5.3 SLG 75

Application area SLG 75

The SLG 75 ANT is a read/write device in the middle of the performance range. It can only be used with ANT 1, ANT 4, ANT 12, ANT 18 and ANT 30. The antennas can be very easily positioned for any application. The cable between the antenna and evaluation unit is 3 m long. The length cannot be changed.
The antenna cable can be connected on the SLG side.
The SLG 75 can be operated at the following interfaces:
ASM 400, ASM 410, ASM 424, ASM 450, ASM 452, ASM 454, ASM 470, ASM 473 and ASM 475.

Figure 5-6 Read/write device SLG 75

Areas of application of the antennas

ANT 1

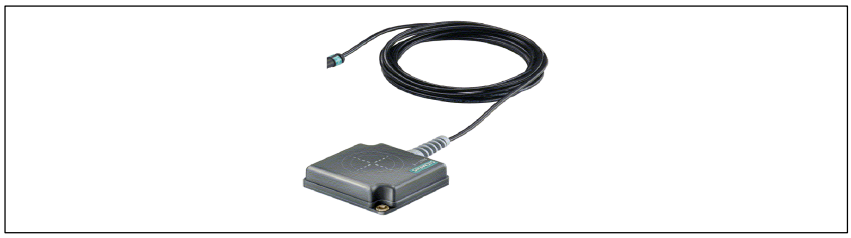

Figure 5-7 ANT 1 for SLG 75

The ANT 1 is an antenna in the middle of the performance range which is very useful in production plants and assembly lines because of its easily handled housing.
The antenna's dimensions make it possible to read/write large volumes of data from/to the MDS during operation. The antenna cable can be connected on the SLG side.

ANT 4

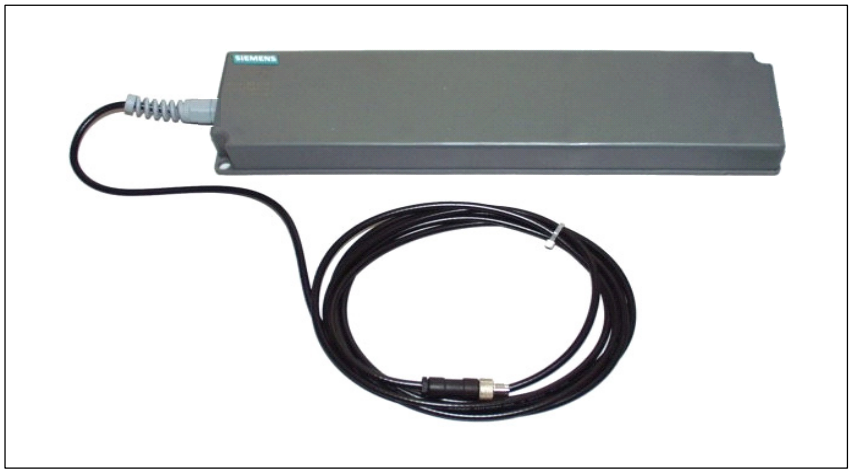

Figure 5-8 ANT 4 for SLG 75

The ANT 4 was specially conceived for use in manufacturing plans and assembly lines.
Due to its wide transmission area, the antenna can be used every where high speeds are required. The cable length between the antenna and the evaluating processor unit is 3 m and is connected to the electronics side.

ANT 12

Figure 5-9 ANT 12 for the SLG 75

The ANT 12 is intended primarily for tool identification. The very small size of the antenna permits very accurate positioning using the plastic nuts included with it. The antenna cable can be connected on the SLG side. Data carrier communication is only possible with the MDS E623 (tool pill) in static mode.

ANT 18

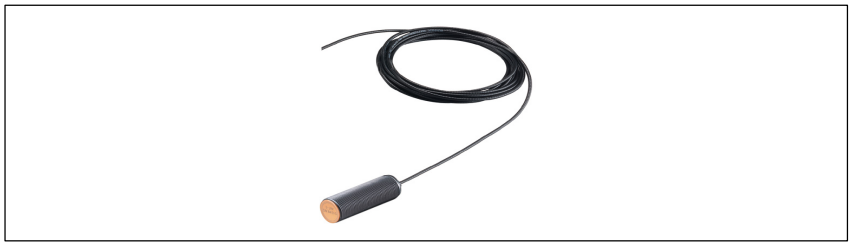

Figure 5-10 ANT 18 for the SLG 75

The ANT 18 was designed primarily for use in small assembly lines. The small, compact dimensions of the antenna with its two plastic nuts (included with the product) make it easy to position for any application. The antenna cable can be connected on the SLG side. Data carrier communication is only possible with the MDS E624 in static mode.

ANT 30

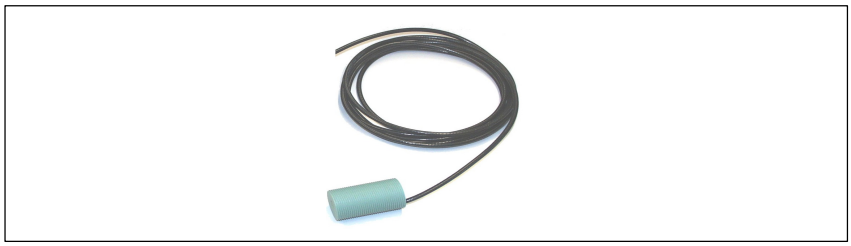

Figure 5-11 ANT 30 for the SLG 75

The ANT 30 was designed primarily for use in small assembly lines. The maximum read/write range is approximately 60% greater than the ANT 18. The compact dimensions of antenna with its two plastic nuts (included with the product) make it very easy to position for any application. The antenna cable can be connected on the SLG side. Data carrier communication is only possible with the MDS E624 in static mode.

