## Annex no. 12

# **Antenna Descriptions**

State: 2010-03-01

Vers. no.: 1.10

m. dudde hochfrequenz-technik Rottland 5a D-51429 Bergisch Gladbach/ Germany Tel. +49 2207-96890 Fax +49 2207 968920







English

final public (B) 2011-04-12 M00210-3e-ID-B.doc



#### Note

© Copyright 2010-2011 by FEIG ELECTRONIC GmbH Lange Strasse 4 D-35781 Weilburg Tel.: +49 6471 3109-0 <u>http://www.feig.de</u>

With the edition of this document, all previous editions become void. Indications made in this manual may be changed without previous notice.

Copying of this document, and giving it to others and the use or communication of the contents thereof are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

Composition of the information in this document has been done to the best of our knowledge. FEIG ELECTRONIC GmbH does not guarantee the correctness and completeness of the details given in this manual and may not be held liable for damages ensuing from incorrect or incomplete information. Since, despite all our efforts, errors may not be completely avoided, we are always grateful for your useful tips.

The instructions given in this manual are based on advantageous boundary conditions. FEIG ELECTRONIC GmbH does not give any guarantee promise for perfect function in cross environments and does not give any guaranty for the functionality of the complete system which incorporates the subject of this document.

FEIG ELECTRONIC call explicit attention that devices which are subject of this document are not designed with components and testing methods for a level of reliability suitable for use in or in connection with surgical implants or as critical components in any life support systems whose failure to perform can reasonably be expected to cause significant injury to a human. To avoid damage, injury, or death, the user or application designer must take reasonably prudent steps to protect against system failures.

FEIG ELECTRONIC GmbH assumes no responsibility for the use of any information contained in this document and makes no representation that they free of patent infringement. FEIG ELECTRONIC GmbH does not convey any license under its patent rights nor the rights of others.

OBID<sup>®</sup> and OBID i-*scan*<sup>®</sup> are registered trademarks of FEIG ELECTRONIC GmbH.

I-CODE<sup>®</sup> is a registered trademark of Philips Electronics N.V.

Tag-it<sup>™</sup> is a registered trademark of Texas Instruments Incorporated.

### Contents

1	Safe	ty Instructions / Warning - Read before Start-Up !	5
2	Main	tenance	6
3	Perfe	ormance Features of the ID ISC.ANT1700/740 SLx Antennas	7
	3.1	Performance Features of the People Counter ID ISC.ANT1700/740-GPC	8
	3.2	Available Antenna Types	11
4	Insta	Illation and Wiring	12
	4.1	Mounting preparation	13
	4.2	Dimensions of antenna	
	4.3	Drilling the Mounting Holes	
	4.4		
	4.4	Installing the Antenna Body	17
5	Турі	cal Antenna Configuration (Gate Antenna with two Antennas)	18
	5.1	Project Notes	18
	5.2	Gate Configuration and Setup using Antennas Type -SLA and -SLB	21
	5.2.1	Required Components	21
	5.2.2	Configuration of a Gate antenna with Multiplexer	
	5.2.3	Setting the Multiplexer	24
	5.2.4	Setting the Antenna Tuner	
	5.2.5	Interface Connections	
		5.2.5.1 RS 232 5.2.5.2 LAN / TCP/IP	
	5.2.6	Reader Configuration with Multiplexer	
	5.2.7	Tuning the Gate Antenna with Multiplexer	
	5.3	Testing the Gate Antenna	32
	5.3.1	Checking the Noise Level	32
	5.3.1 5.3.2	Checking the Noise Level	

	5.4	Setting the Alarm indicators (Alarm sounder and Alarm LED lights)	37
	5.4.1	Reader Setting for Indicator	
	5.4.2	Programming a Transponder with the AFI Byte	40
	5.5	Activating the Automatic Mode	41
6	Insta	allation of the Gate People Counter ID ISC.ANT1700/740-GPC	42
	6.1	Installation and Connections	42
	6.2	Installation ID ISC.ANT.GPC-E	49
	6.3	Configuration and Test	52
	6.3.1	Connecting several People Counter	53
	6.3.2	Configuration and Test in ISO-Host or Buffered Read	54
	6.3.3	Configuration and Test in Notification Mode	56
7	Con	figuring the Reader in accordance with national RF regulations	58
8	<b>-</b> .		
<u> </u>	leci	nnical Data	60
<u> </u>	8.1	Antenna ID ISC.ANT1700/740-SLA and -SLB	
<u> </u>			60
0	8.1	Antenna ID ISC.ANT1700/740-SLA and -SLB	60 63
<u> </u>	8.1 8.2	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E	60 63 64
<u> </u>	8.1 8.2 8.3	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE)	60 63 64 64 64
	8.1 8.2 8.3 8.3.1	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE) 8.3.1.1 Antenna ID ISC.ANT1700/7400 8.3.1.2 People Counter ID ISC.ANT1700/740-GPC	60 63 64 64 64 64
0	8.1 8.2 8.3	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE) 8.3.1.1 Antenna ID ISC.ANT1700/7400 8.3.1.2 People Counter ID ISC.ANT1700/740-GPC USA (FCC) and Canada (IC)	
<u> </u>	8.1 8.2 8.3 8.3.1	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE) 8.3.1.1 Antenna ID ISC.ANT1700/7400 8.3.1.2 People Counter ID ISC.ANT1700/740-GPC	60 63 64 64 64 64 65 65
<u> </u>	8.1 8.2 8.3 8.3.1	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE) 8.3.1.1 Antenna ID ISC.ANT1700/7400 8.3.1.2 People Counter ID ISC.ANT1700/740-GPC USA (FCC) and Canada (IC) 8.3.2.1 Antenna ID ISC.ANT1700/740 8.3.2.2 People Counter ID ISC.ANT1700/740-GPC	60 63 64 64 64 65 65 65
9	<ul> <li>8.1</li> <li>8.2</li> <li>8.3</li> <li>8.3.1</li> <li>8.3.2</li> </ul>	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE) 8.3.1.1 Antenna ID ISC.ANT1700/7400 8.3.1.2 People Counter ID ISC.ANT1700/740-GPC USA (FCC) and Canada (IC) 8.3.2.1 Antenna ID ISC.ANT1700/740 8.3.2.2 People Counter ID ISC.ANT1700/740 -GPC USA and Canada (UL)	60 63 64 64 64 65 65 65
	<ul> <li>8.1</li> <li>8.2</li> <li>8.3</li> <li>8.3.2</li> <li>8.3.3</li> </ul>	Antenna ID ISC.ANT1700/740-SLA and -SLB People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E Approval Europe (CE) 8.3.1.1 Antenna ID ISC.ANT1700/7400 8.3.1.2 People Counter ID ISC.ANT1700/740-GPC USA (FCC) and Canada (IC) 8.3.2.1 Antenna ID ISC.ANT1700/740 8.3.2.2 People Counter ID ISC.ANT1700/740 -GPC USA and Canada (UL)	60 63 64 64 64 65 65 66 67 67

#### 1 Safety Instructions / Warning - Read before Start-Up !

- The device may only be used for the intended purpose designed by for the manufacturer.
- The operation manual should be conveniently kept available at all times for each user.
- Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.
- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
- Repairs may only be executed by the manufacturer.
- Installation, operation, and maintenance procedures should only be carried out by qualified personnel.
- Use of the device and its installation must be in accordance with national legal requirements and local electrical codes .
- When working on devices the valid safety regulations must be observed.
- Please observe that some parts of the device may heat severely.
- Before touching the device, the power supply must always be interrupted. Make sure that the device is without voltage by measuring. The fading of an operation control (LED) is no indicator for an interrupted power supply or the device being out of voltage!
- For installation and dismantling you should wear suitable safety gloves, because parts of antenna housing could be sharp-edged.



