



DR6300

Non-contact Radar (FMCW) Level Meter for Solids



THE RADAR SOLUTION FOR SOLIDS

This device is a non-contact Radar (FMCW) Level Meter for distance, level, volume and mass measurement of powders, granulates and other solids. It gives a more stable measurement than pulse radar and is well suited to dusty process conditions. The device can operate at very low and very high process temperatures as long as the process connection temperature limits are observed.

FEATURES

- One converter for all antenna types (PTFE Drop, PP Drop and metallic horn)
- The only guarantee for measuring accurately in dusty conditions
- Uses a unique Drop antenna design for very dusty atmospheres
- ± 0.12 in (± 3 mm) standard accuracy
- PP (Polypropylene) or PTFE Drop antenna: its shape prevents product build-up in dusty applications
- Operates up to a flange temperature of 390° F (200° C) and 580 psig (40 bar)
- Measuring range up to 260 ft (80 m)
- Antenna can be extended to suit any nozzle length
- PACTware and DTMs included as standard
- Optional second current output
- Directly-accessible graphic touchscreen/wizard (option)
- An installation wizard specifically for solids that permits the instrument to measure uneven surfaces accurately

Industries

- Minerals & Mining
- Chemical
- Food
- Iron, Steel & Metals
- Pulp & Paper

Applications

- Storage
- Silos
- Hoppers



DR6300 - Non-contact Radar (FMCW) Level Meter

OPTIONS



Drop antennas

Drop antennas are a unique innovation to measure powders and other solids in very dusty atmospheres. The ellipsoidal shape of the antennas prevents build-up and generates a small beam angle for accurate measurement of silo contents. They have these features:

- 2 antenna sizes: DN80 or DN150.
- An installation wizard specifically for solids that permits the instrument to measure uneven surfaces accurately.
- Antennas can be extended to suit any nozzle length.
- Made of either PP or PTFE.



Horn antennas

Use of metal horn antennas is recommended for measuring granulates, high-pressure and high-temperature applications, cement works or processes with cyclone separators. They are particularly resistant to mechanical shocks. They have these features:

- Made of stainless steel 316L.
- 4 antenna sizes: DN80, DN100, DN150 or DN200.
- Antennas can be extended to suit any nozzle length



DR6300 - Non-contact Radar (FMCW) Level Meter

ANTENNA SELECTION

This graph shows which antenna to select for the application based on:

- D, the measuring range and
- ϵ_r is the dielectric constant of the product being measured

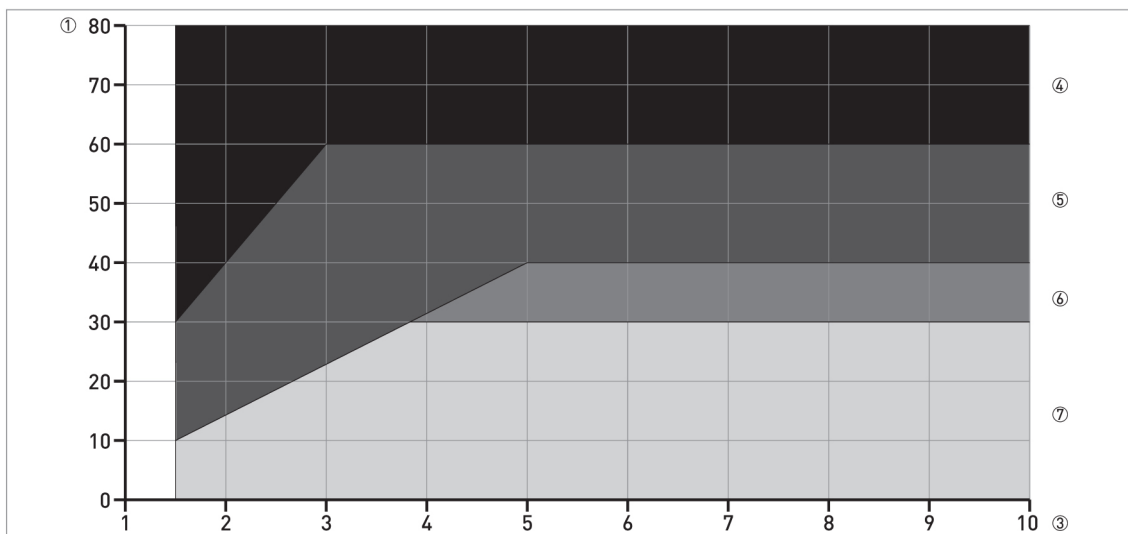


Figure 2-1: Selection of antenna for solid applications (graph of distance in m against ϵ_r)

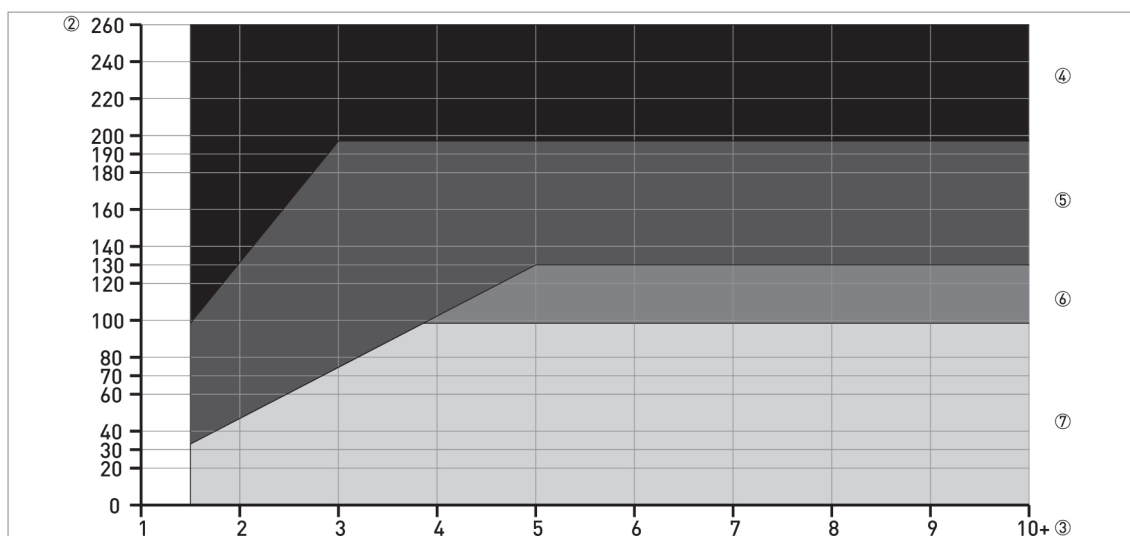


Figure 2-2: Selection of antenna for solid applications (graph of distance in ft. against ϵ_r)

- 1 Distance, D [m]
- 2 Distance, D [ft]
- 3 Dielectric constant (ϵ_r)
- 4 On request
- 5 DN150 horn, DN200 horn and DN150 Drop antenna
- 6 DN100 horn, DN150 horn, DN150 Drop and DN200 horn antenna
- 7 DN80 horn, DN80 Drop, DN100 horn, DN150 horn, DN150 Drop and DN200 horn antenna



DR6300 - Non-contact Radar (FMCW) Level Meter

SPECIFICATIONS

- The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us or your local sales office.
- Additional information (certificates, special tools, software,...) and complete product documentation can be downloaded free of charge from the website (Download Center).

