

**SITRANS LR250 horn antenna**  
 7ML5431-  
 2-wire, 25 GHz 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 (66 ft) (antenna dependent). Ideal for small vessels and low dielectric media.

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

**Process Connection and Antenna Material**

316L (1.4435 or 1.4404) stainless steel, PTFE emitter, FKM seal<sup>1)</sup>    0

316L (1.4435 or 1.4404) stainless steel, PTFE emitter, FFKM seal<sup>1)</sup>    1

Hastelloy C-22/2.4602 (or equivalent), PTFE emitter, FKM seal<sup>2)</sup>    2

Hastelloy C-22/2.4602 (or equivalent), PTFE emitter, FFKM seal<sup>2)</sup>    3

**Process Connection Type**

Threaded connection 316L

1½" NPT (ASME B1.20.1) (tapered thread)<sup>3)</sup>    A A

R 1½" [(BSPT), EN 10226-1] (tapered thread)<sup>3)</sup>    A B

G 1½" [(BSPP), EN ISO 228-1] (parallel thread)<sup>3)</sup>    A C

2" NPT (ASME B1.20.1) (tapered thread)    A D

R 2" [(BSPT), EN 10226-1] (tapered thread)    A E

G 2" [(BSPP), EN ISO 228-1] (parallel thread)    A F

3" NPT (ASME B1.20.1) (tapered thread)    A G

R 3" [(BSPT), EN 10226-1] (tapered thread)    A H

G 3" [(BSPP), EN ISO 228-1] (parallel thread)    A J

**Flanged connection 316L**

2" Class 150 ASME B16.5 flat face<sup>4)</sup>    B A

3" Class 150 ASME B16.5 flat face<sup>4)</sup>    B B

4" Class 150 ASME B16.5 flat face<sup>4)</sup>    B C

2" Class 150 ASME B16.5, raised face    B D

3" Class 150 ASME B16.5, raised face    B E

4" Class 150 ASME B16.5, raised face    B F

2" Class 300 ASME B16.5 flat face<sup>4)</sup>    C A

3" Class 300 ASME B16.5 flat face<sup>4)</sup>    C B

4" Class 300 ASME B16.5 flat face<sup>4)</sup>    C C

2" Class 300 ASME B16.5, raised face    C D

3" Class 300 ASME B16.5, raised face    C E

4" Class 300 ASME B16.5, raised face    C F

DN 50 PN 16 EN 1092-1 Type A flat face<sup>4)</sup>    D A

DN 80 PN 16 EN 1092-1 Type A flat face<sup>4)</sup>    D B

DN 100 PN 16 EN 1092-1 Type A flat face<sup>4)</sup>    D C

DN 50 PN 40 EN 1092-1 Type A flat face<sup>4)</sup>    E A

DN 80 PN 40 EN 1092-1 Type A flat face<sup>4)</sup>    E B

DN 100 PN 40 EN 1092-1 Type A flat face<sup>4)</sup>    E C

50A 10K JIS B 2220 flat face<sup>4)</sup>    F A

80A 10K JIS B 2220 flat face<sup>4)</sup>    F B

100A 10K JIS B 2220 flat face<sup>4)</sup>    F C

DN 50 PN 16 EN 1092-1 Type B1 raised face    G A

DN 80 PN 16 EN 1092-1 Type B1 raised face    G B

DN 100 PN 16 EN 1092-1 Type B1 raised face    G C

DN 150 PN 16 EN 1092-1 Type B1 raised face    G D

DN 50 PN 40 EN 1092-1 Type B1 raised face    H A

DN 80 PN 40 EN 1092-1 Type B1 raised face    H B

DN 100 PN 40 EN 1092-1 Type B1 raised face    H C

DN 150 PN 40 EN 1092-1 Type B1 raised face    H D

**SITRANS LR250 horn antenna**  
 7ML5431-  
 2-wire, 25 GHz 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 (66 ft) (antenna dependent). Ideal for small vessels and low dielectric media.