## CAUTION! The Antenna-Tuner and the Antenna conductor carry voltages up to 1000V.



### The Antenna is not water proof and should not be exposed to rain or humidity.

Under extreme circumstances water could seep into the antenna and damage the electronic circuits.

Special advice for wearers of cardiac pacemakers:

• Although this device doesn't exceed the valid limits for electromagnetic fields you should keep a minimum distance of 25 cm between the device and your cardiac pacemaker and not stay in an immediate proximity of the reader's antennas for any length of time.

#### 2 Maintenance

The antenna ID ISC.ANT1700/740 is a design product with high quality surfaces, and should always be handled with caution. The antenna was designed to work reliably and flawlessly for years without special maintenance.

## Attention! The surfaces should be cleaned with a clean, soft cloth dampened in a dishwashing liquid – water solution. The use of alcohol, spirit, thinners, glass cleaners or other harsh cleaning liquids is prohibited and will damage the housing.

To improve the durability and the appearance, please follow the instructions below:

- Keep the antenna clean and take caret the antenna is not scratched.
- Regularly remove dust and other impurities with a soft cloth and a solution of water with a little dishwashing liquid.
- Keep the antenna dry. All kinds of moisture should be avoided during operation and storage. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits and damaging transparent plastic parts.
- Protect the antenna from high temperatures. Mount the antenna away from heaters and other heat sources. Operation under direct sunlight can cause extreme high temperatures and a fad-ing cause of the surface.
- Avoid storing or operating the antenna at dirty or wet locations. The surfaces or electronic components may be-damaging.
- Handle the device with care. Shocks may break internal circuit boards.
- Do not try to open the antenna during operation or outside maintenance periods. Nonprofessional management can result in damage to the device.

If any device not working properly, please contact the appropriate representative.

#### 3 Performance Features of the ID ISC.ANT1700/740 SLx Antennas

The ID ISC.ANT1700/740-SLA antenna is a version with 2 DynamicTuning Board ID ISC.DAT, Long Range Reader ID ISC.LRM2500-B, 8- times Multiplexer Module ID ISC.ANT.MUX M8 and additional signal light and buzzer already mounted.

The ID ISC.ANT1700/740-SLB antenna is a version with 2 DynamicTuning Board ID ISC.DAT and signal light mounted.

Up to

- two antennas with reader and multiplexer as a single gate,
- three to four antennas with reader and multiplexer as a double gate or triple gate

can be operated.

Depending on the antenna configuration, one, two or all three read orientations of the Smart Tags and various antenna spacing (gate widths) are possible.

The ID ISC.ANT1700/740-SLA/-SLB is a "single loop" antenna with tuner and have been optimized as transmitting and receiving antennas for the ID ISC.LRM2500 Reader. It is however also possible to operate them with other Readers at a transmission frequency of 13.56 MHz and an output impedance of 50  $\Omega$ . The read ranges indicated in this document and the tuning procedures may however then vary.

The antennas comprise the electrical antenna conductor, the housing, the ID ISC.DAT *Dynamic Antenna Tuner* and the connection cable. The antennas are factory tuned to an impedance of 50  $\Omega$  in a magnetically neutral environment at a distance of 100 cm. When installing in different ambient conditions the antenna can be retuned using the "DATuningTool" PC software. After tuning the antennas will retain their settings as long as the ambient conditions remain unchanged.

The antennas can be used for detecting both product and persons. It is suitable for installation indoors or outdoors if weather-protected.

#### 3.1 Performance Features of the People Counter ID ISC.ANT1700/740-GPC

The product ID ISC.ANT1700/740-GPC, short form "Gate People Counter" or "GPC", are made for mounting in the gate antennas ID ISC.ANT1700/740.

A Gate People Counter consist of a People Counter board (PC) and one Radar Detector! The product ID ISC.ANT.GPC-E Extension Radar Detector is used to extend the People Counter to a second gate aisles.

The People Counter has two counters per aisle. The values of the incoming and out going persons will be separately captured.

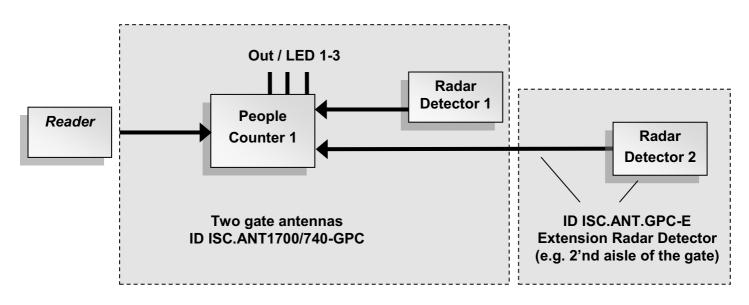


Fig. 1: Gate People Counter Structure (2-3 antennas, 1-2 gate aisles)

A change of the counter values will be stored in the EEPROM of the People Counter Board. With the command "0x78 Set People Counter" the values could be set/reset to the needed value.

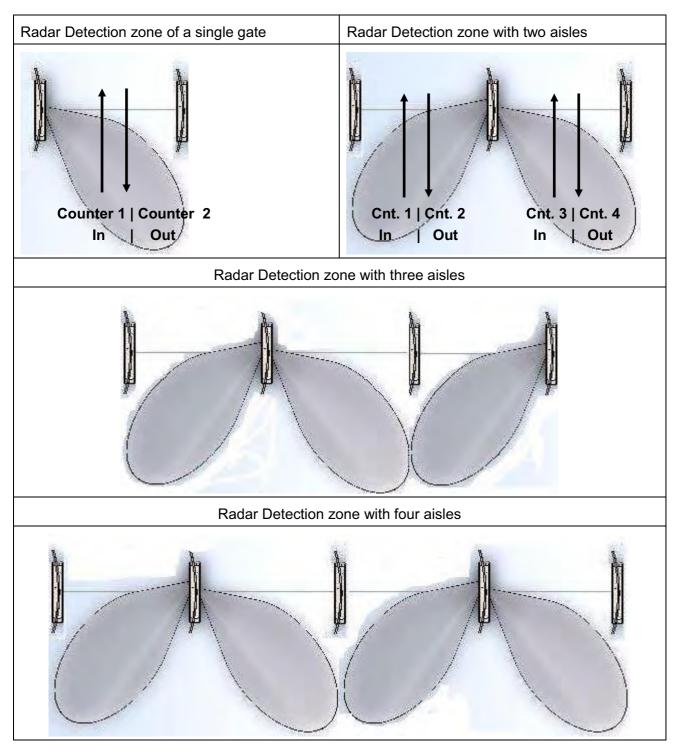


Fig. 2: Top view of the detection areas (2-3 antennas, 1-2 gate aisles)

The People Counter board and the Radar detectors are mounted in the base of the antennas. Due to the radar beam can pervade the plastic housing of the antenna, no openings a necessary.