Measuring system	
Measuring principle	2-wire loop-powered level transmitter; K-band (24...26 GHz) FMCW radar
Application range	Level measurement of powders and granulates
Primary measured value	Δf (change in frequency) between the emitted and received signal
Secondary measured value	Distance, level, volume, mass and reflectivity
Design	
Construction	The measurement system consists of a measuring sensor (antenna) and a signal converter which is only available in a compact version
Standard	Antenna purging system for horn antenna (supplied with a ¼ NPTF connection – for horn antenna only)
Options	Integrated LCD display with sun cover -4...+140°F (-20...+60°C); if the ambient temperature is not in these limits, the display switches off
	2nd current output
	PTFE/PP flange plate protection (for Drop antenna without antenna extensions only)
	Distance piece for process temperature: +300...+390°F (+150...+200°C)
Accessories	Weather protection
	Antenna extensions of 4.1 in (105 mm) length. Maximum length for drop antenna versions: 20.7 in (525 mm)
	2° slanted PP flange (for all antennas)
Max. measuring range	260 ft (80 m)
	Depends on the antenna option, dielectric constant of the product and installation type. Refer also to "Antenna selection".
Min. tank height	8 in (0.2 m)
Dead zone	Antenna extension length + antenna length, 12 in (+ 0.3 m)
Beam angle of antenna	Horn / Sheet metal horn DN80 / 3 in: 10°
	Horn / Sheet metal horn DN100 / 4 in: 8°
	Sheet metal horn DN150 / 6 in: 8°
	Sheet metal horn DN200 / 8 in: 8°
	Drop DN80 / 3 in: 8°
	Drop DN150 / 6 in: 4°
Display and user interface	
Display	LCD display
	9 lines, 160 × 160 pixels in 8-step grayscale with 4-button keypad
Interface languages	English, German, French, Italian, Spanish, Portuguese, Japanese, Simplified Chinese and Russian
Measurement accuracy	
Resolution	0.04 in (1 mm)
Repeatability	±0.04 in (±1 mm)
Accuracy	±0.12 in (±3 mm), when distance < 33 ft (10 m); ±0.03% of measured distance, when distance > 33 ft (10 m)
Reference conditions acc. to EN 60770	
Temperature	+70°F ±10°F (+20°C ±5°C)
Pressure	14.69 psia ±0.29 psi (1013 mbar ±20 mbar)
Relative air humidity	60% ±15%
Target	Metal plate in an anechoic chamber



DR6300 - Non-contact Radar (FMCW) Level Meter

SPECIFICATIONS

Operating conditions	
Temperature	
Ambient temperature	-40...+175°F (-40...+80°C) (according to the temperature limits of the gasket material. Refer to "Materials" in this table.) Ex: see supplementary operating instructions or approval certificates
Storage temperature	-40...+185°F (-40...+85°C)
Flange temperature	Horn / Sheet metal horn antenna: Standard: -58...+300°F (-50...+150°C) Option: -58...+390°F (-50...+200°C) (the process connection temperature must agree with the temperature limits of the gasket material. Refer to "Materials" in this table.) Ex: see supplementary operating instructions or approval certificates
	Drop antenna (PTFE): -58...+300°F (-50...+150°C) (the process connection temperature must agree with the temperature limits of the gasket material. Refer to "Materials" in this table.) Ex: see supplementary operating instructions or approval certificates
	Drop antenna (PP): -40...+210°F (-40...+100°C) (the process connection temperature must agree with the temperature limits of the gasket material. Refer to "Materials" in this table.) Ex: see supplementary operating instructions or approval certificates
Pressure	
Operating pressure	Drop antenna (PP): -14.5...232 psig (-1...16 barg); subject to process connection used and flange temperature
	Drop antenna (PTFE): -14.5...580 psig (-1...40 barg); subject to process connection used and flange temperature
	Horn / Sheet metal horn antenna: Standard: -1...40 barg / -14.5...580 psig; subject to process connection used and flange temperature
Other conditions	
Dielectric constant (ϵ_r)	≥ 1.5
Vibration resistance	IEC 60068-2-6 and EN 50178 (10...57 Hz: 0.075 mm / 57...150 Hz: 1g)
Protection category	IP 66/67 equivalent to NEMA type 4X (housing) and type 6P (antenna)
Maximum rate of change	33 ft / minute (10 m / minute)
Installation conditions	
Process connection size	The nominal diameter (DN) should be equal to or larger than the antenna diameter. If the nominal diameter (DN) is smaller than the antenna, either: – provide the means to adapt the device to a larger process connection on the silo (for example, a plate with a slot), or – use the same process connection, but remove the antenna from the device before installation and fit it from inside the silo
Process connection position	Make sure that there are not any obstructions directly below the process connection for the device.
Dimensions and weights	Refer to "Technical data: Dimensions and weights".
Materials	
Housing	Standard: Polyester-coated aluminium Option: Stainless steel (1.4404 / 316L) 1
Wetted parts, including antenna	Horn / Sheet metal horn antenna: Stainless steel (1.4404 / 316L) Drop antenna: PTFE; PP – a PP or PTFE flange plate protection option is also available
Process connection	Stainless steel (1.4404 / 316L) – a PP or PTFE flange plate protection option is also available for the Drop antenna
Gaskets (and o-rings for the sealed antenna extension option)	PTFE Drop antenna: FKM/FPM -40...+300°F (-40...+150°C); Kalrez® 6375 -4...+300°F (-20...+150°C); EPDM -58...+300°F (-50°C...+150°C) 2 PP Drop antenna: FKM/FPM -40...+210°F (-40...+100°C); Kalrez® 6375 -4...+210°F (-20...+100°C); EPDM -40...+210°F (-40°C...+100°C) 2 Horn / Sheet metal horn antenna: FKM/FPM -40...+390°F (-40...+200°C); Kalrez® 6375 -4...+390°F (-20...+200°C); EPDM -58...+300°F (-50°C...+150°C) 2
Feedthrough	Standard: PEI -58...+390°F (-50...+200°C) – max. range. The feedthrough temperature limits must agree with the temperature limits of the gasket material and antenna type. If the distance piece option is not attached, the maximum temperature is 300°F (150°C). Option: Metaglas® -22...+390°F (-30...+200°C) – max. range. The feedthrough temperature limits must agree with the temperature limits of the gasket material and antenna type. If the distance piece option is not attached, the maximum temperature is 300°F (150°C). 3
Weather protection (Option)	Stainless steel (1.4301 / 304)