Ordering data

Table 5-5 Ordering data for the SLG 75 and ANT xx

SLG 75 write/read device with RS 422 serial interface The antenna is not included with the SLG 75 and must be ordered separately.		6GT2 398-1AF00
Antennas:		
ANT 1	75 x 75 x 20 (L x W x H)	6GT2 398-1CB00
ANT 4	320 x 80 x 30 (L x W x H)	6GT2 398-1CE00
ANT 4	with antenna cable with hose	6GT2 398-1CE00-0AX0
ANT 12	M12 x 1.0 x 40 (∅ x wght x L)	6GT2 398-1CC00
ANT 18	M18 x 1.0 x 55 (∅ x wght x L)	6GT2 398-1CA00
ANT 30	M30 x 1.5 x 58 (∅ x wght x L)	6GT2 398-1CD00
SLG connector and plug-in line		See Section 3.7

Technical data

Table 5-6 Technical data of the SLG 75

Read/write device	SLG 75
Inductive interface to MDS	
ANT-MDS read/write distances	See field data
Transmission frequency	13.56 MHz
Serial interface to ASM	RS 422
Data transmission speed	19200 Baud
Max. ASM - SLG cable length (with 24 V DC and a conductor cross-section of 0.2 mm^2)	120 m
Max. data cable length. See cable configuration in Table 3-13.	1000 m
MDS addressing command	Direct access via addresses Initialize MDS, read data from MDS, write data to MDS
Supply voltage (via serial interface)	
Nominal value Permissible range	24 V DC 20 to 30 V DC
Current consumption	
Switch-on current (brief) Operation (at 24 V DC)	Max. of 700 mA 180 mA (typical)
MTBF (at +40 °C)	2.5 x 10^5 hours
Housing	
Dimensions (in mm)	
Electronics w/o connectors (L x W x H)	160 x 80 x 40
Color	Anthracite
Material	Plastic (PA 12)
Connector	
Data	6-pin SLG connector in accordance with DIN 43651 (pin, device side)
Protection rating in accordance with EN 60529	IP65
Vibration in accordance with EN 60721-3-7/class 7M2	30 g[1]
Vibration in accordance with EN 60721-3-7/class 7M2	1 g (3 to 200 Hz)[1] 1.5 g (200 to 500 Hz)[1]
Mounting of SLG	2 M5 screws
Tightening torque at room temperature	≤ 3 Nm
Ambient temperature During operation During transportation and storage	 –25 °C to + 70 °C –40 °C to + 85 °C
Weight (approx.)	520 g
Certification	CE, UL/CSA, FCC

1 **Warning:** The values for shock and vibration are maximum values and must not occur continuously.

Table 5-7 Technical data of the antennas

Antenna	ANT 1	ANT 4	ANT 12	ANT 18	ANT 30
Write/read distance, max. ANT-MDS (S_g).	100 mm	90 mm	5 mm	15 mm	24 mm
Housing dimensions in mm	75 x 75 x 20 (L x W x H)	320 x 80 x 30 (L x W x H)	M12 x 1.0 x 40 (∅ x wght x L)	M18 x 1.0 x 55 (∅ x wght x L)	M30 x 1.5 x 58 (∅ x wght x L)
Color	Anthracite		Pastel turquoise		
Material	Plastic (PA 12)		Plastic Crastin		
Connector	4-pin pin, antenna side				
Antenna line length	3 m				
Protection rating in accordance with EN 60529	IP67		IP67 (front)		
Vibration in accordance with EN 60721-3-7/class 7M2 Vibration in accordance with EN 60721-3-7/class 7M2	50 g[1] 20 g (3 to 500 Hz)[1]				
Mounting of antenna	2 M5 screws		2 plastic nuts M12 x 1.0	2 plastic nuts M18 x 1.0	2 plastic nuts M30 x 1.5
Ambient temperature During operation During transportation and storage	 –25 °C to +70 °C –40 °C to +85 °C				
MTBF (at +40 °C)	2.5 x 10^5 hours				
Weight (approx.)	80 g	550 g	45 g	120 g	150 g

1 **Warning:** The values for shock and vibration are maximum values and must not occur continuously.

Field data

Table 5-8 Field data of the SLG 75 with antenna

SLG 75	ANT 1	ANT 4	ANT 12	ANT 18	ANT 30
Working distance (S_a)	0 to 70 mm	0 to 70 mm	0 to 4 mm	0 to 8 mm	0 to 18 mm
Limit distance (S_g)	100 mm	90 mm	5 mm	15 mm	24 mm
Diameter of the transmission window (L_d)	Depends on MDS	Depends on MDS	8 mm	Depends on MDS	14 mm
Minimum distance from SLG to SLG (D)	> 800 mm	> 800 mm	> 80 mm	> 125 mm	> 200 mm

Transmission window

Transmission window:
The antenna of the MDS must be positioned within this field to ensure reliable data transfer.

