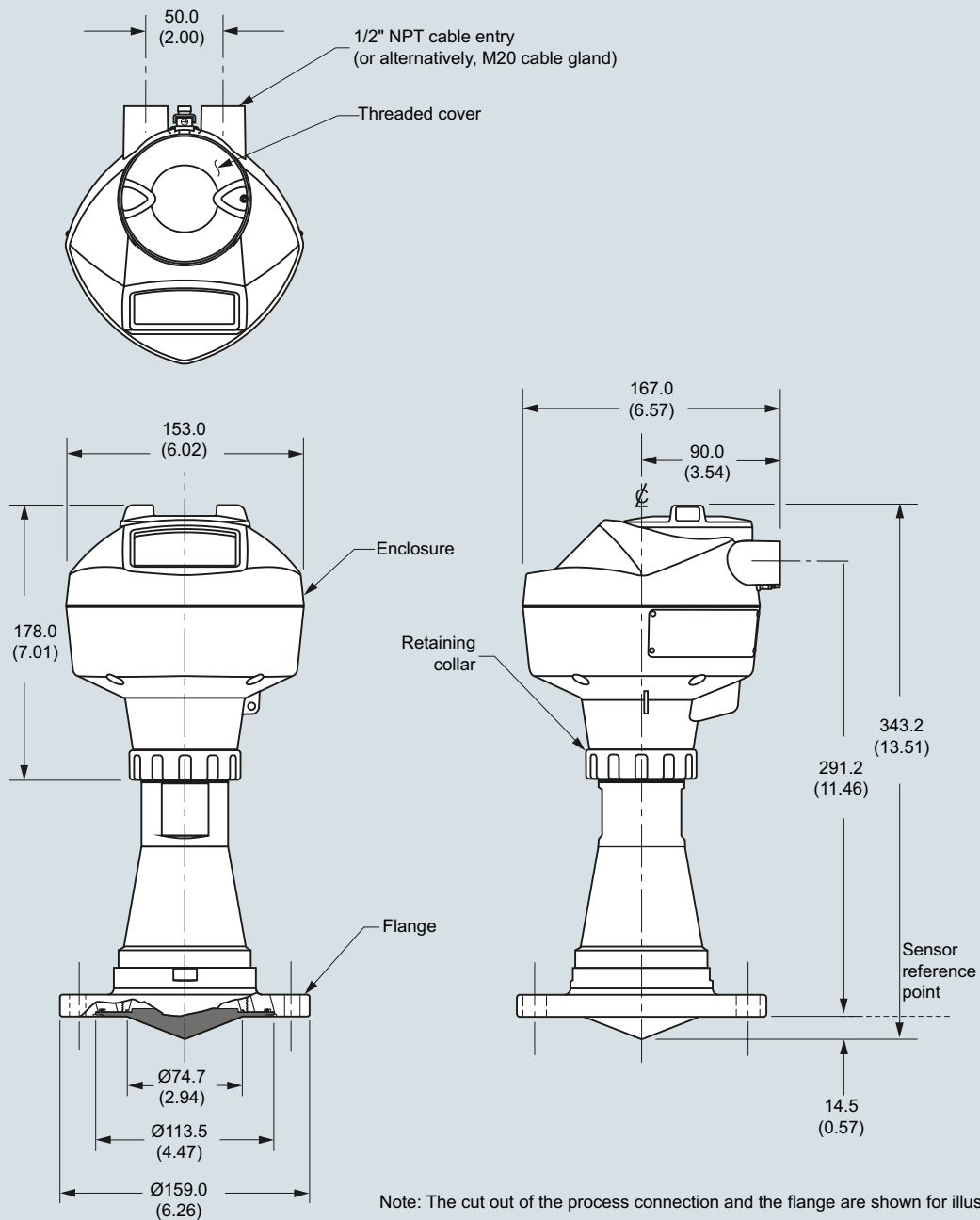
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 100 aseptic flange to DIN 11864-2)

