

**Overview**

BR LD20 is a 2-wire, 5.8GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m.

**Benefits**

- Graphical local user interface (LUI) makes operation simple with plug-and-play setup using the intuitive Quick Start Wizard
- LUI displays echo profiles for diagnostic support
- Communication using HART
- Process Intelligence signal processing for improved measurement reliability and Auto False-Echo Suppression of fixed obstructions
- Programming using infrared Intrinsically Safe handheld programmer or SIMATIC PDM

**Application**

LD20's unique design allows safe and simple programming using the Intrinsically Safe handheld programmer without having to open the instrument's lid. It also features a built-in alphanumeric display in four languages.

Start-up is easy with as few as two parameters for basic operation. Installation is simplified as the electronics are mounted on a rotating head that swivels, allowing the instrument to line up with conduit or wiring connections. LD20 features patented Process Intelligence signal-processing technology for superior reliability.

- Key Applications: liquid bulk storage tanks, process vessels with agitators, vaporous liquids, high temperatures, asphalt, digesters



<Base Unit>

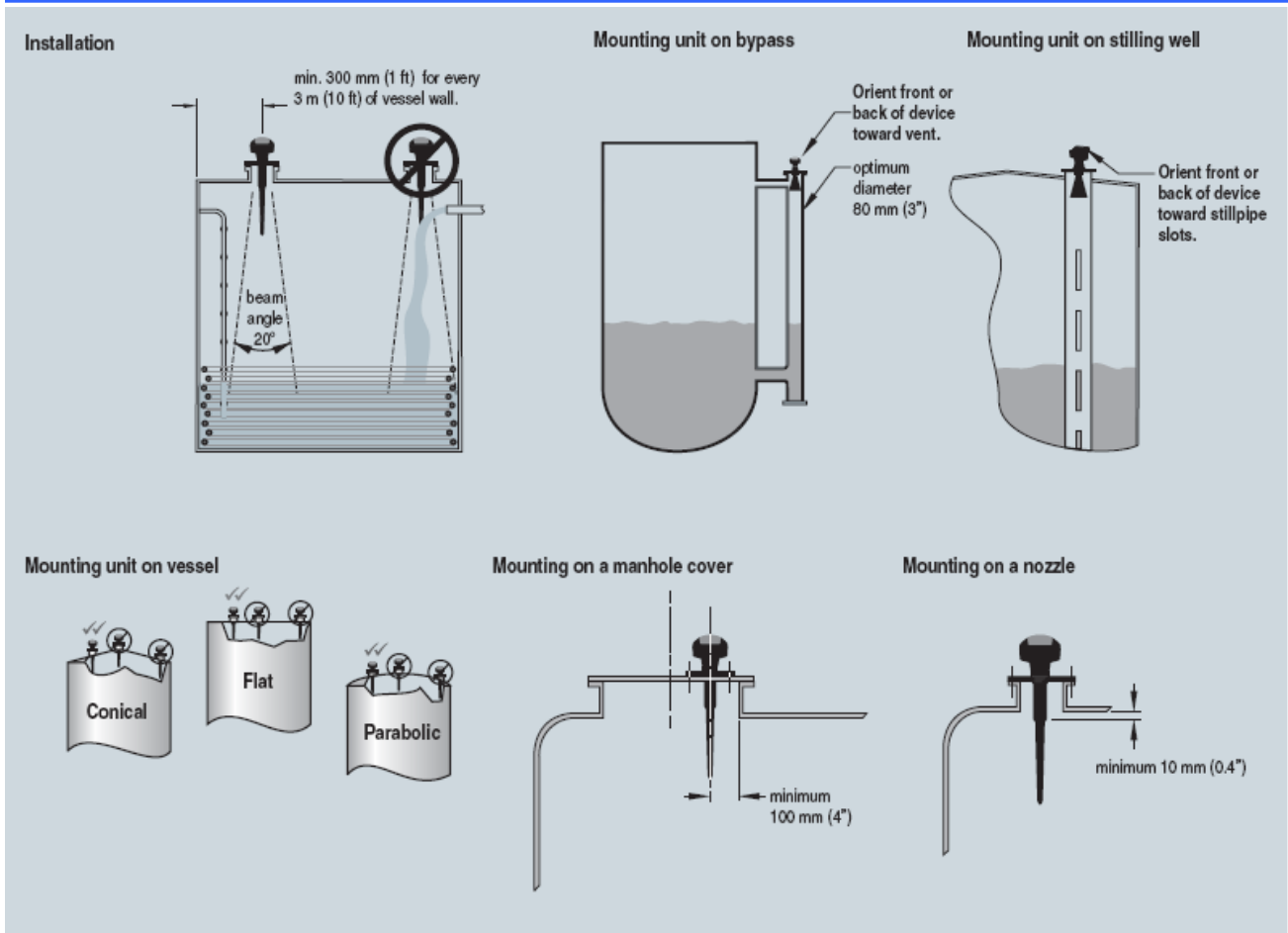
**Technical Specification**

<p><b>Mode of operation</b></p> <ul style="list-style-type: none"> <li>● Measuring principle</li> <li>● Frequency</li> <li>● Measuring range</li> </ul>	<p>Radar level measurement 5.8 GHz 0.3 to 20 m</p>
<p><b>Output</b></p> <ul style="list-style-type: none"> <li>● Analog output</li> <li>● Accuracy</li> <li>● Span</li> <li>● Communications</li> <li>● Fail-safe</li> </ul>	<p>4 to 20 mA ± 0.02 mA Proportional or inversely proportional HART Programmable as high, low or hold (Loss of Echo)</p>
<p><b>Performance</b></p> <ul style="list-style-type: none"> <li>● From end of antenna to 600 mm:</li> <li>● Remainder of range:</li> </ul>	<p>40 mm 10 mm or 0.1% of span(whichever is greater)</p>
<p><b>Rated operating conditions</b></p> <p>Installation conditions</p> <ul style="list-style-type: none"> <li>● Location</li> </ul> <p>Ambient conditions (enclosure)</p> <ul style="list-style-type: none"> <li>● Ambient temperature</li> </ul>	<p>Indoor/outdoor  -40 to +80 °C</p>

<b>Medium conditions</b> <ul style="list-style-type: none"> <li>Dielectric constant <math>\epsilon_r</math></li> </ul>	$\epsilon_r > 1.6$ (for $\epsilon_r < 3$ , use waveguide antenna or stillpipe)