**Flanged connection Hastelloy C**

2" Class 150 ASME B16.5 raised face<sup>4)</sup>    J A

3" Class 150 ASME B16.5 raised face<sup>4)</sup>    J B

4" Class 150 ASME B16.5 raised face<sup>4)</sup>    J C

2" Class 300 ASME B16.5 raised face<sup>4)</sup>    J D

3" Class 300 ASME B16.5 raised face<sup>4)</sup>    J E

4" Class 300 ASME B16.5 raised face<sup>4)</sup>    J F

DN 50 PN 16 EN 1092-1 Type B1 raised face<sup>4)</sup>    K A

DN 80 PN 16 EN 1092-1 Type B1 raised face<sup>4)</sup>    K B

DN 100 PN 16 EN 1092-1 Type B1 raised face<sup>4)</sup>    K C

DN 50 PN 40 EN 1092-1 Type B1 raised face<sup>4)</sup>    K D

DN 80 PN 40 EN 1092-1 Type B1 raised face<sup>4)</sup>    K E

DN 100 PN 40 EN 1092-1 Type B1 raised face<sup>4)</sup>    K F

50A 10K JIS B 2220 raised face<sup>4)</sup>    L A

80A 10K JIS B 2220 raised face<sup>4)</sup>    L B

100A 10K JIS B 2220 raised face<sup>4)</sup>    L C

DN 50 PN 16 EN 1092-1 Type B1 raised face    M A

DN 80 PN 16 EN 1092-1 Type B1 raised face    M B

DN 100 PN 16 EN 1092-1 Type B1 raised face    M C

DN 150 PN 16 EN 1092-1 Type B1 raised face    M D

DN 50 PN 40 EN 1092-1 Type B1 raised face    M E

DN 80 PN 40 EN 1092-1 Type B1 raised face    M F

DN 100 PN 40 EN 1092-1 Type B1 raised face    M G

DN 150 PN 40 EN 1092-1 Type B1 raised face    M H

**Communication/Output**

PROFIBUS PA<sup>6)</sup>    1

4 ... 20 mA, HART, start-up at < 3.6 mA    2

FOUNDATION Fieldbus<sup>5)</sup>    3

**Enclosure/Cable inlet**

Aluminum Epoxy painted

2 x ½" NPT    0

2 x M20 x 1.5    1

**Antenna**

1½" horn<sup>3)</sup>    A

2" horn (fits 2" ASME or DN 50 nozzles)    B

3" horn (fits 3" ASME or DN 80 nozzles)    C

4" horn (fits 4" ASME or DN 100 nozzles)    D

1½" horn with 100 mm extension<sup>3)</sup>    E

2" horn with 100 mm extension    F

3" horn with 100 mm extension    G

4" horn with 100 mm extension    H

Hastelloy C22 (or equivalent)

2" horn (fits 2" ASME or DN 50 nozzles)    J

3" horn (fits 3" ASME or DN 80 nozzles)    K

4" horn (fits 4" ASME or DN 100 nozzles)    L

2" horn (fits 2" ASME or DN 50 nozzles) with 100 mm extension    M

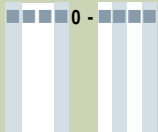
3" horn (fits 3" ASME or DN 80 nozzles) with 100 mm extension    N

4" horn (fits 4" ASME or DN 100 nozzles) with 100 mm extension    P

**SITRANS LR250 horn antenna**

**7ML5431-**

2-wire, 25 GHz 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 (66 ft) (antenna dependent). Ideal for small vessels and low dielectric media.



**Approvals**

General Purpose: CE, CSA, FM, FCC, R&TTE, RCM ●	<b>A</b>
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 ●	<b>B</b>
Intrinsically Safe: IECEx/ATEX II 1 G Ex ia IIC T4 Ga, IECEx/ATEX II 1D Ex ia ta IIIC T100 °C Da, INMETRO Ex ia IIC T4 Ga, Ex ia ta IIIC T100 °C Da, CE, R&TTE, RCM ●	<b>C</b>
Non-incendive: CSA/FM Class I, Div. 2, Groups A, B, C, D T5, FCC, Industry Canada ●	<b>D</b>
Non Sparking: ATEX II 3G Ex nA IIC T4 Gc, CE, R&TTE, RCM ●	<b>E</b>
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, R&TTE, RCM <sup>5)</sup> ●	<b>F</b>
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, R&TTE, RCM <sup>5)</sup> ●	<b>G</b>
Explosion proof: CSA/FM Class I, II, and III, Div. 1, Groups A, B, C, D, E, F, G, FCC, Industry Canada <sup>5)</sup> ●	<b>H</b>
Non Sparking: NEPSI Ex nA IIC T4 Gc ●	<b>K</b>
Intrinsically Safe: NEPSI Ex ia IIC T4 Ga, Ex iaD tD A20 IP67 T100 °C ●	<b>L</b>
Flameproof: NEPSI Ex d ia mb IIC T4 Ga/Gb, Ex iaD tD A20 IP67 T100 °C <sup>5)</sup> ●	<b>M</b>
Increased Safety: NEPSI Ex e ia mb IIC T4 Ga/Gb, Ex iaD tD A20 IP67 T100 °C <sup>5)</sup> ●	<b>N</b>

**Pressure rating**

Rating per Pressure/Temperature curves in manual ●	<b>0</b>
0.5 bar g (7.25 psi g) maximum <sup>7)</sup> ●	<b>1</b>

- 1) Available with process connection options AA ... HD and Antenna Versions A ... H only
- 2) Available with process connection options JA ... MH and Antenna Versions J ... P only
- 3) Available for Antenna versions A and E only, max. range 10 m (32.8 ft), dk > 3 and A and E only available for Process Connection options AA, AB, and AC
- 4) Siemens type flange (flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2220 standard), see operating instructions for details
- 5) Applicable with communication option 2 only
- 6) Available with Approval options A, B, C, D, K, and L
- 7) Available with Process Connection and Antenna Material 0, 1, 2, and 3 only

● We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ●. For details see page 9/5 in the appendix.