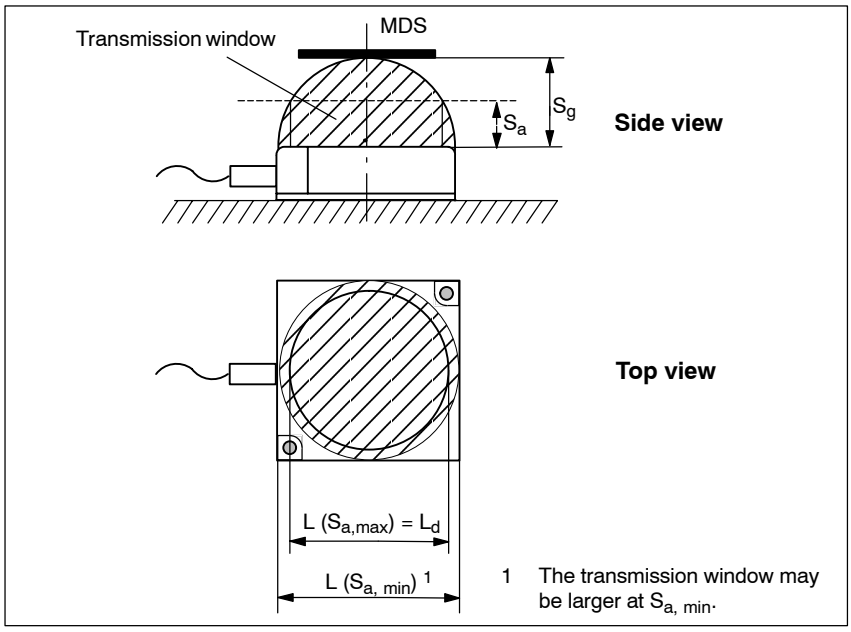

Figure 5-12 Transmission window of the ANT 1

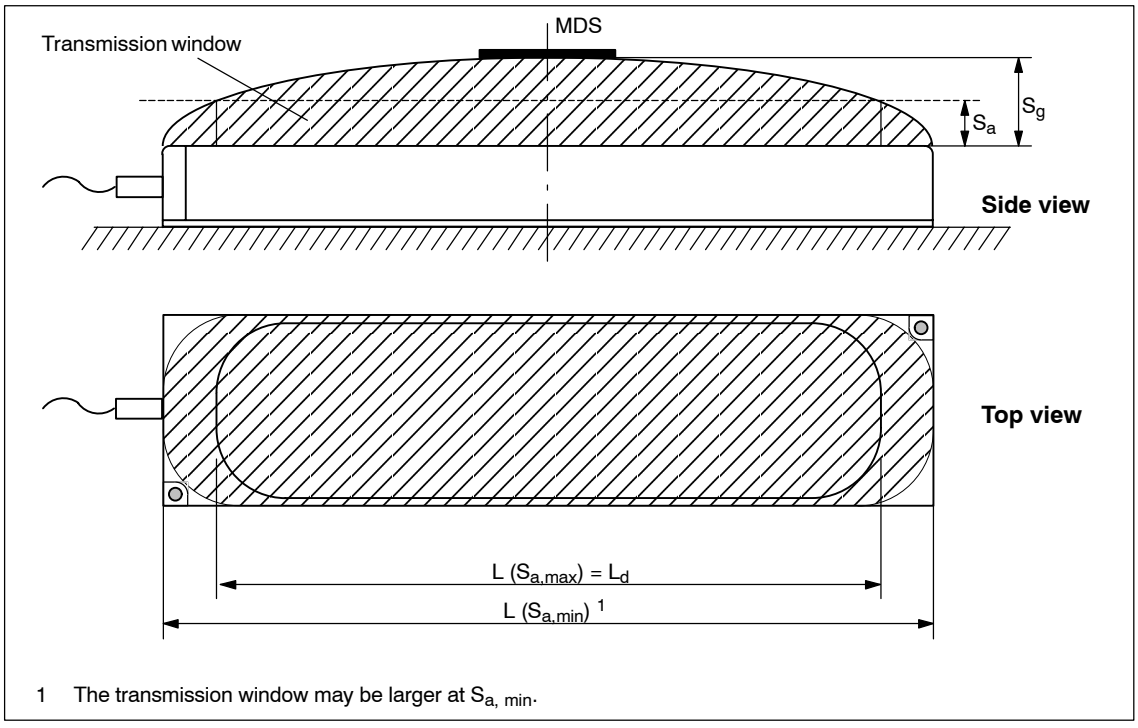

Figure 5-13 Transmission window of the ANT 4

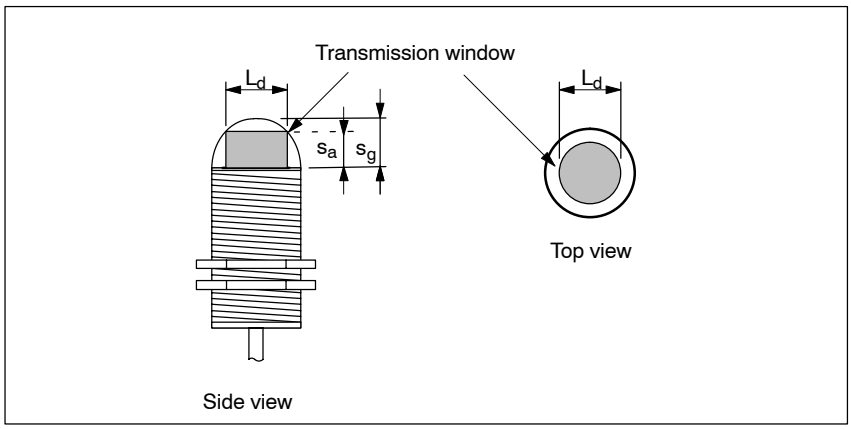

Figure 5-14 Transmission window of the ANT 12

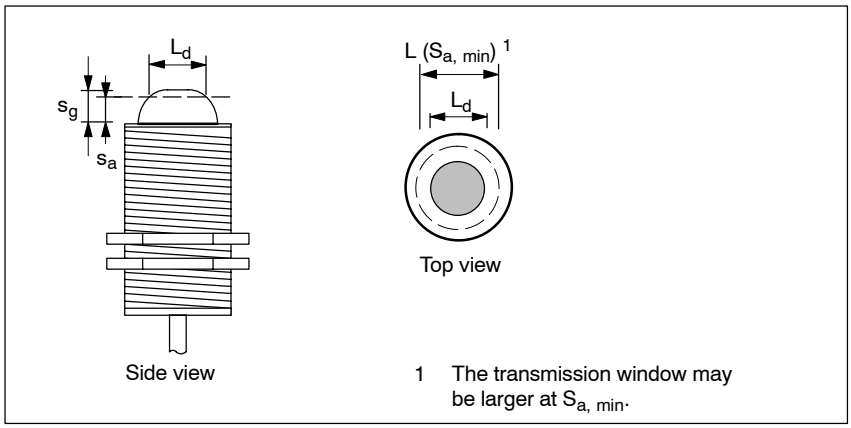

Figure 5-15 Transmission window of the ANT 18

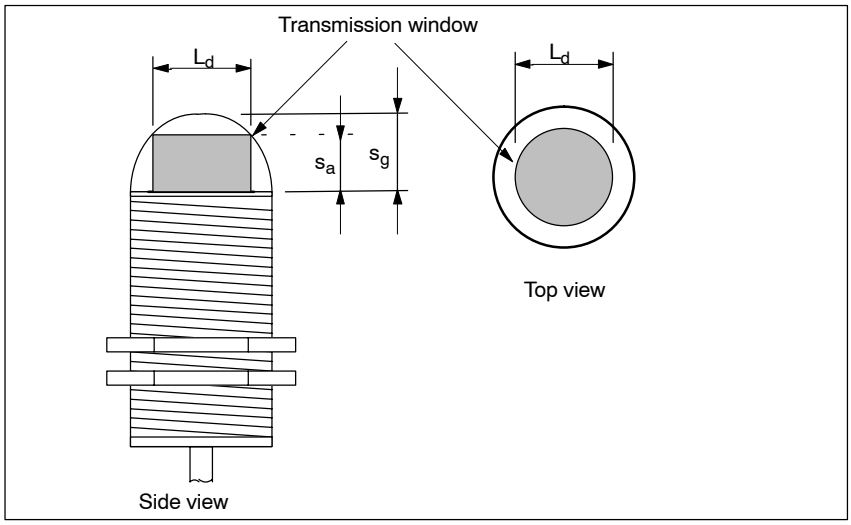