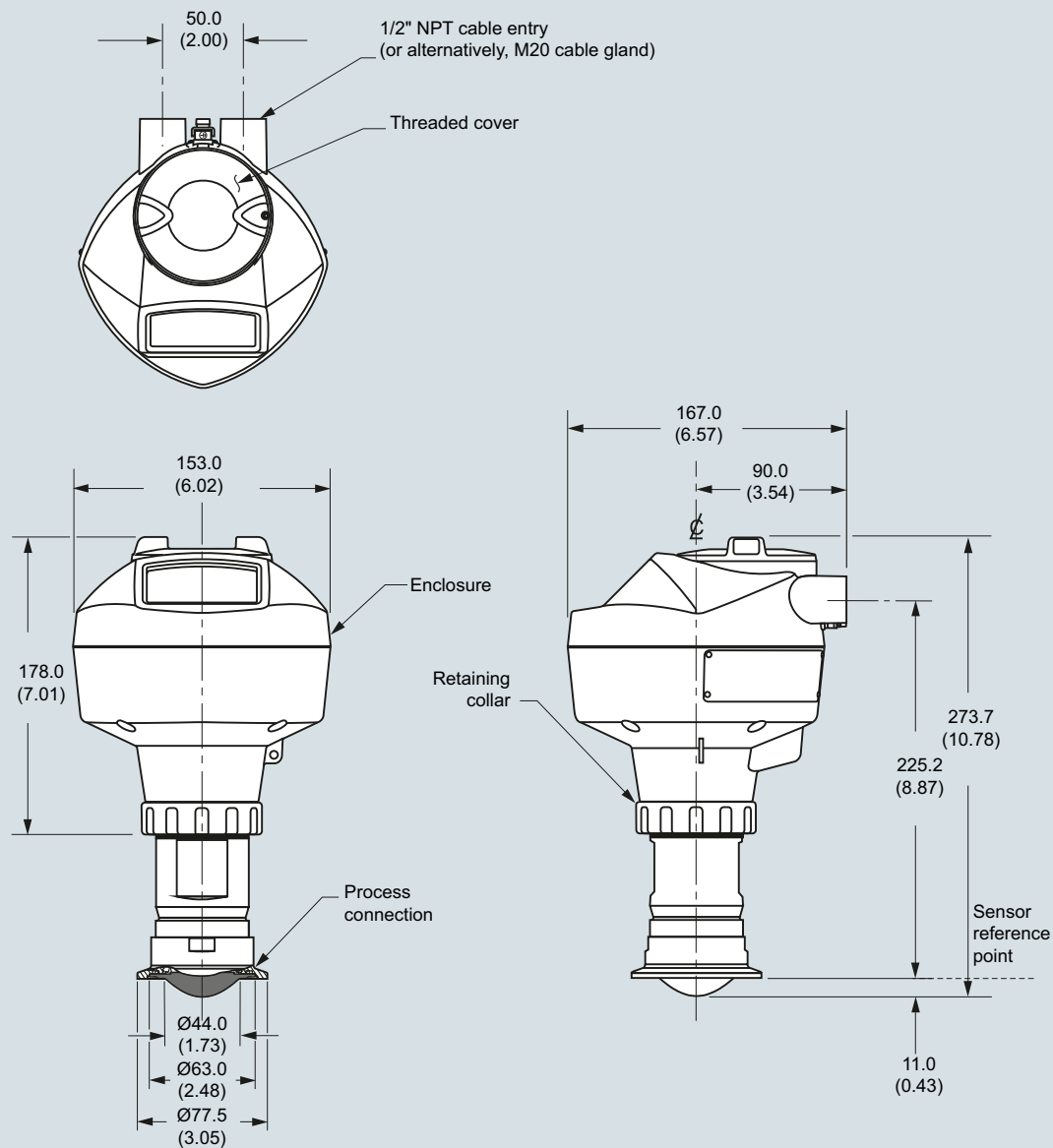


SITRANS LR250 Hygienic Encapsulated Antenna (DN 100 aseptic flange to DIN 11864-2), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 50 aseptic clamp to DIN 11864-3)



SITRANS LR250 Hygienic Encapsulated Antenna (DN 50 aseptic clamp to DIN 11864-3), dimensions in mm (inch)