DR6300 - Non-contact Radar (FMCW) Level Meter

SPECIFICATIONS

Process connections	
Thread	G 1½ (ISO 228); 1½ NPT (ASME B1.20.1)
Flange version	
EN 1092-1	DN80 in PN40, DN100...200 in PN16 or PN40 (Form B1); others on request
ASME B16.5	3 in...8 in in 150 lb RF, 3 in...4 in in 300 lb RF; others on request
JIS B2220	80...100A in 10K; others on request
Other	Others on request
Electrical connections	
Power supply	Terminals output 1 – Non-Ex / Ex i: 14...30 VDC; min./max. value for an output of 22 mA at the terminal
	Terminals output 1 – Ex d: 20...36 VDC; min./max. value for an output of 22 mA at the terminal
	Terminals output 2 – Non-Ex / Ex i / Ex d: 10...30 VDC; min./max. value for an output of 22 mA at the terminal (additional power supply needed – output only)
Cable entry	M20×1.5; ½ NPT
	G ½ (not for FM- and CSA-approved devices. Not for stainless steel housings.)
	M25×1.5 (for stainless steel housings only)
Cable gland	Standard: none
	Options: M20×1.5 (for non-Ex and Ex -approved devices with M20×1.5 and M25×1.5 cable entries); others are available on request
Cable entry capacity (terminal)	0.5...1.5 mm ²
Input and output	
Current output	
Output signal (Output 1)	4...20 mA HART® or 3.8...20.5 mA acc. to NAMUR NE 43 4
Output signal (Output 2 - optional)	4...20 mA (no HART® signal) or 3.8...20.5 mA acc. to NAMUR NE 43
Resolution	±3 µA
Temperature drift	Typically 25 ppm/K
Error signal	High: 22 mA; Low: 3.6 mA acc. to NAMUR NE 43
Approvals and certification	
CE	This device fulfils the statutory requirements of the EC directives. The manufacturer certifies successful testing of the product by applying the CE mark.
Explosion protection	
ATEX KEMA 04ATEX1218 X	II 1 G, 1/2 G, 2 G Ex ia IIC T6...T3;
	II 1 D, 1/2 D, 2 D Ex iaD 20 or Ex iaD 20/21 or Ex iaD 21 IP6X T70°C...T95°C;
	II 1/2 G, 2 G Ex d[ia] IIC T6...T3;
	II 1/2 D, 2 D Ex tD[iaD] A21/20 or Ex tD[iaD] A21 IP6X T70°C...T95°C
IECEx IECEx KEM 06.0025 X	Ga Ex ia IIC T6...T3; Ex iaD 20 IP6X T70°C...T95°C;
	Ga/Gb Ex d[ia] IIC T6...T3; Ex tD[iaD] A21/20 IP6X T70°C...T95°C



DR6300 - Non-contact Radar (FMCW) Level Meter

SPECIFICATIONS

FM – Dual Seal-approved	NEC 500
	XP-IS / Cl. I / Div. 1 / Gr. ABCD / T6-T1;
	DIP / Cl. II, III / Div. 1 / Gr. EFG / T6-T1;
	IS / Cl. I, II, III / Div. 1 / Gr. ABCDEFG / T6-T1;
	NI / Cl. I / Div. 2 / Gr. ABCD / T6-T1
	NEC 505
	Cl. I / Zone 0 / AEx d[ia] / IIC / T6-T1;
	Cl. I / Zone 0 / AEx ia / IIC / T6-T1;
	Cl. I / Zone 2 / AEx nA[ia] / IIC / T6-T1
	Hazardous (Classified) Locations, indoor/outdoor Type 4X and 6P, IP66, Dual Seal
CSA – Dual Seal-approved	CEC Section 18 (Zone ratings)
	Cl. I, Zone 1, Ex d, IIC (Antenna: Zone 0) T6;
	Cl. I, Zone 0, Ex ia, IIC T6;
	Cl. I, Zone 2, Ex nA, IIC T6
	CEC Section 18 and Annex J (Division ratings)
	XP-IS, Cl. I, Div. 2, Gr. ABCD; Cl. II, Div. 2, Gr. FG; Cl. III, Div. 2 T6;
	IS, Cl. I, Div. 1, Gr. ABCD; Cl. II, Gr. FG; Cl. III T6
NEPSI GYJ091178/79	Ex d ia IIC T3~T6 DIP A21/20 TA T70°C~T95°C IP6X;
	Ex ia IIC T3~T6 DIP A21/20 TA T70°C~T95°C IP6X
DNV / INMETRO DNV 12.0043 X	Ex ia IIC T6...T3 Ga; Ex ia IIIC T70°C...T95°C Da IP6X;
	Ex d [ia Ga] IIC T6...T3 Ga/Gb; Ex tb [ia Da] IIIC T70°C...T95°C Db IP6X
KGS 11-GA4B0-0325X 11-GA4B0-0326X	Ex ia IIC T6~T3; Ex iaD 20 IP6X T70°C~T95°C;
	Ex d[ia] IIC T6~T3; Ex tD[iaD] A21/20 IP6X T70°C~T95°C
Other standards and approvals	
EMC	Electromagnetic Compatibility Directive 2004/108/EC in conjunction with EN 61326-1 (2013)
R & TTE	Radio Equipment and Telecommunications Terminal Equipment Directive 1999/5/EC in conjunction with ESTI EN 302 372-1 (2011) and EN 302 372-2 (2011)
FCC Rules	Part 15
Industry Canada	RSS-210
LVD	Low-Voltage Directive 2006/95/EC in conjunction with EN 61010-1 (2001)
CRN	This certification is for all Canadian provinces and territories. For more data, refer to the website.
NAMUR	NAMUR NE 21 Electromagnetic Compatibility (EMC) of Industrial Process and Laboratory Control Equipment
	NAMUR NE 43 Standardization of the Signal Level for the Failure Information of Digital Transmitters