Figure 5-16 Transmission window of the ANT 30

Metal-free space

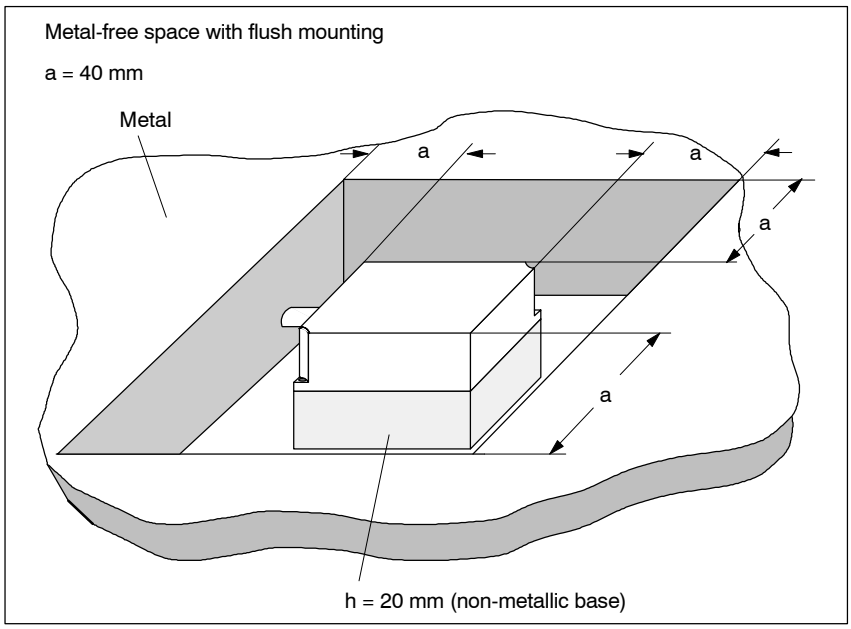

Figure 5-17 Metal-free space for the ANT 1

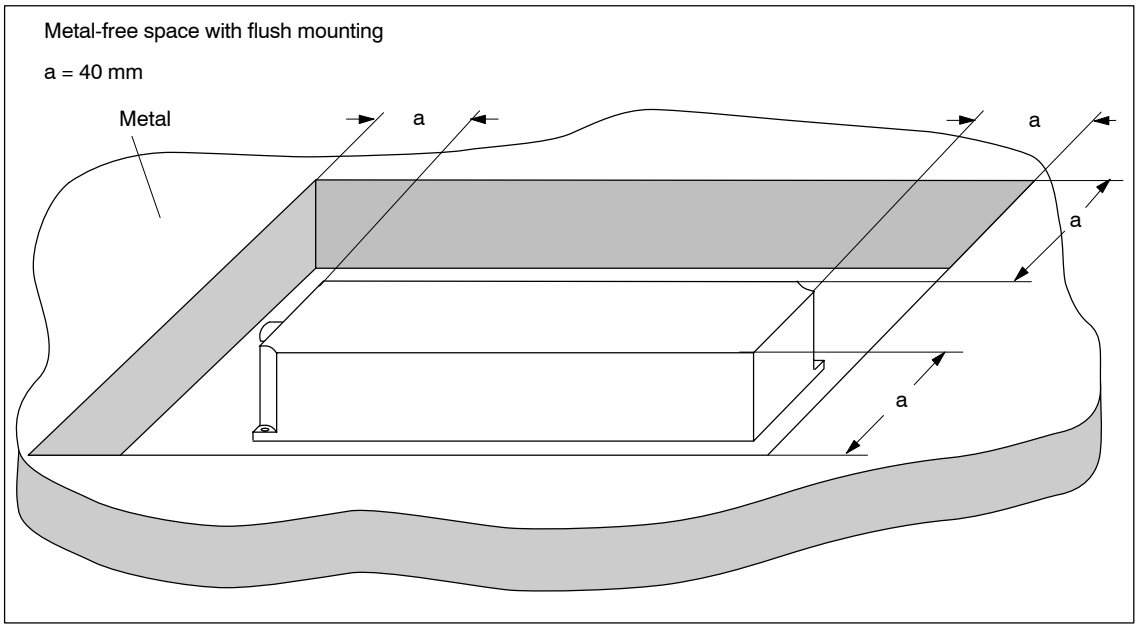

Figure 5-18 Metal-free space for the ANT 4

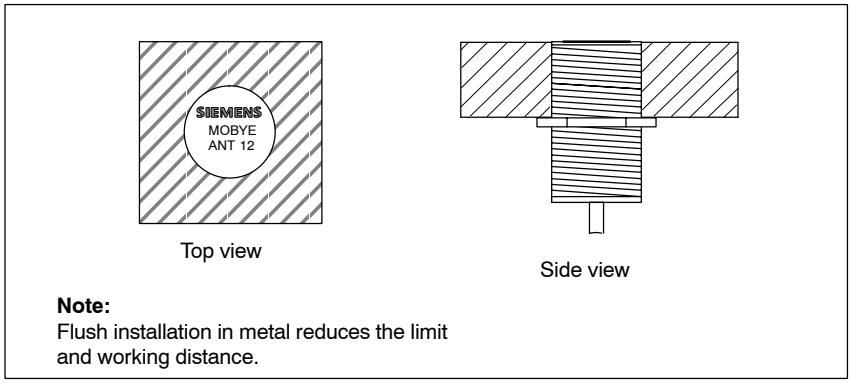

Figure 5-19 Metal-free space for the ANT 12

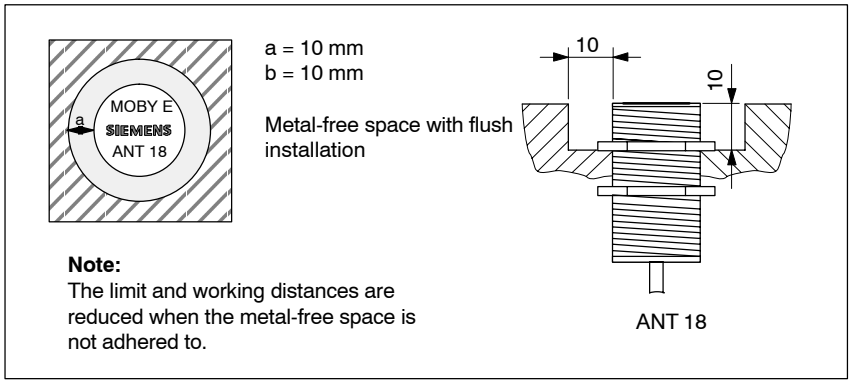