The three digital output can be used, to enable a signal light at every gate antenna or activate an alarm buzzer in the gate antenna.

The Connection between reader and people counter takes place trough the RS485 Interface of the reader.

There is no need of a direct connection from the GPC to the Host. All commands from the Host to the People Counters are embedded in the Pickyback Command of the reader.

In the reader modes ISO Host or Buffered Read Mode, the host has to poll the GPC by sending protocols to the reader. Only, in the Notification Mode, the reader poll the counter values, automatically, and send data according the reader configuration to the host.

So, there are two possibilities to get the actual people counter values. Either the Host poll the People Counter periodically or in the Notification Mode of the reader, the reader send a notification protocol at any change of the counter values.

See also System Manual H01011-0e-ID-B.DOC

#### 3.2 Available Antenna Types

Antenna Type	Description	Picture	
ID ISC. ANT1700/740-SLA Clear Gate	Antenna with Reader, Multiplexer , dynamic tuning board, signal light and buzzer		
ID ISC. ANT1700/740-SLB Clear Gate	Antenna with dynamic tuning board ID ISC.DAT and signal light		
ID ISC. ANT1700/740-AGP	Acrylic glass plate window for Clear antennas		
ID ISC.ANT1700/740-GPC	People Counter and one piece of radar dete		
Gate People Counter	ID ISC.ANT1700/740 incl. Mounting and cabling set. (optional)		
ID ISC.ANT.GPC-E Extension Radar Detector	Second radar detector with cable for the second direct parallel aisle (optional)		

The following products are currently available:

Table 1: Available Antenna Types and Accessories

Needed components for at the usage of the Gate People Counter:

	Antenna		People Counter (Optional)		
Number of antennas	ID ISC. ANT1700/740 -A	ID ISC. ANT1700/740 -B	ID ISC. ANT1700/ 740-GPC	ID ISC.ANT. GPC-E	Note
2 Antennas	1	1	1		
3 Antennas	1	2	1	1	
4 Antennas	1	3	2	1	

Table 2 Needed components for gates with People Counter

#### 4 Installation and Wiring

#### Notes:

Before installing the antennas please read 5.1 Project Notes . The spacing of the antennas in a gate depends on the antenna configuration.

If multiple antennas or gates are connected to different readers, a minimum clearance of 8 m must be kept between the antennas or gates. For shorter distances (1 m - 8 m) the readers must be synchronized. The synchronization of the readers is only possible in one of the Automatic Modes (Buffered Read, Notification or Scan Mode). Below a distance of 1.5 m the antennas must also be shielded from each other. Otherwise the read range will be significantly reduced. The antennas must have a minimum distance of 20 cm to all larger metal parts! At a distance of less than 50 cm between the antenna and metal parts the read range will be significantly reduced.

#### 4.1 Mounting preparation

For assembly the antenna must be carefully unpacked. This is done as described in the following steps:

1. Place the packed antenna on the floor with the top side facing up. Carefully open the box and then remove the antenna.



Fig. 3: Antenna in its packaging

2. After that the antenna has to be placed carefully again on the floor. Now you must remove the two fastening screws (hexagon socket width A/F2,5) of the antenna cover at the antenna foot and remove it upwards. **Fehler! Verweisquelle konnte nicht gefunden werden.** 

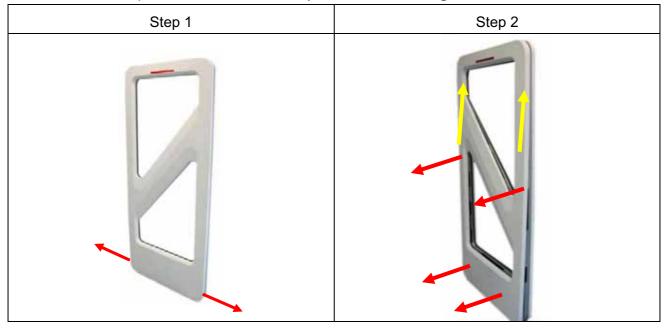


Fig. 4: Opening the antenna base

#### 4.2 Dimensions of antenna

The outside dimensions of the antenna are shown in Fig. 5

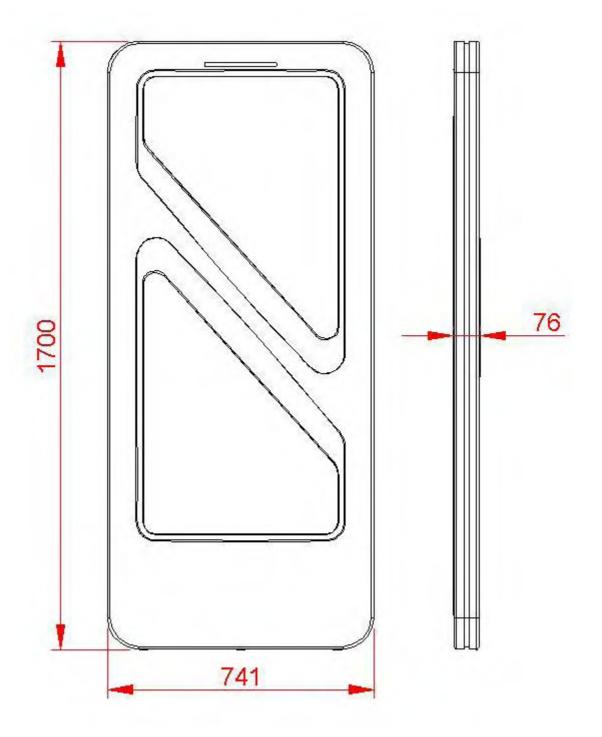
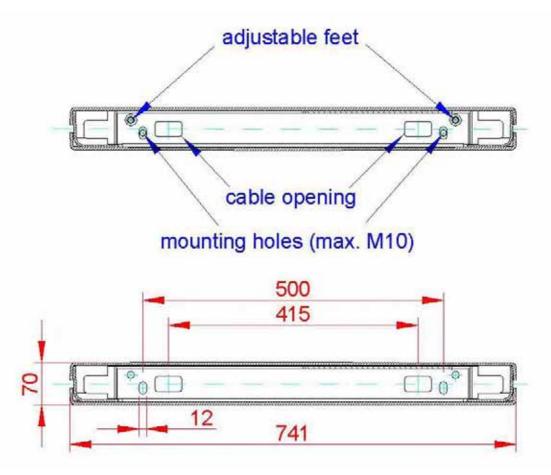


Fig. 5: Antenna outside dimensions

All dimensions are in mm with general tolerance to ISO 2768 m (mean).

#### 4.3 Drilling the Mounting Holes

If the position of the antennas has been marked or determined a hole template, can be used to mark and drill the mounting holes and the holes for the cable entry. The dimensions are shown in Fig. 6:





All dimensions are in mm with general tolerance to ISO 2768 m (middle).