1 This option is not available for FM- or CSA-approved devices

2 Kalrez® is a registered trademark of DuPont Performance Elastomers L.L.C.

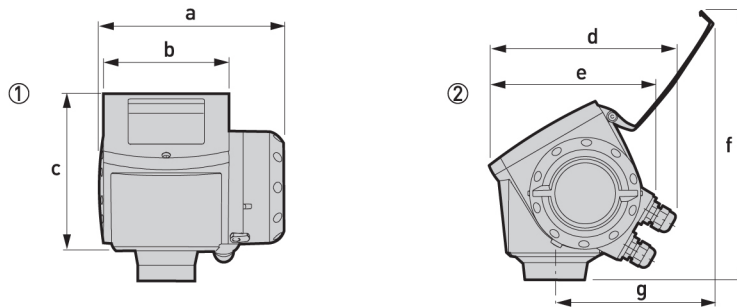
3 Metaglas® is a registered trademark of Herberts Industrieglas, GMBH & Co., KG

4 HART® is a registered trademark of the HART Communication Foundation



DR6300 - Non-contact Radar (FMCW) Level Meter

HOUSING DIMENSIONS AND WEIGHTS



1 Housing front view
2 Housing side view

Dimensions and weights in mm and kg

	Dimensions [mm]							Weights [kg]
	a	b	c	d	e	f	g	
Housing	180	122	158.5	182.1	167	277	155	3.3

1 If fitted with standard cable glands

Dimensions and weights in inches and Lbs.

	Dimensions [inches]							Weights [lb]
	a	b	c	d	e	f	g	
Housing	7.1	4.8	6.2	7.21	6.5	10.9	6.1	7.3

1 If fitted with standard cable glands

- Cable glands are delivered on demand with non-Ex, Ex i- and Ex d-approved devices.
- The diameter of the outer sheath of the cable must be 0.28...0.47 in or (7...12 mm).
- Cable glands for FM- or CSA-approved devices must be supplied by the customer.
- A weather protection cover is available on request with all devices.



DR6300 - Non-contact Radar (FMCW) Level Meter

DIMENSIONS AND WEIGHTS - DN80/3 INCH HORN ANTENNA VERSIONS

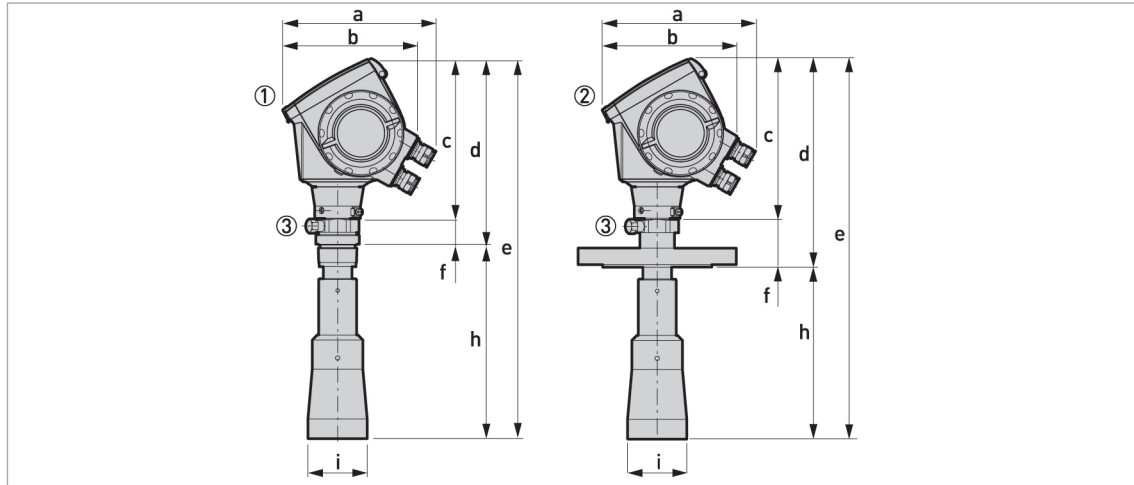


Figure 2-9: DN80/3 in horn antenna versions

- 1 DN80/3 in horn antenna with G 1½ or 1½ NPT thread connection
- 2 DN80/3 in horn antenna with flange connection
- 3 Antenna purging system (supplied with ¼ NPTF connection)

Dimensions and weights in mm and kg									
	Dimensions [mm]								Weights [kg]
	a	b	c	d	e	f	h	Øi	
Thread connection	182 1	167	201	250	496	49	246 2	75	6.8
Flange connection	182 1	167	201	263 3	480 3	62 3	217 2	75	11.1...18.9

1 If fitted with standard cable glands

2 Additional antenna extensions of Ø39 × length 105 mm are available

3 With distance piece option: add 71 mm to this dimension

Dimensions and weights in inches and Lbs.									
	Dimensions [inches]								Weights [lb]
	a	b	c	d	e	f	h	Øi	
Thread connection	7.2 1	6.5	7.9	9.8	19.5	1.9	9.7 2	3	15
Flange connection	7.2 1	6.5	7.9	10.4 3	18.9 3	2.4 3	8.5 2	3	24.4...41.5