Figure 5-20 Metal-free space for the ANT 18

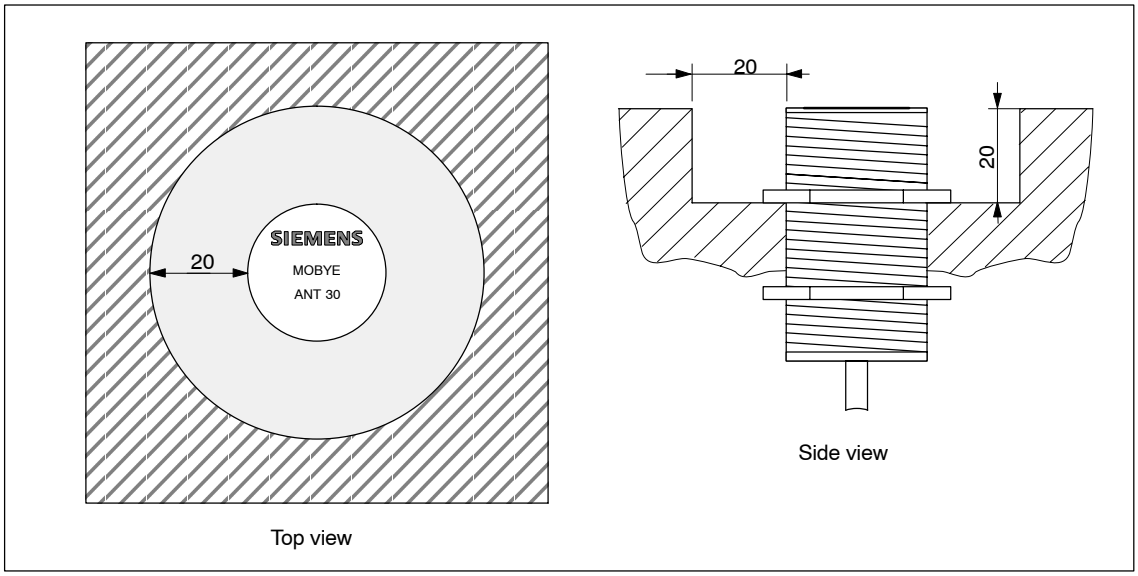

Figure 5-21 Metal-free space for the ANT 30

FCC information

Made in Germany

SIEMENS MOBY E SLG 75

FCC ID: NXWMOBYE-SLG75

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

Note

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment:
Such modifications could void the user's authority to operate the equipment.