**Selection and Ordering data** Order code

**Further designs**

Please add "-Z" to Article No. and specify Order code(s).

Plug M12 with mating Connector <sup>1)2)3)</sup>	◆ <b>A50</b>
Plug 7/8" with mating Connector <sup>2)3)4)</sup>	◆ <b>A55</b>
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text	◆ <b>Y15</b>
Manufacturer's Test Certificate: M to DIN 55350, Part 18 and to ISO 9000	◆ <b>C11</b>
Inspection certificate 3.1 of EN 10204	◆ <b>C12</b>
Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511 <sup>3)5)</sup>	◆ <b>C20</b>
Namur NE43 compliant, device preset to failsafe < 3.6 mA <sup>5)</sup>	◆ <b>N07</b>

**Compact Operating Instructions for HART/mA device** Article No.

English, French, German, Spanish, Italian, Dutch, Danish, Finnish, Greek, Portuguese (Portugal), Swedish	<b>A5E33469191</b>
English, Bulgarian, Czech, Estonian, Hungarian, Latvian, Lithuanian, Polish, Romanian, Slovakian, Slovenian	<b>A5E33469171</b>
English, Portuguese (Brazil), Chinese	<b>A5E34046583</b>

Note: The Operating Instructions should be ordered as a separate line item on the order.

All literature is available to download for free, in a range of languages, at <http://www.siemens.com/processinstrumentation/documentation>

This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Compact Operating Instructions and Operating Instructions library.

**Compact Operating Instructions for PROFIBUS PA device**

English, French, German, Spanish, Italian, Dutch, Danish, Finnish, Greek, Portuguese (Portugal), Swedish	<b>A5E33469239</b>
English, Bulgarian, Czech, Estonian, Hungarian, Latvian, Lithuanian, Polish, Romanian, Slovakian, Slovenian	<b>A5E33472685</b>
English, Portuguese (Brazil), Chinese	<b>A5E34046624</b>

Note: The Operating Instructions should be ordered as a separate line item on the order.

All literature is available to download for free, in a range of languages, at <http://www.siemens.com/processinstrumentation/documentation>

This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Compact Operating Instructions and Operating Instructions library.

**Selection and Ordering data** Article No.

**Compact Operating Instructions for FOUNDATION Fieldbus device**

English, French, German, Spanish, Italian, Dutch, Danish, Finnish, Greek, Portuguese (Portugal), Swedish	<b>A5E33472700</b>
English, Bulgarian, Czech, Estonian, Hungarian, Latvian, Lithuanian, Polish, Romanian, Slovakian, Slovenian	<b>A5E33472738</b>
English, Portuguese (Brazil), Chinese	<b>A5E34046626</b>

Note: The Operating Instructions should be ordered as a separate line item on the order.

All literature is available to download for free, in a range of languages, at <http://www.siemens.com/processinstrumentation/documentation>

This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Compact Operating Instructions and Operating Instructions library.

**Accessories**

Handheld programmer, Intrinsically safe, EEx ia	<b>7ML1930-1BK</b>
HART modem/USB (for use with a PC and SIMATIC PDM)	<b>7MF4997-1DB</b>
One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), HART (two are required)	<b>7ML1930-1AP</b>
One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), PROFIBUS PA and FOUNDATION Fieldbus (two are required) <sup>6)</sup>	<b>7ML1930-1AQ</b>
FDA approved FKM O-ring for 2" G (BSPP) process connections -28 ... +80 °C (-28 ... +176 °F)	<b>7ML1830-3AN</b>
SITRANS RD100, loop powered display - see Chapter 7	<b>7ML5741-...</b>
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	<b>7ML5740-...</b>
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7	<b>7ML5744-...</b>
SITRANS RD500 web, universal remote monitoring solution for instrumentation - see Chapter 7	<b>7ML5750-...</b>

For applicable back up point level switch - see point level measurement section

1) Available with enclosure option 1 only  
 2) To be used with communication options 1 and 3 only. Connector has IP67 rating.  
 3) Available with approval options A and B. Available with approval option C for use on intrinsically safe applications only. Not rated for dust Ex.  
 4) Available with enclosure option 0 only  
 5) Applicable to communication option 2 only  
 6) For use with communication options 1 and 3 only

◆ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ◆. For details see page 9/5 in the appendix.