The size and type of the screw anchors depends considerably on the strength of the base or floor. The anchors should be capable of withstanding a permissible load of at least 5 kN per anchor for all load directions (e.g. for concrete floor Hilti HVA anchors with HAS-(E) M8 threaded rod or Hilti HIS-N M8 (5/16") threaded inserts). The size of the mounting holes in the antenna is 10 mm (.39"). The length of the anchors or bolts should be selected such that they extend at least 50 mm (2.0") and a maximum of 65 mm (2.6") from the floor.

#### Please follow the mounting instructions of the anchor manufacturer!

Two cable openings are provided for the necessary connection cable (see Fig. 6). The cable openings are dimensioned such that up to 10 cables having a diameter of 6 mm can be passed through each opening.

We recommend routing the antenna cables through the cable opening on the Multiplexer side. All other cables such as the supply voltage and synchronization cable should be routed through the cable opening on the Reader side.

Alternatively the cables can be routed at the sides of the antenna bas like shown in Fig. 7

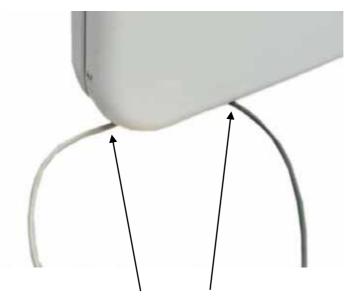


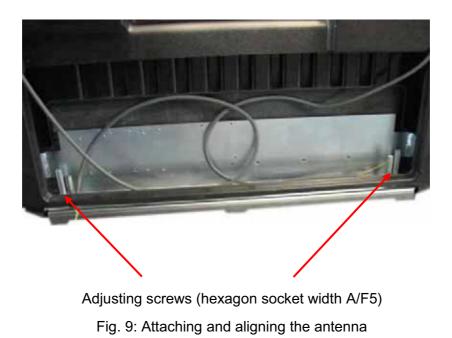
Fig. 7 Cable routing at the antenna sides

#### 4.4 Installing the Antenna Body

The antenna will be screwed on the floor. The transverse antenna conductors in the middle of the antenna body have to face the same direction at all antennas.(Fig. 8) Use the adjusting screws (Fig. 9) to align the antenna vertically.



Fig. 8 Transverse conductors facing same direction



#### 5 Typical Antenna Configuration (Gate Antenna with two Antennas)

The standard configuration of a gate with three-dimensional tag orientation consists of one antenna ID ISC.ANT1700/740-SLA with reader and multiplexer and one antenna ID ISC.ANT1700740-SLB. If a tag moves, at horizontal line, through the gate, it can be read at least once. This ensures high reliability of the antenna system.

#### 5.1 **Project Notes**

The antenna configuration as described allows detection of a tag moving horizontally through the capture area of the gate. The tag orientation is non-critical. The tags are detected along a horizontal axis of motion in certain regions within the antennas. The area of detection depends on the tag orientation.

The size of the three-dimensional capture area of the antennas is shown in the sketch below.

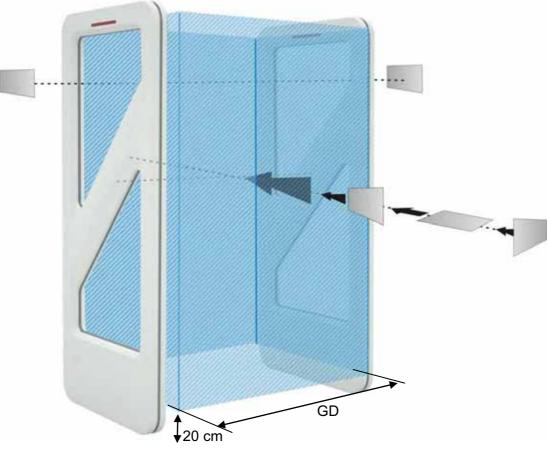


Fig. 10: Capture area and tag orientation

Notes:

Note that the entire capture area of the antenna is larger than the three-dimensional area shown in the drawing. This means there are tag orientations in which the tag can be detected outside the capture area.

To get a optimal performance the reader has to be configured and run in one of the Automatic Modes (Buffered Read, Notification or Scan Mode).

If multiple gates are arranged with short distances (1-8m) between each other, these will mutually interfere with each other. In this case, the readers for the individual gates have to be synchronized and run in one of the automatic modes.

To achieve three-dimensional capture of the tag in the capture area drawn above, the following conditions must be met:

- The gate distance GD depends on the antenna configuration (see Table 4: Design notes).
- The tags should be at least ISO card size (46 mm x 75 mm).
- The activation field strength of the tags should be less than or equal to 60 mA/m.
- The distance from tag to tag should be greater than 10 cm. If the tag to tag distance is reduced, the gate distance GD must be reduced correspondingly. This applies in particular to distances under 5 cm.
- The maximum number of tags (serial number or data) depends on the traverse speed with which the tags are brought through the capture area of the gate (see Table 4: Design notes).
   The number of tags may be increased in the gate distance GD is correspondingly reduced and the maximum speed adjusted accordingly.
- The antenna should be at least 50 cm from metal parts.
- The minimum distance between the antennas of a gate and antennas of RFID work station or terminals (transmitting frequency 13,56 MHz) should be:

Transmitted	Minimum Distance
output power	
<0.5W	1 m
0.5W-1.0 W	2 m
1.1 W – 2.0W	3 m
> 2 W	4 m
>= 4 W	8 m

Table 3: Minimum Distances

- There should be no interference of the Reader from other electrical devices in the environment. The Noise Level difference should be less than 20 mV.
- The ID ISC.LRM2500 Reader should be set to an RF power of 4 watts.
- When using ISO 15693 transponders, the Readers should be set as described in <u>5.2.6 Reader</u> <u>Configuration with Multiplexer.</u>
- If multiple gates are operated at the same time at a distance of less than 8 m, the Readers must by synchronized. See Application Note *Synchronizing RFID Long Range Readers using the digital in-/outputs* (N10311-xe-ID-B.pdf).

	Gate with antenna
	Type SLA and
	Type SLB
Gate distance GD	≤ 130 cm
Number of tags at a speed of 1 m/s	
- Read serial number	
- Read data	16
	8

Table 4: Design notes

A minimum distance of 75cm between the two gate antennas is required.

#### 5.2 Gate Configuration and Setup using Antennas Type -SLA and -SLB

#### 5.2.1 Required Components

To construct the gate you need the following components:

- Qty. 1 ID ISC.ANT1700/740-SLA Clear (incl. Qty. 1 ID ISC.NET24V-B Power Supply Unit)
- Qty. 1 ID ISC. ANT1700/740-SLB Clear
- Power cable, interface cable and connection cable for the DC power supplies (2-wire, twisted)
- Mounting materials (screws, anchors)

#### Optional:

- Qty. 2 ID ISC.ANT1700/740-AGP Acrylic glass plate windows for Clear antenna.

To calibrate the Reader you will need the software

- ISOStart Version 2011 Version 8.03 or higher

and for tuning the antennas the service software

- DATuningTool Version 1.10 or higher

on a personal computer running under Microsoft<sup>®</sup> Windows<sup>®</sup>. The service can be downloaded at the Download Area of the Homepage <u>www.feig.de</u>.