Definition of the Distance D

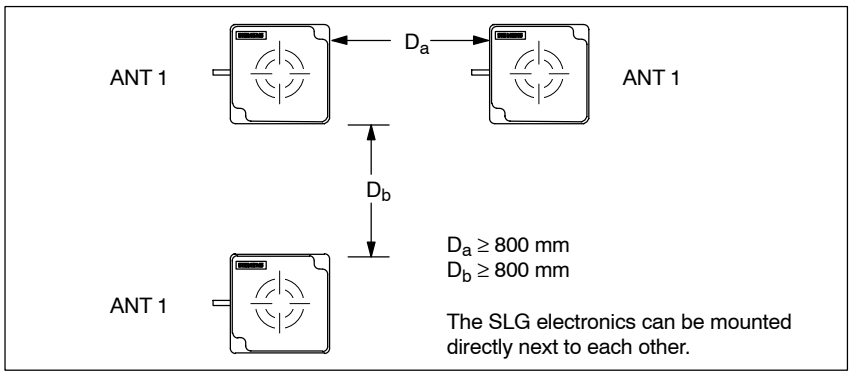

Figure 5-22 Distance D: ANT 1

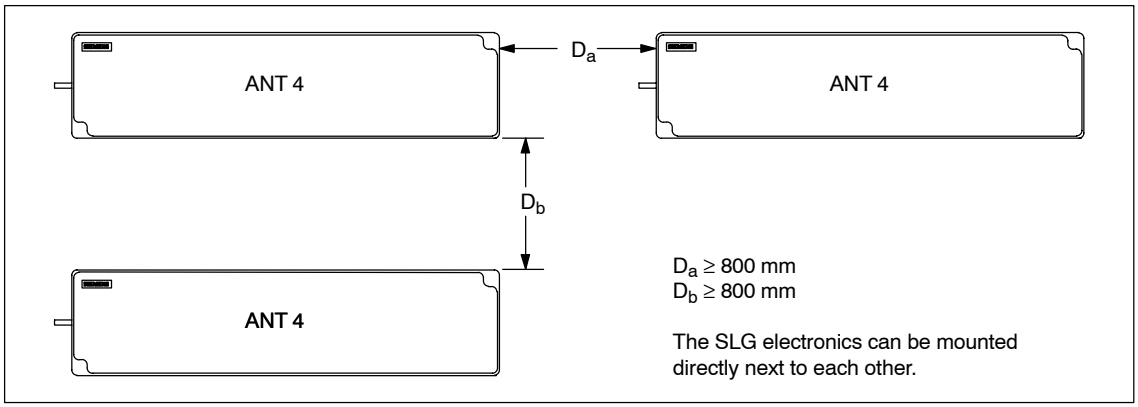

Figure 5-23 Distance D: ANT 4

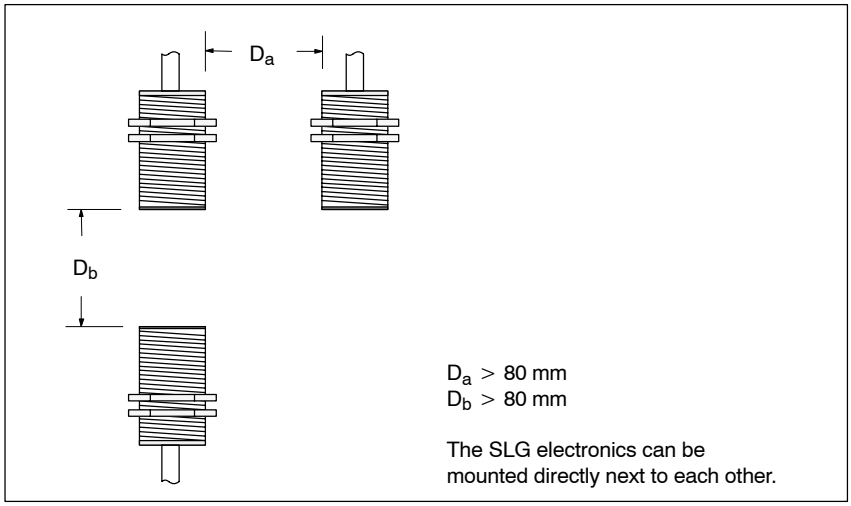

Figure 5-24 Distance D: ANT 12

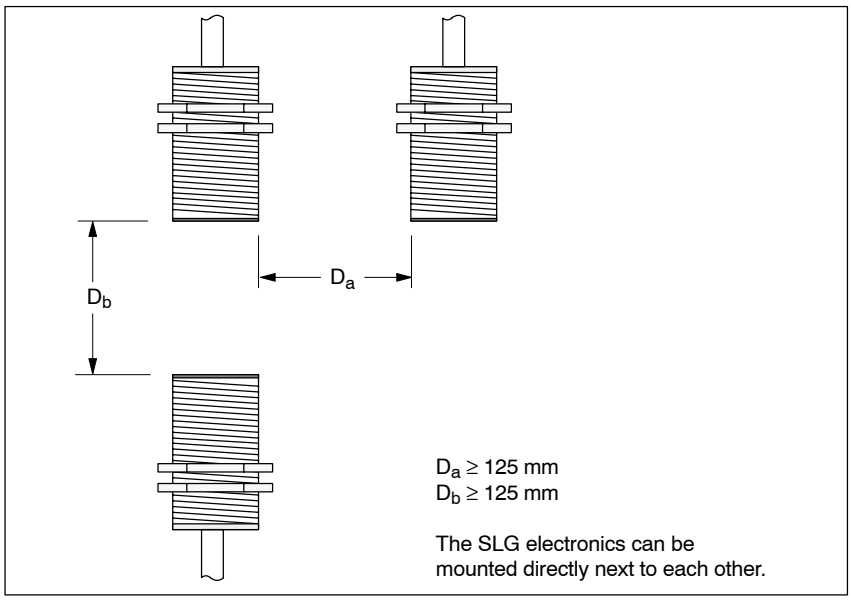

Figure 5-25 Distance D: ANT 18

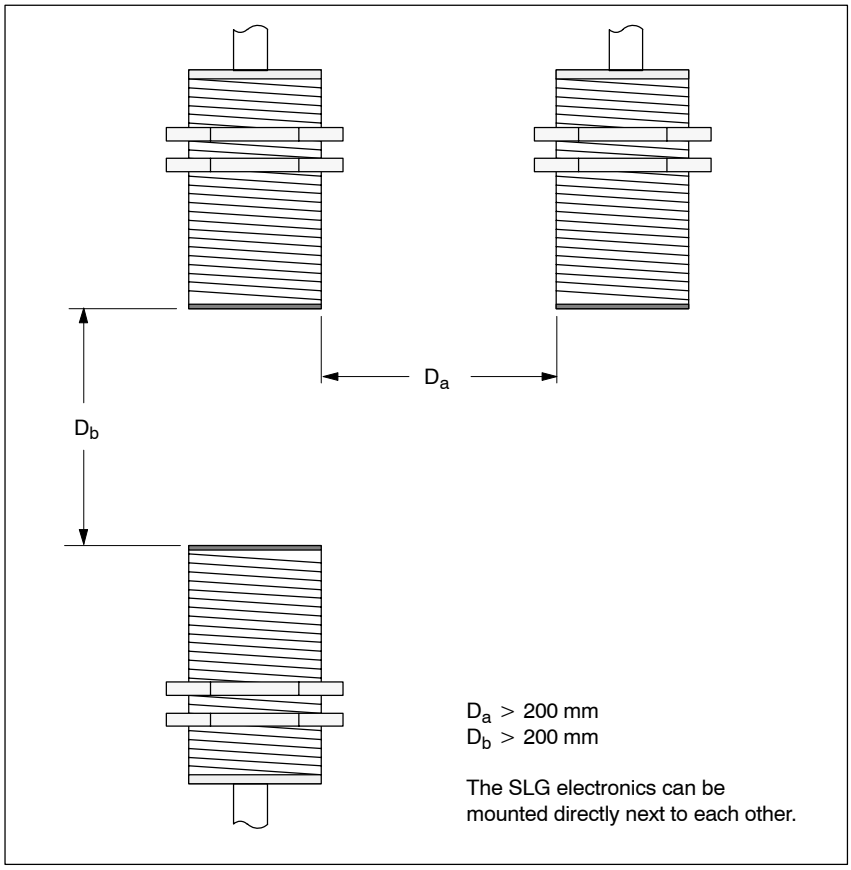

Figure 5-26 Distance D: ANT 30

Dimensions (in mm)