<b>Design</b> <ul style="list-style-type: none"> <li>Enclosure             <ul style="list-style-type: none"> <li>Material</li> <li>Cable inlet</li> </ul> </li> <li>Degree of protection</li> <li>Weight</li> <li>Display (local)</li> <li>Antenna             <ul style="list-style-type: none"> <li>Material</li> <li>Dimensions</li> <li>Optional rods, horn and waveguides</li> </ul> </li> <li>Process connections             <ul style="list-style-type: none"> <li>Process connection</li> <li>Flange connection</li> </ul> </li> </ul>	Aluminium, spray-paint M20x1.5 IP65 < 2 kg (polypropylene rod antenna) Graphic local user interface including quick start wizard and echo profile displays Polypropylene rod, hermetically sealed construction, optional PTFE Standard 100 mm (4") shield for maximum 100 mm (4") nozzle, or optional 250 mm (10") long shield Refer to LD20 Antennas for

	optional rods, horns and waveguides  1½" NPT , G1½" Refer to LD20 Antennas for more connections
<b>Power supply</b> <ul style="list-style-type: none"> <li>General Purpose, Non-incendive, Intrinsiclly Safe</li> <li>Flame proof, Increased safety, Explosion proof</li> </ul>	Nominal 24 V DC (max. 30 V DC) with max. 550 Ω  Nominal 24 V DC (max. 30 V DC) with max. 250 Ω
<b>Programming</b> <ul style="list-style-type: none"> <li>Intrinsically Safe handheld Programmer             <ul style="list-style-type: none"> <li>Approvals for handheld programmer</li> </ul> </li> <li>Handheld communicator</li> <li>PC</li> <li>Display (local)</li> </ul>	Infrared receiver  Ex ia  HART communicator 375 SIMATIC PDM Graphic local user interface including quick start wizard and echo profile displays

Configuration



## Selection and Ordering data – Uni-Construction polypropylene rod antenna version

	Order Number
<b>LD20</b>	<input type="checkbox"/>
<b>LD20-00-</b>	<input type="checkbox"/>
Uni-Construction polypropylene rod antenna version	<input type="checkbox"/>
2-wire, 5.8GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m.	<input type="checkbox"/>
Max. 3 bar g pressure and +80°C	
<b>Enclosure/Cable inlet</b>	
Aluminum, spray-paint	
General M20x1.5	1
Blast protection M20x1.5	2
<b>Polypropylene antenna type(Max. 3 Bar pressure and +80 °C)</b>	
1½"NPT	A
G1½"	B
G1½", c/w integral 100 mm shield	C
1½" NPT, c/w integral 250 mm shield	D
G1½", c/w integral 250 mm shield	E
<b>Approvals</b>	
General Purpose	A
Ex ia IIC T6(exception acetylene)	E
Ex d[ia] ia IIC T6 ( exception acetylene )	H
<b>Communication/Output</b>	
4-20mA,HART	1
<b>Select fitting</b>	
Handheld programmer, Intrinsically safe Ex ia	<b>LD00-SCQ</b>