#### 5.2.2 Configuration of a Gate antenna with Multiplexer

Connect the components as shown in Fig. 11. .Almost, all cable should be mounted already. Normally, the antenna cable from antenna Type B has to be connected to OUT2 at the multiplexer and the 24V DC power supply to X11 of the terminal board only. Optional the cable of the signal light of antenna Type B has to be connected to X14 LED3 (third antenna X12 LED2) of the terminal board.

The necessary connections for the optional People Counter will be described in <u>6. Installation of the Gate People Counter ID ISC.ANT1700/740-GPC</u>

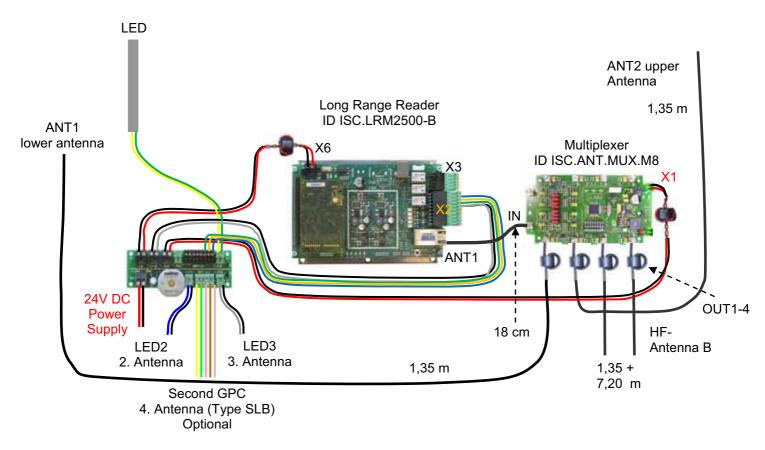


Fig. 11: Connecting the components for a gate consisting of two antennas, reader and Multiplexer



Fig. 12: Terminal board

An overview of the terminal board connections you will find in 9. Annex A

#### Note:

#### • A reverse polarity could damage the device or the In-/Outputs.

The coax cables have fixed lengths and may not be shortened and therefore need to be tied into small loops (see Fig. 13). Tie all cables as far away from the antenna conductor as possible. The cables must never be allowed to contact the antenna conductor. The cable from antenna type B to the antenna type A should preferably be connected shortly. Unused cable lengths are possible should be tied in antenna B type.



Fig. 13:Connection of the components in an antenna Type A



Fig. 14:Tie together the cables in an antenna Type B

#### 5.2.3 Setting the Multiplexer

Set the jumpers JP11-JP18 shown. More on setting the ID ISC.ANT.MUX.M4 Multiplexer can be found in the corresponding installation manual (M90700-xde-ID-B).

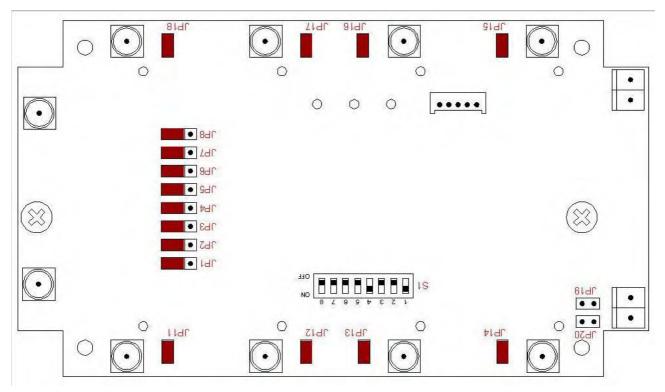


Fig. 15: Jumper positions

#### 5.2.4 Setting the Antenna Tuner

To check the settings of the antenna tuner the antenna has to be opened. For that, remove the two fastening screws (hexagon socket width A/F2,5) at the antenna base cover and move it upwards. Fig. 16

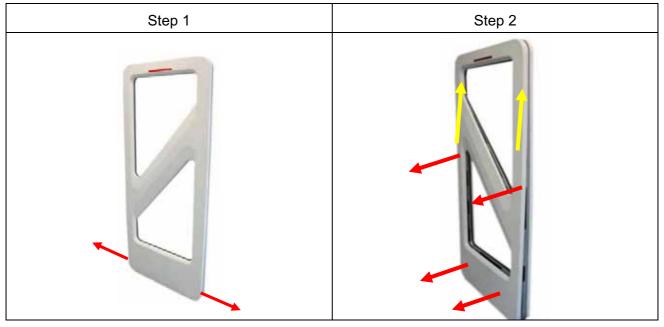
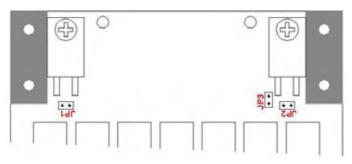


Fig. 16: Opening of the antenna base

The antennas ID ISC.ANT1700/740-SLA/SLB are factory set as follows:

Table 5: Jumper settings for Antenna Tuner

Function	Jumper	Position
$1\Omega$ Q resistor	JP1	open
$2\Omega$ Q resistor	JP2	open
Antenna switch	JP3	open
Capacitor C1	JP 11,12,13,14	open
Capacitor C2	JP 21,22 JP 23,24,25,26	open open



Verify these settings. More on setting the ID ISC.DAT antenna tuner can be found in the corresponding installation manual (M40401-xde-ID-B).

#### 5.2.5 Interface Connections

#### 5.2.5.1 RS 232

The RS232 interface is connected on X3.

The transmission parameters can be configured by means of software protocol.

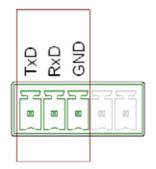


Fig. 17: RS232 interface pin-outs on X3

Acronym	Description
TxD	RS232 – (Transmit)
RxD	RS232 – (Receive)
GND	RS232 – (Ground)

Table 6: RS232 interface pin-outs

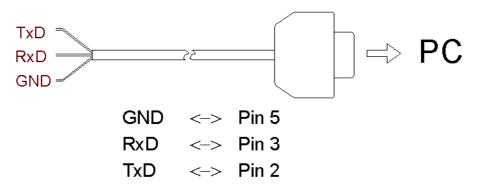


Fig. 18: Wiring example for connecting the RS232 interface

Note:

If there is an USB/RS232 converter used on the PC/Notebook side, we recommend to increase the "Char Timeout Multiplier" parameter in the COM-Port settings from "1" to about "5".

#### 5.2.5.2 LAN / TCP/IP

The Reader has an integrated 10 / 100 Base-T network port for an RJ-45. Connection is made on X1 and has an automatic "Crossover Detection" according to the 1000 Base-T Standard.

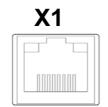


Fig. 19: LAN interface for host communication

With structured cabling CAT 5 cables should be used. This ensures a reliable operation at 10 Mbps or 100 Mbps.

The prerequisite for using TCP/IP protocol is that each device has a unique address on the network. All Readers have a factory set IP address.

Network	Address
IP-Adresse	192.168.10.10
Subnet-Mask	255.255.255.0
Port	10001
DHCP	OFF

Table 7 Standard factory configuration of the Ethernet connection

#### Note:

#### The Reader TCP/IP interface has a DHCP option.

More Information about the interfaces you will find in the manual M01111-xde-ID-B of the reader.