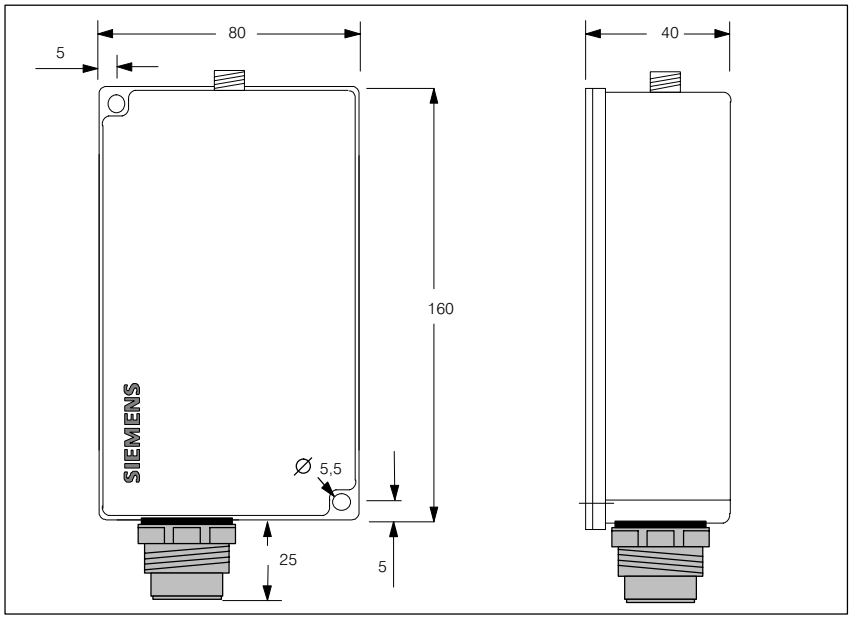

Figure 5-27 Dimensioned drawing of SLG 75

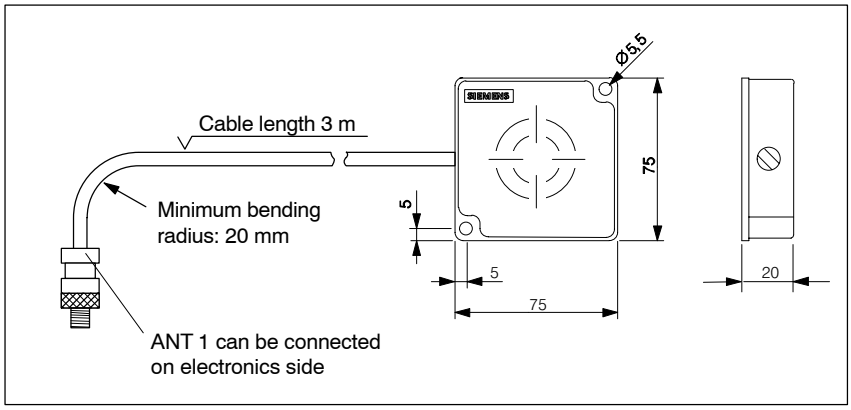

Figure 5-28 Dimensioned drawing of the ANT 1

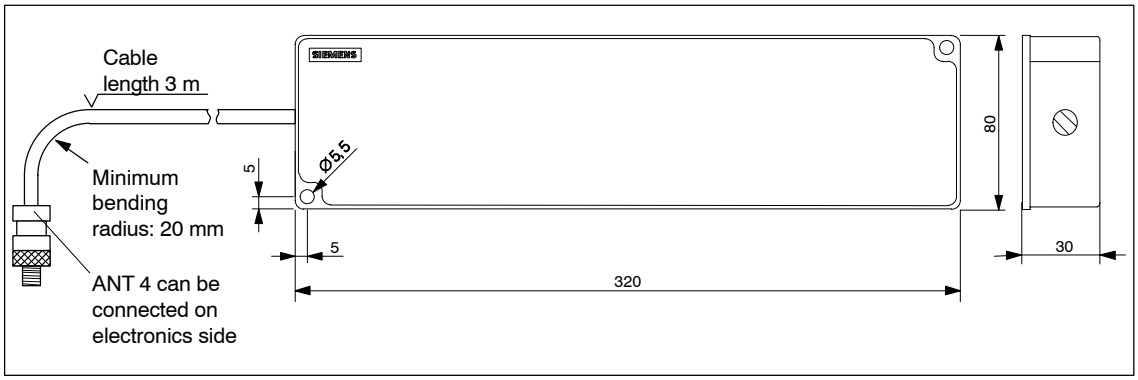

Figure 5-29 Dimensioned drawing of the ANT 4

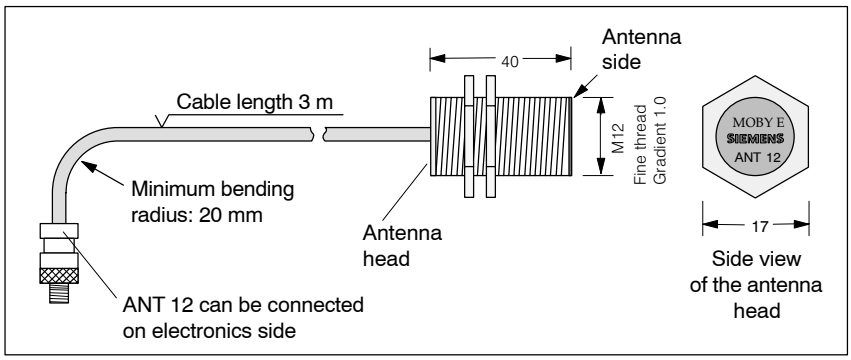

Figure 5-30 Dimensioned drawing of the ANT 12

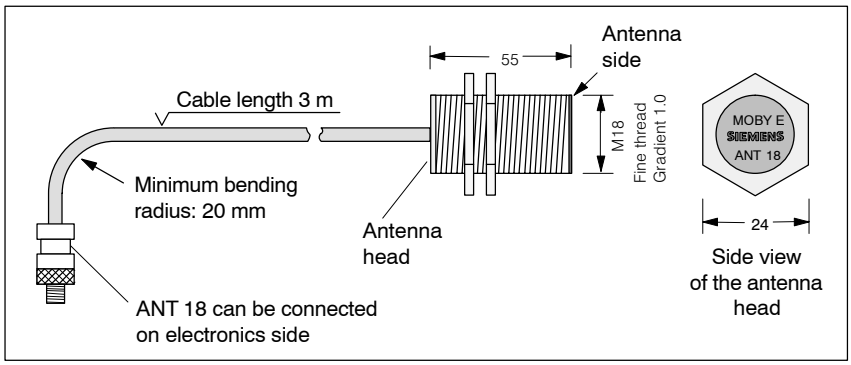

Figure 5-31 Dimensioned drawing of the ANT 18

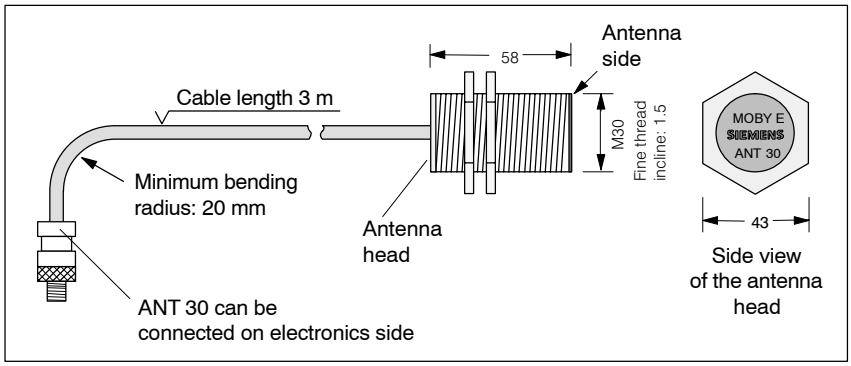

Figure 5-32 Dimensioned drawing of the ANT 30

Note

The length of the line between antenna and evaluation unit is 3 m. The length cannot be changed.

Caution

The antenna must not be removed in an energized state.

Cores to the SLG 75

Notes on mounting for split toroidal cores

Connect the 2 split toroidal cores included with the SLG 75 (order number 6GT2 398-1AF00) just behind the ASM plug connector if you are using standard SLG stub lines (see table 5-9) or cables which have made youself.

1. Close the plastic ferrite shells over the connecting cable.
2. Secure the ferrite shells using a cable binder to prevent them slipping (see Figure 5-33)

Table 5-9 Standard connecting cables which will take split toroidal cores

Connecting cables	Ordering number
SLG 75 – ASM 400/424/454	6GT2 091-0A...[1] 6GT2 091-2A...[1]
SLG 75 – ASM 410	6GT2 091-0D...[1] 6GT2 091-2D...[1]
SLG 75 – ASM 450/452/473	6GT2 091-1C...[1] 6GT2 091-2C...[1]