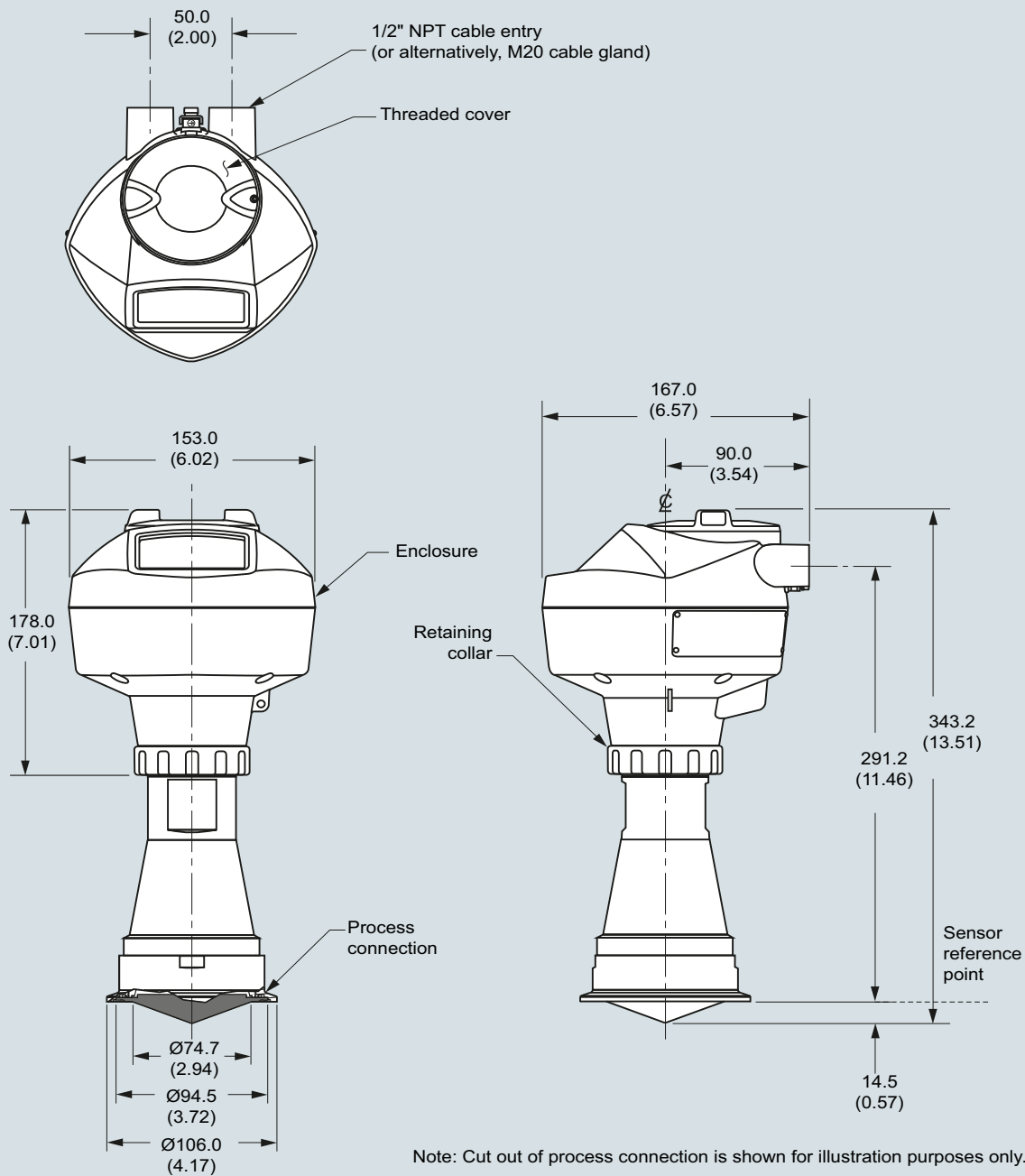
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 80 aseptic clamp to DIN 11864-3)