#### 5.2.6 Reader Configuration with Multiplexer

To tune the antennas, open the ISOStart software and read out the current configuration of the Reader:

Step	Action	Note
1	Start ISOStart Software	<b>I</b> SOStart.exe
2	Select "Detect"	Quick Start Wizard - Step 1: Detect a Reader         Welcome to FEIG Quick Start Wizard         Communication Interface         © COM-Port       Nr.         1       More         BusAdr.       0         © USB       0         © TCP/IP       IP-Adr.         Detect       Keep Configuration unchanged         <       Add exit. Wizard
3	Select "Keep Configuration unchanged and exit Wizard" and click on "Exit" This has to be done at each start of ISO-Start program otherwise the configuration of the reader will be changed.	Quick Start Wizard - Step 1: Detect a Reader         Reader-Type         ID ISC.LR2500-B         Device-ID         ::DF030E59F (4029736351)         Software Version RFC         ::OL.01.129             Communication Interface         ::OUR-Port         Nr.       1         More       BusAdr.         O         C USB         C TCP/IP       IP-Adr.         Detect           Detect           Curck       Fertig stellen
4	Select "Options => Program"	File       Edit       View       Window       Options       Help         Image: Comparison of the state of the

Step	Action	Note
5	Select "Expert Mode" and confirm with OK.	Program Options       Image: Comparation sealers after program start with Duck Start Wicard Image: Comparation sealers after program start with Duck Start Wicard Image: Comparation sealer configuration view         Image: Point Number Image: Comparation view       Expect         Image: Point Number Image: Comparation view       Expect         Image: Show HeadBar in reader configuration       Expect         Image: Show HeadBar in reader configuration       No Filter         Image: Support for Proprietary Tag Commands       Steport for Proprietary Tag Commands         Vork-Directory       Select         Database-Directory       Select         Image: CommeNDBIDVID ISOStort 2009/vml database/       Select
6	Select "Logical View"	OK       Abbrechen         File       Edit       View       Window       Options       Help         Configuration <ul> <li> <ul> <li>             Tool Bar</li> </ul>               Yourput       <ul> <li>             Statusbar</li> <li>             Qutput       </li> </ul>               Physical View         <ul> <li>             Statusbar</li> <li>             Qutput       </li> </ul>            Reader Basics         ID ISC.LR2000 - Configuration                 Commands         <ul> <li>             OperatingMode         </li> <li>             OperatingMode         </li> <li>             OigitalIO             </li></ul>                 Configuration               PeripheralDevice</li></ul>

Then set the operating power, Transponder Parameters and ISO Host Mode:

Step	Action		Note	
1	Select "Configuration"		Configuration	
2	Air Interface: "RF-POWER" (here 4W) "Mulitplexer Enable" "1 Input (Single Mode)" "No of Output Channels " (e.g. 4) "Antenna Active Time" 100 x 5ms	State     Support     Sup	02-41 x1 ins ma Mil Sztychforant 4 W deart	
3	Set by clicking on "Apply".		Apply	
4	Transponder: Configure the parameters as follows: "Driver" – here ISO 15693 "Anticollision" – enable "No of Timeslots" – 1 timeslot "Data Coding" – 1 of 4 "AFI" – Disabled	<ul> <li>Transponder</li> <li>Driver</li> <li>HF</li> <li>ICode1</li> <li>ISO_15690</li> <li>ICodeEPC</li> <li>ICodeUD</li> <li>EPC_ClassIGen2</li> <li>Microhip_MCRF45x</li> <li>Anticollision</li> <li>Enable</li> <li>PersistenceReset</li> <li>HF</li> <li>ICode1</li> <li>ISO_15693</li> <li>Anticollision</li> <li>NoOfTimeslots</li> <li>LinkRate</li> <li>DataCoding</li> <li>SelectionMask</li> <li>Enable_AF1</li> <li>AF11</li> <li>AF12</li> <li>AF14</li> <li>Miscellaneous</li> <li>WitheOption</li> <li>CommandBreak</li> <li>BlockSizeSelection</li> <li>BlockSize</li> </ul>	I timeskot I timeskot I of 4 Disabled 00 00 00 00 00 00 00 00 00 00 00 00 00	4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5
		•	tions may require different e Reader in accordance with	
5	Set by clicking on "Apply".			
6	<b>Operating Mode:</b> For antenna tuning the reader must be set to "Host Mode".	OperatingMode     Mode     Mode     BufferedReadMode     NotificationMode     ScanNode     Miscellaneous	Host Mode Host Mode Scan Mode Buffered Read Mode Notification Mode	
7	Set by clicking on "Apply".		Apply	

#### 5.2.7 Tuning the Gate Antenna with Multiplexer

Before tuning the gate antenna, you must quit the ISOStart software. Then the gate can be tuned as follows:

Step	Action	Note
1	Start "DATuningTool" software	
2	Select "Detect Reader". In the "Detect Reader" window select the interface (COM-Port 1, BusAdr. 0) and then click on "Detect".	Detect a Reader
3	Use "Settings" to enter the configuration: Single Mode, Number of Antennas 4 Click on "with Multiplexer" Number of Tuning Iterations 3	Tuning Status       Settings         Reader       Out 1: Antenna 1         Out 2: Antenna 2       Number of Antennas         Out 3: Antenna 3       Out 4: Antenna 4         Out 5:       Out 6:         Out 7:       Out 8:         Refresh Status       Detect Reader
4	Activate "Start Tuning" and wait until the tuning process is finished.	Start Tuning
5	The tuning status is displayed after each tuning pass. After successful tuning both antennas are shown in green.	Tuning Status       Settings         Reader       Multiplexer         Out 1: Antenna 1       Number of Antennas         Out 2: Antenna 2       Dual Mode         Out 3: Antenna 3       Number of Gates         Out 5:       Out 5:         Out 8:       with Multiplexer         Refresh Status       Detect Reader
6	If this does not succeed on the first try, start the process again by clicking on "Start Tuning"	Start Tuning

After successful tuning, close the DATuningTool.

#### 5.3 Testing the Gate Antenna

After tuning the gate antenna, you can check for proper function using a Reader, the ISOStart service software and a Transponder. Here the Noise Level and performance of the gate are tested.

#### 5.3.1 Checking the Noise Level

Step	Action	Note
1	Select "Function Unit Command" "Multiplexer" "Channel Select" activate antenna 1. "Cascade Level = 1" "Output Channel of Input 1 = 1"	ID ISC.LR2000 - Commands Special Commonds Special Commonds Spec
2	Set by clicking on "Send"	Send
3	Activate "Test and Measurement"	Test and Measurement
4	Select "Noise Level" and start by clicking on "Start"	Test ISO Inventory
5	Normal Noise Level values at antenna 1: Average: < 30mV Difference (Max-Min): < 20mV	Intel       Non-Lovell         Intel       Maximum

Step	Action	Note
6	Select "Function Unit Command" "Multiplexer" "Channel Select" activate antenna 2. "Cascade Level = 1" "Output Channel of Input 1 = 2"	ID ISC.LR2000 - Commands Special Commands Spec
7	Set by clicking on "Send".	Send
8	Repeat step 3 to 7 for antenna 2, 3, 4.	Test and Measurement

If the values are not met, check the following:

- Are all cables pulled tight and do they make good contact?
- Were the ring cores installed in the antenna cable?
- Were the cables routed as specified?
- Are other RFID systems installed nearby?
- Are there large metal parts near the antenna (distance < 1.0 m)?
- Are there devices nearby which may emit noise interferences (larger machines or wireless devices)?
- Are there interferences from the mains?