Selection and Order data – Flange Adapter/PTFE Rod Antenna Version

LD20, Flange Adapter/PTFE Rod Antenna Version 2-wire, 5.8GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m .	Order Number				
	□	□	□	□	□
<b>LD20-01- Antenna Version</b>					
<b>Antenna material (uses antenna adapter)</b> PTFE, uses antenna adapter and additional process connection below	1				
<b>Process connection</b>					
<u>Flanges (316L stainless steel)</u>					
DN 50 PN 16		A	A		
DN 80 PN 16		B	A		
DN 100 PN 16		C	A		
DN 150 PN 16		D	A		
DN 50 PN 40		A	B		
DN 80 PN 40		B	B		
DN 100 PN 40		C	B		
DN 150 PN 40		D	B		
Other standard flanges		Y	Y		
<u>Threaded connection (316L stainless steel)</u>					
G1½"(parallel threaded)		F	C		
G2"(parallel threaded)		G	C		
1½" NPT		H	C		
2" NPT		J	C		
Other standard threaded connection		Z	Z		
<b>Antenna extensions or Inactive shield length</b>					
No antenna extension				0	
50 mm extension, PTFE				1	
100 mm extension, PTFE				2	
100 mm extension, 316L stainless steel shield <sup>1)</sup>				3	
150 mm extension, 316L stainless steel shield <sup>1)</sup>				4	
200 mm extension, 316L stainless steel shield <sup>1)</sup>				5	
250 mm extension, 316L stainless steel shield <sup>1)</sup>				6	
<b>Process seal/gasket</b>					
Integral Gasket				0	
FKM O-ring,				1	
<b>Enclosure/Cable inlet</b>					
<u>Aluminum, spray-paint</u>					
General M20x1.5					1
Blast protection M20x1.5					2
<b>Communication/Output</b>					
4-20mA,HART					A
<b>Approvals</b>					
General Purpose					A
Ex ia IIC T6(exception acetylene)					E
Ex d[ia] ia IIC T6 ( exception acetylene )					H
<b>Select fitting</b>					
Handheld programmer, Intrinsically safe Ex ia					LD00-SCQ

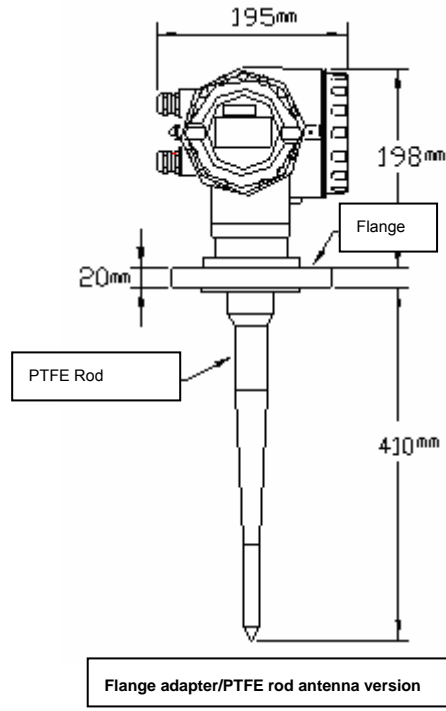
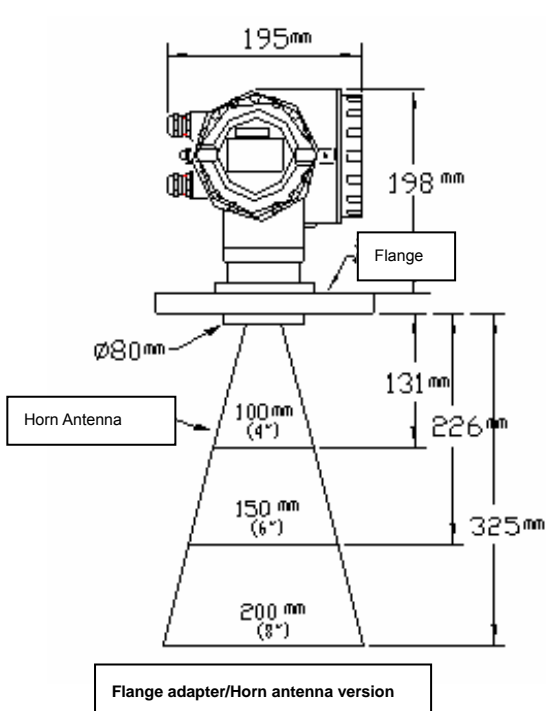
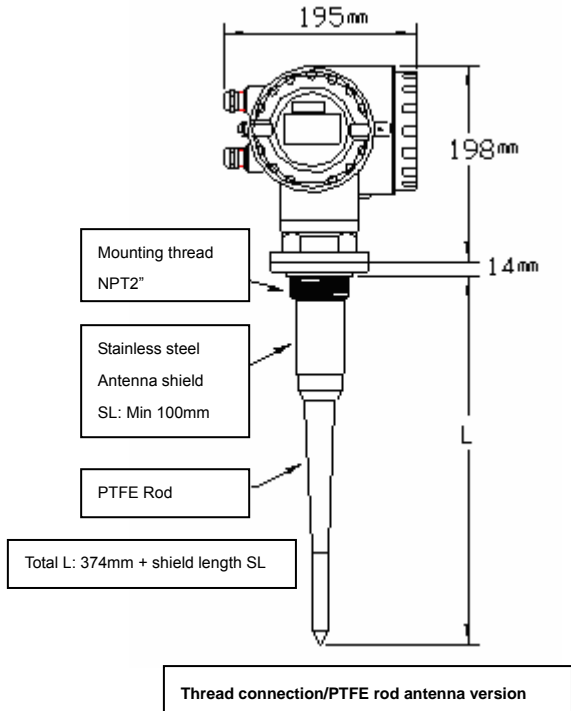
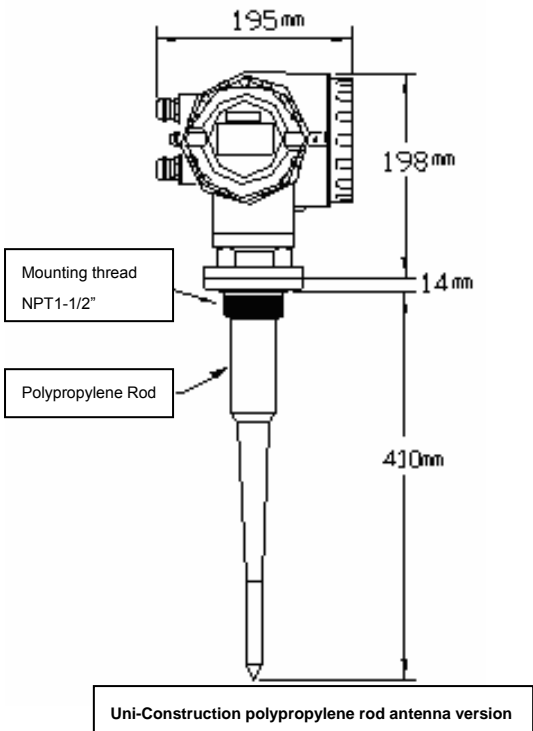
1) No supply with process connection options AA、 FC