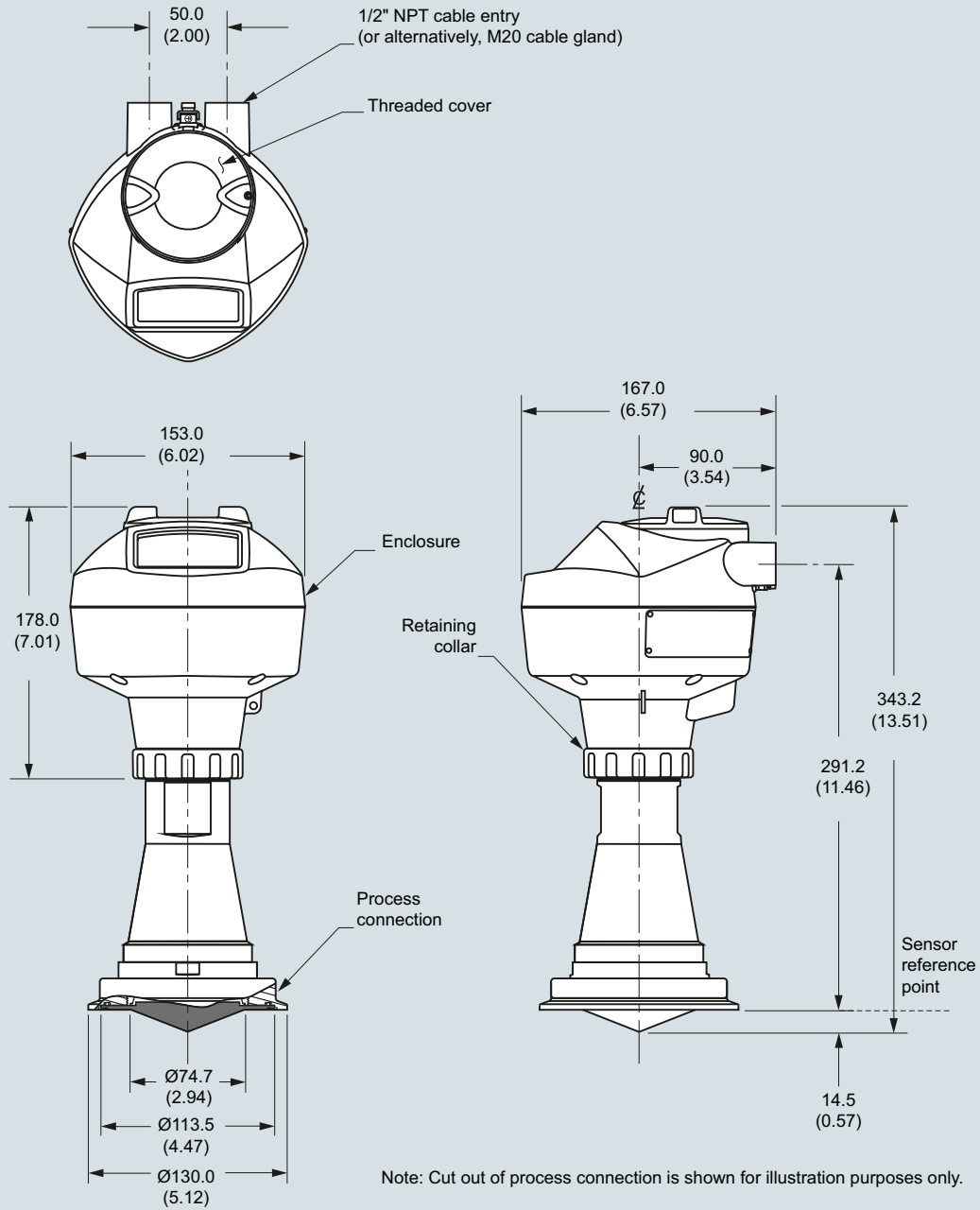


SITRANS LR250 Hygienic Encapsulated Antenna (DN 80 aseptic clamp to DIN 11864-3), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

Hygienic encapsulated antenna (DN 100 aseptic clamp to DIN 11864-3)



SITRANS LR250 Hygienic Encapsulated Antenna (DN 100 aseptic clamp to DIN 11864-3), dimensions in mm (inch)