To determine which devices may be disturbing the gate, briefly disconnect them from the mains.

### 5.3.2 Reading a Serial Number

Step	Action	Note
1	Attach a tag to an antenna	Use adhesive tape, for example
2	Activate antenna 1 with command: "Function Unit Commands - Multiplexer" Parameter: "Channel Select" "Cascade Level = 1" "Output Channel of Input 1 = 1"	ID ISC.LR2000 - Commands D ISC.LR2000 Commands Special Commands D ISO Host Commands Cascade Level Cascade Level Cascade Level Dutput Channel of Input 1 Dutput Channel of Input 2 Dutput Channel of Input
3	Confirm with "Send"	Send
4	Select "Test and Measurement"	Test and Measurement
5	Select "ISO Inventory" function and activate by clicking on "Start". The serial number and tag type will be shown in the display.	ID ISC.LR2000 - Test and Measurement         Test       No. Tag-Type       Serial Number         ISO Inventory       ISO Inventory       E00401000003165C         Measurement       Noise Levels       E00401000003165C
6	Repeat Step 1 to 5 for every further antenna	Test and Measurement

#### 5.3.3 Testing the performance

For testing the performance you have to switch the reader to one of the Automatic Modes. (See  $\underline{0}$ 

<u>Activating the Automatic Mode</u>)

A read transponder will be displayed by a blue LED on the reader or by the LED light of the antenna. See also <u>5.4.1 Reader Setting for Indicator</u>

In this test the capture area of the gate antenna described in <u>5.1 Project Notes</u> is checked. For other tags or other configurations the indicated ranges and read areas may differ accordingly.

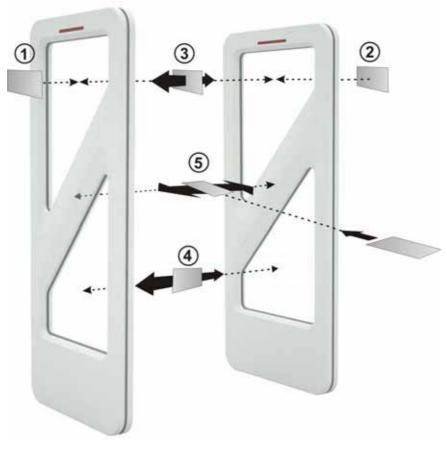


Fig. 20: Performance Test of the gate antenna

The test begins by checking the read range outside the gate (see Fig. points ① and ②), assuming the configuration and locality permit it. Start the ISO Inventory command in the ISOStart program as described in <u>5.3.2 Reading a Serial Number</u>. If the tag is oriented parallel to the antenna towards the outside, a read range of 70 to 75 cm should be achieved.

The three tag orientations are checked inside the gate. This corresponds to the lines and orientations  $\Im$   $\odot$   $\odot$ . Now slowly move the tag in the vertical and parallel direction with respect to the antenna along the line  $\Im$  from one side to the other. The tag should always be read.

Then repeat this along the line ④ in the vertical tag direction transverse to the antenna and on the line ⑤ in the horizontal tag orientation. Here again the tag should always be read.

### The tag should be read within the gate when moving horizontally through the gate in all three read orientations.

If one or more "holes" are detected, check the noise values on the Reader (see <u>5.3.1 Checking the</u> <u>Noise Level</u>).

The following may result in faulty readings:

- Antenna improperly installed (orientation, antenna distance, check cabling)
- Metal near the antennas is detuning or interfering with them.
- The antennas are not properly tuned.
- Noise level too high (Vmax Vmin  $\ge$  20 mV)
- Transponder too insensitive, detuned or defective
- Reader improperly configured (transmitting power, transponder type, modulation, transponder parameters, etc.).
- A cable is defective or has a poor contact.
- Reader, Multiplexer or antenna defective.

#### 5.4 Setting the Alarm indicators (Alarm sounder and Alarm LED lights)

The solution provided here presumes that the Alarm Sounder is switched through the digital output 2 (X2 Pin OUT2-C,OUT2-E), Alarm LED 1 of antenna No.1 through relay No.1 (X2, Pin REL1-COM), Alarm LED 2 of antenna No.2 through relay No.2 (X2, Pin REL2-COM) and Alarm LED 3 of antenna No.3 through relay No.3 (X2, Pin REL3-COM) on the ID ISC.LRM2500-B reader. The pulse duration can be set (Digital IO / OUTPUT or RELAY) between 100 ms and 6553.5 s by adjusting the Reader configuration. The volume of the sounder could be adjusted by a potentiometer on the terminal board.



Fig. 21 Volume adjusting

To supply the Alarm LED lights with 24V DC the following jumper on the LRM2500 has to be set. JP7,8 and 9.

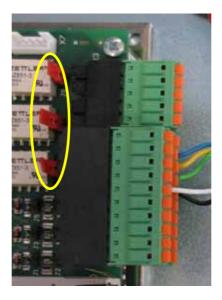


Fig. 22 Jumper settings for relay

#### 5.4.1 Reader Setting for Indicator

The ISOStart software can be used to set the Reader configuration so that output 1 X6-1/-2 or relay X11 opens or closes when a Transponder is read.

Step	Action		Note		
1	Start ISOStart Software		<b>D</b> ISOStart,exe		
2	Select "Configuration" and click on "Read" to read the complete configuration.		Configuration	<u>R</u> ead	
3	<b>Operating Mode</b> Select Buffered Read Mode.	OperatingMode     Mode     BufferedReadMode     NotificationMode     ScanMode     Miscellaneous	Buffered Re Host Mode Scan Mode Buffered Re Notification /	ad Mode	
4	Set by clicking on "Apply".		Apply		
5	Digital IO: Output2 / Sounder Output Idle Mode: OFF Idle Flash Mode: 1Hz Setting Time: 10 "Setting Time" set the dura- tion time of output 2 for the alarm. (10 means 1 second) (e.g. 10 x 100ms) Assign Output 2 to antenna to all antennas of the set up "True" means: Output 2 will be active if the reader read a valid transponder at the cor- responding antenna.	Complete Configuration Accessfue Scholar Constantive C	Dodpad     No1     No2     Softwar     Softwar	OFF 1 Hc 1 Hc Statema 1 JArtema 3 JArterna 7 JArterna 4) True True True True True True True True	