## Selection and Ordering data – Flange Adapter/Horn Antenna Version

LD20, Flange Adapter/Horn Antenna Version	LD20-02-							
<b>Antenna Version</b> 2-wire, 5.8GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m.								
<b>Antenna Material (uses antenna adapter)</b> 316L stainless steel with PTFE cone emitter Sliding waveguide system with 1000 mm (40") waveguide	0 1							
<b>Process connection</b> <u>Flanges (316L stainless steel)</u> DN 50 PN 16 DN 80 PN 16 DN 100 PN 16 DN 150 PN 16 DN 200 PN 16 Other standard flanges		A B C D E Y	A A A A A Y					
<b>Horn size/Waveguide options</b> 100 mm horn <sup>1)</sup> 150 mm horn 200 mm horn 100 mm horn with 100 mm waveguide extension <sup>1)</sup> 100 mm horn with 150 mm waveguide extension <sup>1)</sup> 100 mm horn with 200 mm waveguide extension <sup>1)</sup> 100 mm horn with 250 mm waveguide extension <sup>1)</sup> 150 mm horn with 100 mm waveguide extension 150 mm horn with 150 mm waveguide extension 150 mm horn with 200 mm waveguide extension 150 mm horn with 250 mm waveguide extension 200 mm horn with 100 mm waveguide extension 200 mm horn with 150 mm waveguide extension 200 mm horn with 200 mm waveguide extension 200 mm horn with 250 mm waveguide extension				A B C D E F G H J K L M N P Q				
<b>Process seal/gasket</b> FKM (-40 to +200 °C) Nitrile (-40 to +100 °C), sliding waveguide systems only FFKM (-35 to +200 °C)					0 1 2			
<b>Enclosure/Cable inlet</b> <u>Aluminum, spray-paint</u> General M20x1.5 Blast protection M20x1.5						1 2		
<b>Communication/Output</b> 4-20mA, HART							A	
<b>Approvals</b> General Purpose Ex ia IIC T6 (exception acetylene) Ex d[ia] ia IIC T6 (exception acetylene)								A E H
<b>Select fitting</b> Handheld programmer, Intrinsically safe Ex ia								LD00-SCQ

1) For stillpipe applications only

Dimension



\*Specification subject to change without notice.



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