1 If fitted with standard cable glands

2 Additional antenna extensions of Ø1.5 × length 4.1 in are available

3 With distance piece option: add 2.8 in to this dimension



DR6300 - Non-contact Radar (FMCW) Level Meter

DIMENSIONS AND WEIGHTS - DN100/4 INCH HORN ANTENNA VERSIONS

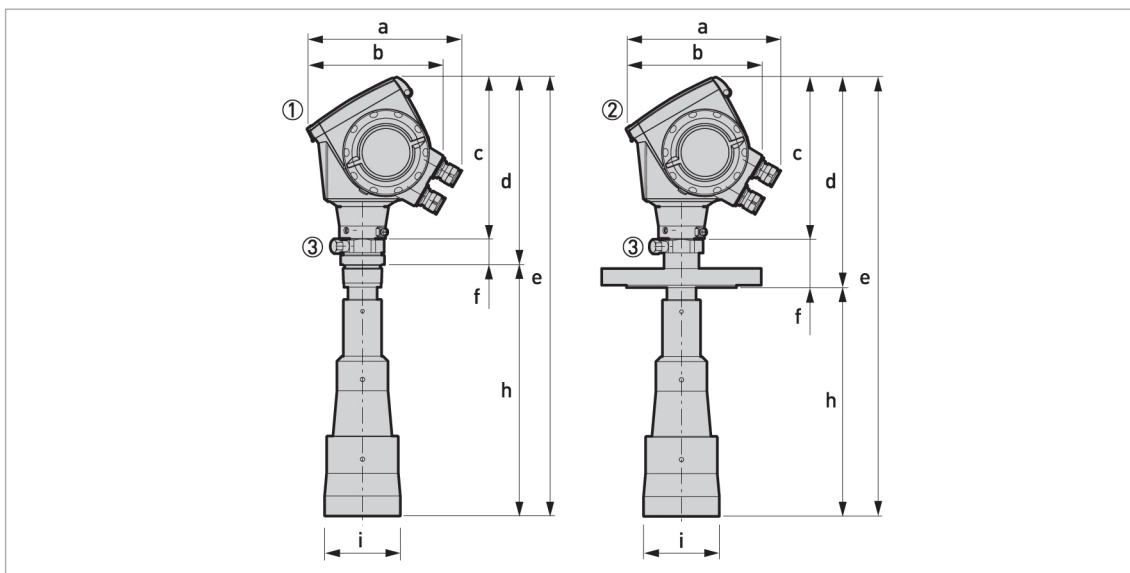


Figure 2-10: DN100/4 in horn antenna versions

- 1 DN100/4 in horn antenna with G 1½ or 1½ NPT thread connection
- 2 DN100/4 in horn antenna with flange connection
- 3 Antenna purging system (supplied with ¼ NPTF connection)

Dimensions and weights in mm and kg									
	Dimensions [mm]								Weights [kg]
	a	b	c	d	e	f	h	i	
Thread connection	182 1	167	201	250	565	49	315 2	95	7.2
Flange connection	182 1	167	201	263 3	549 3	62 3	286 2	95	11.6...28.2

- 1 If fitted with standard cable glands
- 2 Additional antenna extensions of Ø39 × length 105 mm are available
- 3 With distance piece option: add 71 mm to this dimension

Dimensions and weights in inches and Lbs.									
	Dimensions [inches]								Weights [lb]
	a	b	c	d	e	f	h	i	
Thread connection	7.2 1	6.5	7.9	9.8	22.2	1.9	12.4 2	3.7	15.8
Flange connection	7.2 1	6.5	7.9	10.4 3	21.6 3	2.4 3	11.3 2	3.7	25.6...62.2

- 1 If fitted with standard cable glands
- 2 Additional antenna extensions of Ø1.5 × length 4.1 in are available
- 3 With distance piece option: add 2.8 in to this dimension



DR6300 - Non-contact Radar (FMCW) Level Meter

DIMENSIONS AND WEIGHTS - SHEET METAL HORN ANTENNA VERSIONS

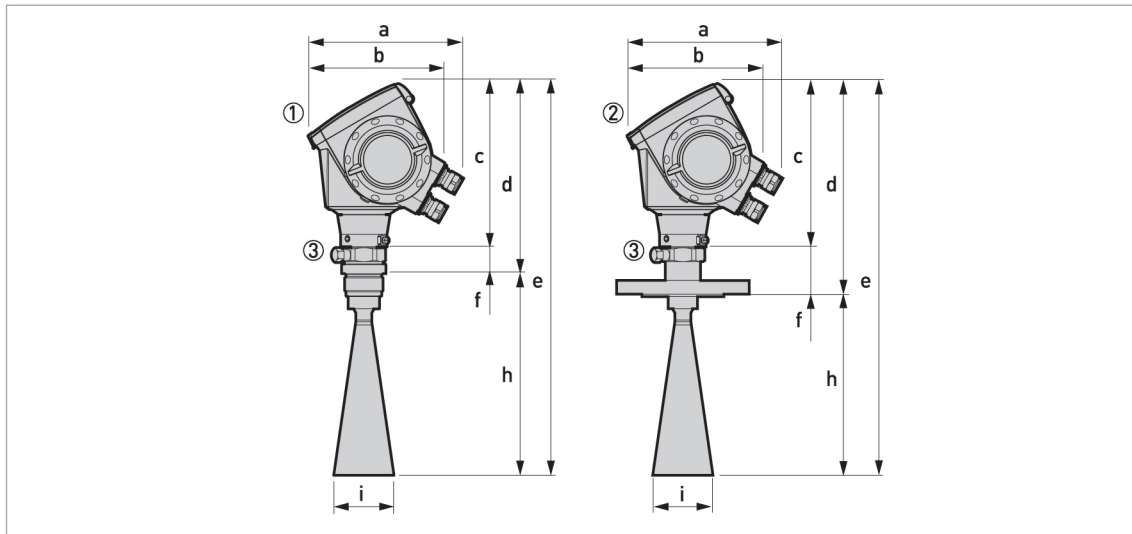


Figure 2-11: DN80/3 in, DN100/4 in, DN150/6 in and DN200/8 in sheet metal horn antenna versions

- 1 Sheet metal horn antenna (DN80/3 in, DN100/4 in, DN150/6 in or DN200/8 in) with G 1½ or 1½ NPT thread connection
- 2 Sheet metal horn antenna (DN80/3 in, DN100/4 in, DN150/6 in or DN200/8 in) with flange connection
- 3 Antenna purging system (supplied with ¼ NPTF connection)

Dimensions and weights in Inches [mm] and Lbs. [kg]										
		Dimensions								Weights
		Inches [mm]								Lbs. [kg]
		a	b	c	d	e	f	h	i	
Thread connection	DN80/3 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	9.8 [250]	19.6 [499]	1.9 [49]	9.8 [249] (2)	3 [75]	10.8 [4.9]
	DN100/4 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	9.8 [250]	22.4 [568]	1.9 [49]	12.5 [318] (2)	3.7 [95]	11.1 [5.1]
	DN150/6 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	9.8 [250]	29.0 [736]	1.9 [49]	19.1 [486] (2)	5.7 [144]	12.2 [5.5]
	DN200/8 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	9.8 [250]	35.2 [894]	1.9 [49]	25.4 [644] (2)	7.5 [190]	13.4 [6.1]
Flange connection	DN80/3 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	10.3 [262] (3)	19 [483] (3)	2.4 [62] (3)	8.7 [221] (2)	3 [75]	20.2 [9.2]
	DN100/4 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	10.3 [262] (3)	21.7 [552] (3)	2.4 [62] (3)	11.4 [290] (2)	3.7 [95]	20.8 [9.5]
	DN150/6 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	10.3 [262] (3)	28.3 [720] (3)	2.4 [62] (3)	18 [458] (2)	5.7 [144]	31.6 [14.4]
	DN200/8 in	7.2 [182] (1)	6.5 [167]	7.9 [201]	10.3 [262] (3)	34.6 [878] (3)	2.4 [62] (3)	24.3 [616] (2)	7.5 [190]	32.9 [15.0]