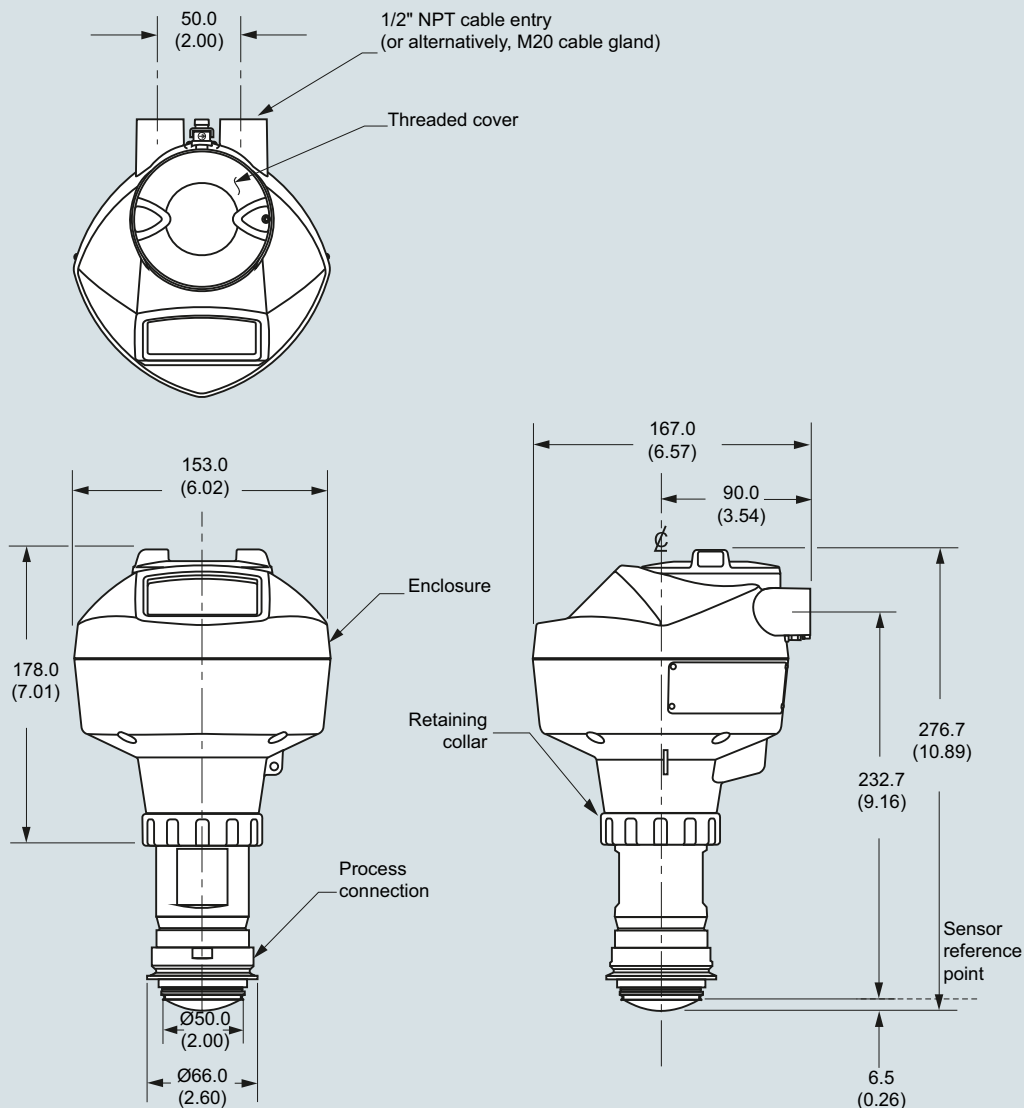
Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)