SLG 75 – ASM 470/475	6GT2 091-0E...[1] 6GT2 091-2E...[1]

1 For cable lengths, see chap. 3.7.4.

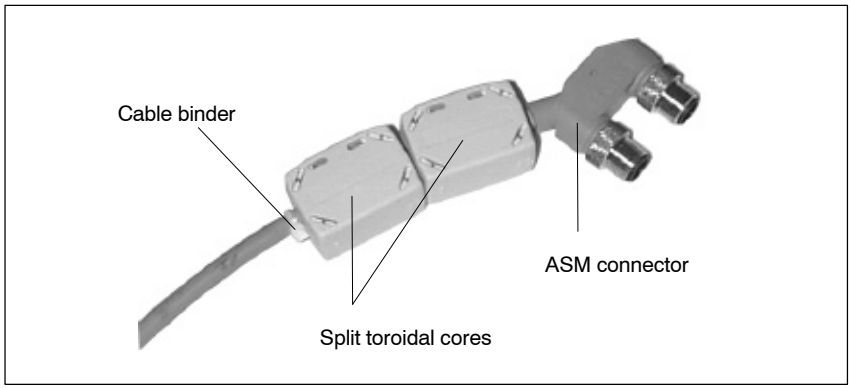

Figure 5-33 ASM 450 connecting cables with split toroidal cores (example)

Note

If your cables have diameters greater than 8 mm, please contact **Customer Support**:

Telephone: +49 (180) 5050-222

Fax: +49 (180) 5050-223

E-Mail: adsupport@siemens.com

Internet: http://www.siemens.com/automation/service&support

Notes on mounting for round cores

It may be necessary to install the included round cores on the antenna lines (ANT 1, ANT 4, ANT 12, ANT 18, ANT 30) under certain conditions:

- When several antennas are mounted close together
- When several antennas interfere with each other due to coupling via metallic structures (see chap. 3.4.3)

In this case, the round cores must be installed as shown in figure 5-34 directly behind the plug connector of the antenna line.
The cores prevent common-mode currents, among others, and ensure interference-free operation.

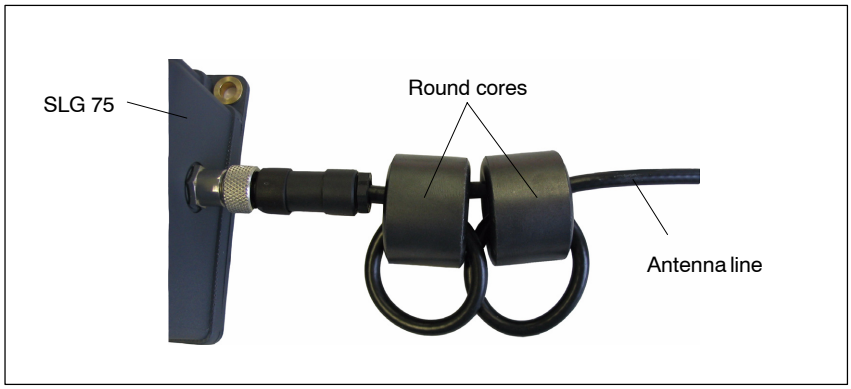

Figure 5-34 Antenna line with round cores

Note

When serveral SLG 75s are connected to one ASM, the antenna cables (ANT 1, ANT 4, ANT 12, ANT 18, ANT 30) of the individual SLGs must be installed **separately from each other** to prevent interference in communication.
Bundled installation of the antenna cables may cause communication problems.