(1) If fitted with standard cable glands

(2) Additional antenna extensions of Ø39 × length 105 mm are available

(3) With distance piece option: add 71 mm to this dimension



DR6300 - Non-contact Radar (FMCW) Level Meter

DIMENSIONS AND WEIGHTS - DN80/3 INCH DROP ANTENNA VERSIONS

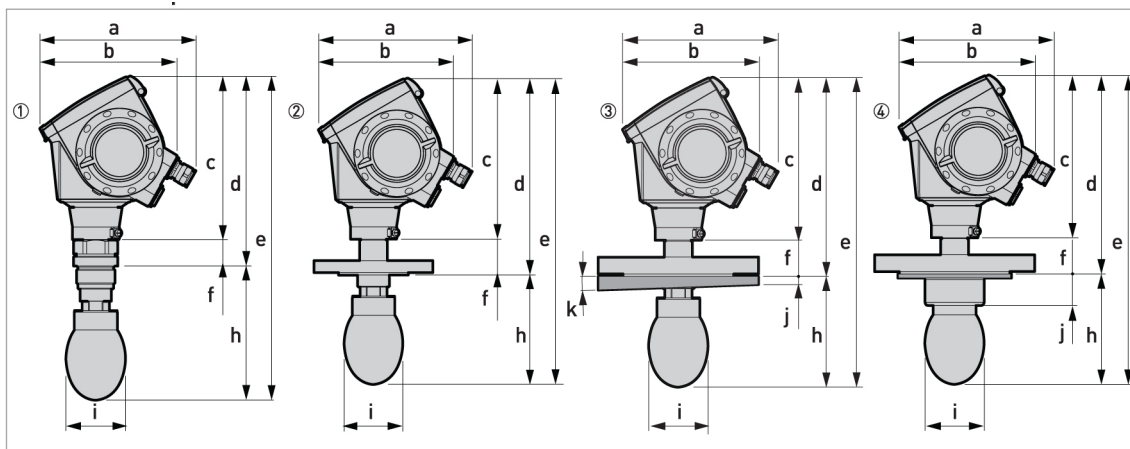


Figure 2-12: DN80/3 in Drop antenna versions

- 1 DN80/3 in Drop antenna with G 1½ or 1½ NPT thread connection
- 2 DN80/3 in Drop antenna with flange connection
- 3 DN80/3 in Drop antenna with slanted flange connection (PP material option only)
- 4 DN80/3 in Drop antenna, with PP or PTFE flange plate protection option

Dimensions and weights in mm and kg											
	Dimensions [mm]										Weights [kg]
	a	b	c	d	e	f	h	Øi	j	k	
Thread connection	182 (1)	167	201	234	399	33	165 (2)	74	-	-	5.7...6.1
Flange connection	182 (1)	167	201	246	383	45	137 (2)	74	-	-	6.3...26
Flange connection with slanted flange option	182 (1)	167	201	246	383	45	137 (2)	74	10	2°	6.4...26.6
Flange connection with flange plate protection option	182 (1)	167	201	246	383	45	137	74	39	-	6.6...26.8

(1) If fitted with standard cable glands

(2) Additional antenna extensions of Ø39 × length 105 mm are available. Do not attach more than 5 antenna extensions.

Dimensions and weights in Inches and Lbs.											
	Dimensions [mm]										Weights [kg]
	a	b	c	d	e	f	h	Øi	j	k	
Thread connection	7.2 (1)	6.5	7.9	9.2	15.7	1.3	6.5 (2)	2.9	-	-	12.6...13.4
Flange connection	7.2 (1)	6.5	7.9	9.7	15.1	1.8	5.4 (2)	2.9	-	-	13.9...57.3
Flange connection with slanted flange option	7.2 (1)	6.5	7.9	9.7	15.1	1.8	5.4 (2)	2.9	0.4	2°	14.1...58.6
Flange connection with flange plate protection option	7.2 (1)	6.5	7.9	9.7	15.1	1.8	5.4	2.9	1.5	-	13.9...59.1

(1) If fitted with standard cable glands

(2) Additional antenna extensions of Ø39 × length 105 mm are available. Do not attach more than 5 antenna extensions.



DR6300 - Non-contact Radar (FMCW) Level Meter

DIMENSIONS AND WEIGHTS - DN150/6 INCH DROP ANTENNA VERSIONS

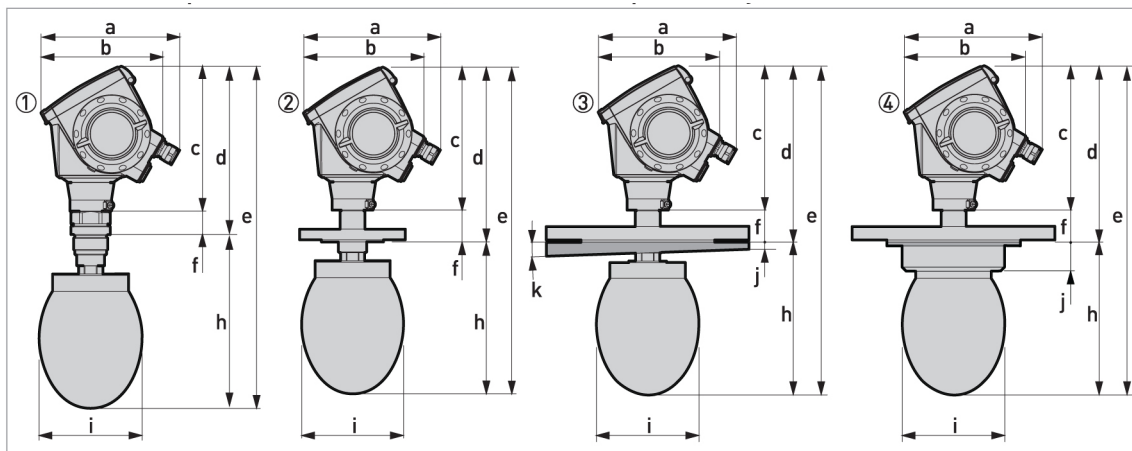


Figure 2-13: DN150/6 in Drop antenna versions (PP material option only)