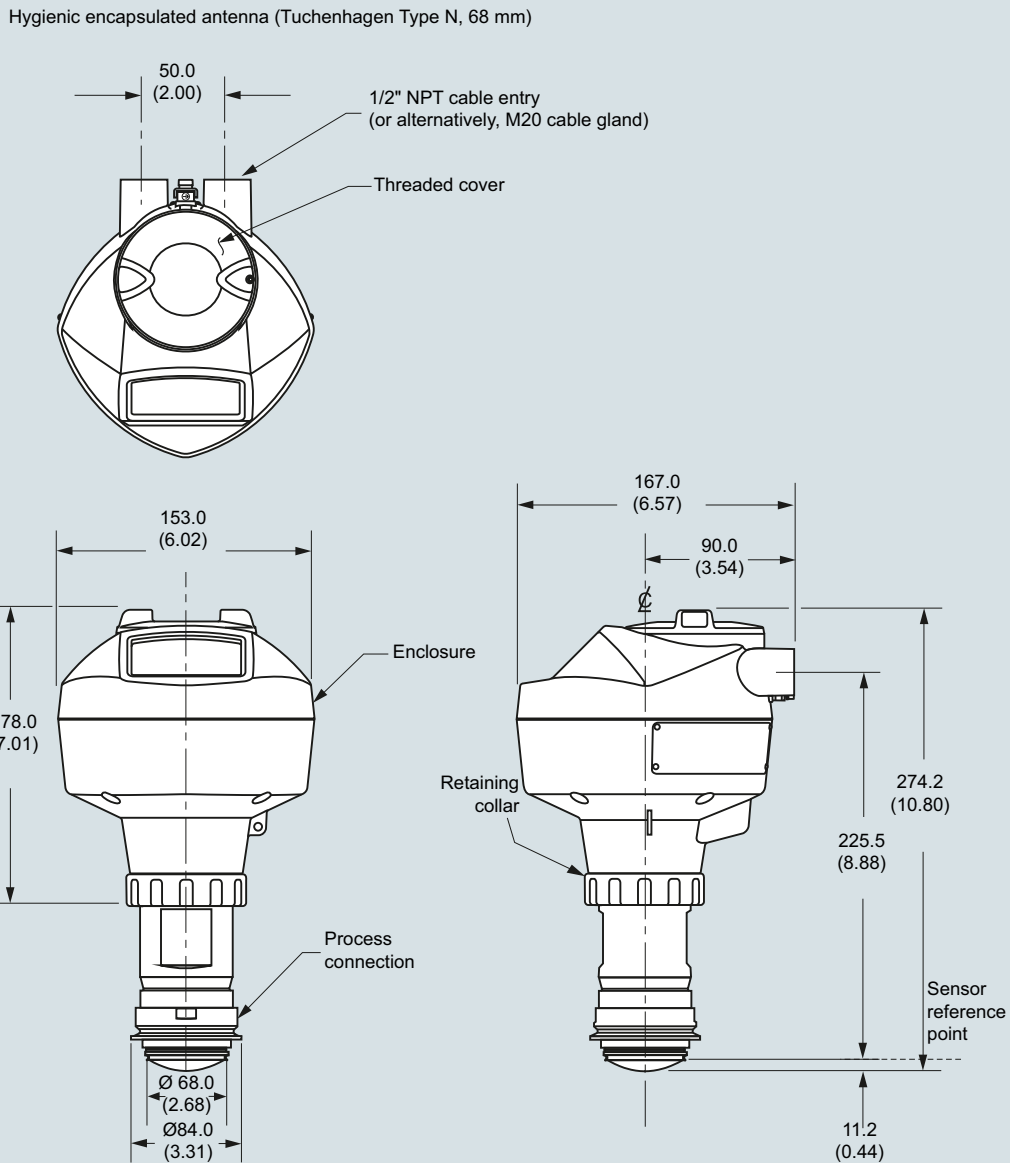
Hygienic encapsulated antenna (Tuchenhagen Type F, 50 mm)



SITRANS LR250 Hygienic Encapsulated Antenna (Tuchenhagen Type F), dimensions in mm (inch)

SITRANS LR250 Hygienic Encapsulated Antenna

Dimensional drawings (continued)



SITRANS LR250 Hygienic Encapsulated Antenna (Tuchenhagen Type N), dimensions in mm (inch)

Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR250 Hygienic Encapsulated Antenna

Circuit diagrams

4

Connect the wires to the terminals as shown: the polarity is identified on the terminal block.

Gland may or may not be provided depending on approval option.

Shield for HART, PROFIBUS PA, and FOUNDATION Fieldbus Intrinsically Safe versions only.

Hand Programmer

SIEMENS			
1	2	3	4
5	6	7	8
9	0	.	+
C	⏪	⏩	⏴
←	↑	↓	→

Part number:
7ML1930-1BK

Notes:

1. DC terminal shall be supplied from a source providing electrical isolation between the input and output, to meet the applicable safety requirements of IEC 61010-1.
2. All field wiring must have insulation suitable for rated input voltages.
3. Use shielded twisted pair cable (14 ... 22 AWG) for HART version.
4. Separate cables and conduit may be required to conform to standard instrumentation wiring practices or electrical codes.

SITRANS LR250 connections