- 1 DN150/6 in Drop antenna with flange connection
- 2 DN150/6 in Drop antenna with thread connection
- 3 DN150/6 in Drop antenna with slanted flange connection
- 4 DN150/6 in Drop antenna, with flange plate protection option

Dimensions and weights in mm and kg											
	Dimensions [mm]										Weights [kg]
	a	b	c	d	e	f	h	Øi	j	k	
Thread connection	182 (1)	167	201	234	476	33	242 (2)	144	-	-	7.4
Flange connection	182 (1)	167	201	246	460	45	214 (2)	144	-	-	8...27.3
Flange connection with slanted flange option	182 (1)	167	201	246	460	45	214 (2)	144	10	2°	8.1...27.9
Flange connection with flange plate protection option	182 (1)	167	201	246	460	45	214	144	39	-	-

(1) If fitted with standard cable glands

(2) Additional antenna extensions of Ø39 × length 105 mm are available. Do not attach more than 5 antenna extensions.

Dimensions and weights in Inches and Lbs.											
	Dimensions [mm]										Weights [kg]
	a	b	c	d	e	f	h	Øi	j	k	
Thread connection	7.2 (1)	6.5	7.9	9.2	18.7	1.3	9.5 (2)	5.7	-	-	16.3
Flange connection	7.2 (1)	6.5	7.9	9.7	18.1	1.8	8.4 (2)	5.7	-	-	17.6...60.2
Flange connection with slanted flange option	7.2 (1)	6.5	7.9	9.7	18.1	1.8	8.4 (2)	5.7	0.4	2°	17.8...61.5
Flange connection with flange plate protection option	7.2 (1)	6.5	7.9	9.7	18.1	1.8	8.4	5.7	1.5	-	-

(1) If fitted with standard cable glands

(2) Additional antenna extensions of Ø39 × length 105 mm are available. Do not attach more than 5 antenna extensions.



DR6300 - Non-contact Radar (FMCW) Level Meter

MODEL NUMBERING

Make a selection from each column to get the full order code. The characters of the order code highlighted in light grey describe the standard.

DR63 4 DR6300 C 24 GHz Non-contact Radar (FMCW) level meter for solids	
Approval	
0	Without
2	ATEX Ex ia IIC T3...T6 + DIP 1
3	ATEX Ex d[ia] IIC T3...T6 + DIP 1
6	FM IS CL I/II/III, DIV 1, GPS A-G; CL I, Zone 0, AEx ia IIC T3...T6
7	FM XP-IS/DIP CL I/II/III, DIV 1, GPS A-G; CL I, Zone 0, AEx d [ia] IIC T3...T6
B	INMETRO Ex ia IIC T3...T6 + DIP 1
C	INMETRO Ex d ia IIC T3...T6 + DIP 1
E	NEPSI Ex ia IIC T3 ~ T6 + DIP 1
F	NEPSI Ex d ia IIC T3 ~ T6 + DIP 1
H	CSA IS CL I/II/III, DIV 1, GPS A-G; CL I, Zone 0, Ex ia IIC T3...T6
K	CSA XP-IS/DIP CL I/II/III, DIV 2, GPS A-D, F, G; CL I, Zone 0, Ex d IIC T3...T6
M	IECEX Ex ia IIC T2...T6 + DIP 1
N	IECEX Ex d ia IIC T2...T6 + DIP 1
R	KGS Ex ia IIC T3 – T6 + DIP 1
S	KGS Ex d[ia] IIC T3 – T6 + DIP 1
Material of Process Connection / Antenna type and material (pressure)	
0	316L (1.4404) / Horn 316L, 580 psig (40 barg) – Drop PTFE, 580 psig (40 barg) – Drop PP, 232 psig (16 barg)
Antenna type	
6	Horn DN80 (Ø75 mm / 2.95') long with purging system / max +392°F (+200°C)
G	Horn DN100 (Ø95 mm / 3.74') long with purging system / max +392°F (+200°C)
P	Drop PTFE DN80 (Ø75 mm / 2.95') long / max +302°F (+150°C)
S	Drop PP DN80 (Ø75 mm / 2.95') long / max +212°F (+100°C)
T	Drop PP DN150 (Ø144 mm / 5.67') long / max +212°F (+100°C)
V	Sheet metal horn DN80 (Ø75 mm / 2.95') long + purging system / max +392°F (+200°C)
W	Sheet metal horn DN100 (Ø95 mm / 3.74') long + purging system / max +392°F (+200°C)
X	Sheet metal horn DN150 (Ø140 mm / 5.51') long + purging system / max +392°F (+200°C)
Y	Sheet metal horn DN200 (Ø190 mm / 7.48') long + purging system / max +392°F (+200°C)

Continued on next page



DR6300 - Non-contact Radar (FMCW) Level Meter

MODEL NUMBERING - CONTINUED

Antenna extension / Flange Plate Protection	
0	Without
1	Extension (105 mm)
2	Extension 8.27 in (210 mm)
3	Extension 12.40 in (315 mm)
4	Extension 16.54 in (420 mm)
5	Extension 20.67 in (525 mm)
6	Extension 24.80 in (630 mm) 2
7	Extension 28.94 in (735 mm) 2
8	Extension 33.07 in (840 mm) 2
A	Extension 37.21 in (105 mm) 2
B	Extension 41.34 in (1050 mm) 2
Flange plate protection	
P	Flange plate protection (PP) DN80, DN100, 3 in, 4 in, 80A, 100A 3
R	Flange plate protection (PP) DN150, 6 in, 8 in 3
S	Flange plate protection (PTFE) DN80, DN100, 3 in, 4 in, 80A, 100A 3
T	Flange plate protection (PTFE) DN150, 6 in, 8 in 3
Feedthrough / Temperature / Sealing	
Non-Ex devices with a Drop antenna	
X	Standard / -40...+302°F (-40...+150°C) / FKM/FPM
Y	Standard / -58...+302°F (-50...+150°C) / EPDM
Other devices	
0	Standard / -40...+302°F (-40...+150°C) / FKM/FPM
1	Standard / -4...+302°F (-20...+150°C) / Kalrez 6375
2	Metaglas® / -22...302°F (-30...+150°C) / FKM/FPM
3	Metaglas® / -4...+302°F (-20...+150°C) / Kalrez 6375
4	Standard / -58...302°F (-50...+150°C) / EPDM
5	Metaglas® / -22...+302°F (-30...+150°C) / EPDM
F	Standard / -40...+392°F (-40...+200°C) / FKM/FPM with distance piece included
G	Standard / -4...+392°F (-20...+200°C) / Kalrez 6375 with distance piece included
H	Metaglas® / -22...+392°F (-30...+200°C) / FKM/FPM with distance piece included
K	Metaglas® / -4...392°F (-20...+200°C) / Kalrez 6375 with distance piece included

Continued on next page



DR6300 - Non-contact Radar (FMCW) Level Meter

MODEL NUMBERING - CONTINUED

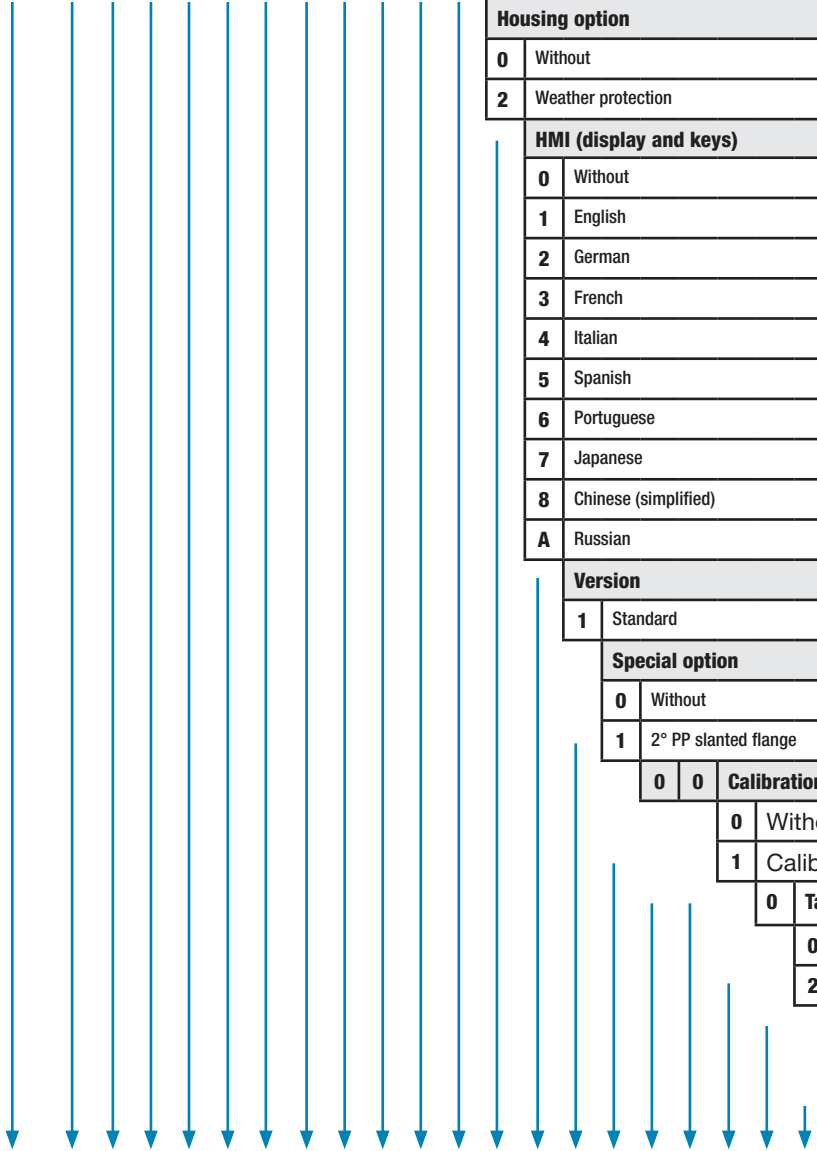
	Process connection EN	
0	Without	
3	G 1½A ISO 228	
7	DN80 PN40 Form B1 EN 1092-1	
8	DN100 PN16 Form B1 EN 1092-1	
A	DN100 PN40 Form B1 EN 1092-1	
B	DN150 PN16 Form B1 EN 1092-1	
C	DN150 PN40 Form B1 EN 1092-1	
D	DN200 PN16 Form B1 EN 1092-1	
E	DN200 PN40 Form B1 EN 1092-1	
	Process connection ASME	
0	Without	
3	1½ NPT	
A	3" 150 lb RF ASME B16.5	
B	3" 300 lb RF ASME B16.5	
C	4" 150 lb RF ASME B16.5	
D	4" 300 lb RF ASME B16.5	
E	6" 150 lb RF ASME B16.5	
F	8" 150 lb RF ASME B16.5	
	Process connection other	
0	Without	
7	10K 80A RF JIS B2220	
8	10K 100A RF JIS B2220	
	Output	
0	1 output: 4...20 mA (HART®)	
2	2 outputs: 4...20 mA (HART®) + 4...20 mA	
	Housing / Cable entry / Cable gland	
0	Aluminium / M20 × 1.5 / without	
1	Aluminium / ½ NPT / without	
2	Aluminium / G ½ / without	
3	Aluminium / M20 × 1.5 / plastic (non-Ex: black, Ex ia: blue)	
4	Aluminium / M20 × 1.5 / metal (only for Ex d)	
A	Stainless steel / M25 × 1.5 / without	
B	Stainless steel / ½ NPT / without	
D	Stainless steel / M25 × 1.5 / plastic M20 (non-Ex: black, Ex ia: blue)	
E	Stainless steel / M25 × 1.5 / metal M20 (only for Ex d)	

Continued on next page



DR6300 - Non-contact Radar (FMCW) Level Meter

MODEL NUMBERING - CONTINUED



DR63	4	0										0	0	0
------	---	---	--	--	--	--	--	--	--	--	--	---	---	---

Housing option			
0	Without		
2	Weather protection		
HMI (display and keys)			
0	Without		
1	English		
2	German		
3	French		
4	Italian		
5	Spanish		
6	Portuguese		
7	Japanese		
8	Chinese (simplified)		
A	Russian		
Version			
1	Standard		
Special option			
0	Without		
1	2° PP slanted flange		
0	0	Calibration certificate	
0	Without		
1	Calibration certificate 2 points		
0	Tag N°		
0	Without		
2	Tag n° on st. steel plate		

- 1 DIP= Dust Ignition Proof
- 2 This option is not available for devices with a Drop antenna
- 3 This option is available if the flange has a flange face Form B1 or Raised Face (RF)