	Digital IO:	Complete Configuration	E Relay		
	Relay 1,2,3 / LED's	🗏 🛄 Hothterface	E Net Ide/tude	011	
		S 🔄 OperatingHode + 🔄 ButteresReadHode	IdeFlashMode	1 Pfr	
	Output Idle Mode: OFF	# IntflationMode # IntflationMode	Settingline El ReadEventActivation	00016 × 100 mm	
	Idle Flash Mode: 1Hz	Micrifaneous     Arizterface	El Anternatio Anterna 1	(Actenna 1)	
	Setting Time: 10	🕫 🦲 Transponder	Arteres 2	True False	1
	Setting Time. 10	in the set of the set	Arterno 3 Arterno 4	False	-
	"Setting Time" set the dura-	🛞 🧰 Output 🗄 🥶 Falay	Antonno 5	False	1
		iii: 🛄 Net	Arterna b Arterna 7	False False	
	tion time of relay 1,2 and 3	H AND H NO	Arterna 8 11 No2	Polise	
	for alarm.	<ul> <li>Sgruiw</li> <li>Micelanesis</li> </ul>	IdeMude	0#	٠
-	(10 means 1 second)	🗷 🤐 PeripheraDevice	IdeRad/Note SettingTime	3 HD 00010 x 200 mm	
6	(e.g. 10 x 100ms)		Read ventActivation		
	(e.g. 10 x 100ms)		Arternatio Arterna I	(Antenna 2) Paloe	
			Arteres 2 Acteres 3	True False	
	Relay 1 to antenna 1+2,		Acterca 4	False	
	Relay 2 to antenna 3+4 and		Anterna 5 Anterna 8	False False	-
	-		Arteres 7	False	
	Relay 3 to antenna 5+6		Arterne B	False	
			IdeNude	OFF	1
	"True" means: Relay 1,2 or 3		IdeRedMode SettingTime	1 Hz 010 x 200 ma	
			E Read veril Activation	[Antenna 2]	
	will be active if the reader		Anterese 1	False	
	read a valid transponder at		Anterna 2	False	
	the corresponding antenna.		Antenna 5	False	100
	the corresponding antenna.				
			200 - 200		
7	Set by clicking on "Apply".		Apply		
-					
	Transpandar	Transponder			
	Transponder	E Driver			
	If the alarm should occur by	Anticollision			
	in the diamin briedla boodin by	PersistenceReset			
		E HF			
	a transponder with valid AFI				
		HF B ICode 1 ISO_15693 Anticollision			
	a transponder with valid AFI byte, you have to configure	HF 1 FiCade 1 1 FSO_15693 2 Anticollision 3 LinkRate			
	a transponder with valid AFI	HF G ICode1 ISO_15693 Anticollision G LinkRate B SelectionMask	Enabled		
	a transponder with valid AFI byte, you have to configure	HF 1 FiCade 1 1 FSO_15693 2 Anticollision 3 LinkRate	Enabled 01		(1
	a transponder with valid AFI byte, you have to configure the reader as follow:	HF C ICode1 ISO_15693 C Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2	01 00		(T
8	a transponder with valid AFI byte, you have to configure	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		æ
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask	HF C ICode1 ISO_15693 C Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2	01 00		×
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI"	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		×
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		×
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI"	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		(*
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		e
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		e
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		E
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		(
8	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note:</li> <li>Up to four different AFI</li> </ul>	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		(2
8	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		E
	a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00 00		
8	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note:</li> <li>Up to four different AFI</li> </ul>	HF C ICode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3	01 00 00		
	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note:</li> <li>Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> </ul>	HF C ICode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4	01 00 00 00		
	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note:</li> <li>Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> </ul>	HF C ICode1 ISO_15693 Articollision C LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4 D ISCLERCO09 - Configuration	01 00 00 00		
	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data se-</li> </ul>	HF C ICode1 ISO_15693 Articollision ClinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4 D ISCLECO009 - ClinkLubration Complete Configuration	01 00 00 00 00		
	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note:</li> <li>Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> </ul>	HF  Clocke1  Southerstanding  Kenterstanding	01 00 00 00 00 00		
	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> </ul>	HF  C ICode1  S Anticolision  LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI3 AFI4  I C ISCLECOOG - Configuration  C Inclusion	01 00 00 00 00 00	3./freed Face	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data se-</li> </ul>	HF  Clocke1  Southerstanding  Kenterstanding	01 00 00 00 00 00 00 00 00 00 00 00 00 0	e F	
	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by</li> </ul>	HF  C ICode1  SO ISO 15693  Articollision  LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4  IDENTECOOO-CONTINUENTION  Content Configuration  Configura	01 00 00 00 00 00 00 00 00 00 00 00 00 0	9 L 9 L	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to</li> </ul>	HF  C ICode1  SO ISO 15693  Articollision  LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4  IDENTECOOO-CONTINUENTION  Content Configuration  Configura	01 00 00 00 00 00 00 00 00 00 00 00 00 0	e F	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to configure the reader as</li> </ul>	HF  C ICode1  SO ISO 15693  Articollision  LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4  IDENTECOOO-CONTINUENTION  Content Configuration  Configura	01 00 00 00 00 00 00 00 00 00 00 00 00 0	a La La a L	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to</li> </ul>	HF  C ICode1  SO ISO 15693  Articollision  LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4  IDENTECOOO-CONTINUENTION  Content Configuration  Configura	01 00 00 00 00 00 00 00 00 00 00 00 00 0	9	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to configure the reader as follow:</li> </ul>	HF  C ICode1  SO ISO 15693  Articollision  LinkRate SelectionMask Enable_AFI AFI1 AFI2 AFI3 AFI4  IDENTECOOO-CONTINUENTION  Content Configuration  Configura	01 00 00 00 00 00 00 00 00 00 00 00 00 0	a La La a L	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to configure the reader as</li> </ul>	HF  C ICode1  SO 15693  Articollision  LinkRate  SelectionMask  Enable_AFI  AFI1  AFI2  AFI3  AFI4  IIII  IIII  IIII  IIII  IIIII  IIIII  IIII	01 00 00 00 00 00 00 00 00 00 00 00 00 0	a La La a L	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to configure the reader as follow:</li> <li>Set "EAS"</li> </ul>	HF  C ICode1  SO 15693  Articollision  LinkRate  SelectionMask  Enable_AFI  AFI1  AFI2  AFI3  AFI4  IIII  IIII  IIII  IIII  IIIII  IIIII  IIII	Di di cicco	a La La a L	
9	<ul> <li>a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)</li> <li>Note: Up to four different AFI values could be set.</li> <li>Set by clicking on "Apply"</li> <li>Operating Mode Data selector (EAS-Alarm)</li> <li>If the alarm should occur by an EAS, you have to configure the reader as follow:</li> </ul>	HF  C ICode1  SO 15693  Articollision  LinkRate  SelectionMask  Enable_AFI  AFI1  AFI2  AFI3  AFI4  IIII  IIII  IIII  IIII  IIIII  IIIII  IIII	01 00 00 00 00 00 00 00 00 00 00 00 00 0	a La La a L	

If a Gate People Counter GPC is installed, the Alarm LED lights LED 1 to 3 will be switched by the digital outputs 1 to 3 of the GPC. See page: <u>6 Installation of the Gate People Counter ID</u> ISC.ANT1700/740-GPC.

#### 5.4.2 Programming a Transponder with the AFI Byte

If the Transponders will remain on the object when leaving the storage location, they must first be cancelled. This is generally done by writing to a particular area of the Transponder.

The AFI byte (Application Family Identifier) is useful for this purpose, since it is contained in nearly all Transponder models in the ISO15693 family. To cancel, simply write a different code to the Transponder than for valid Transponders which trigger an alarm.

Step	Action:	Note:
1	Select "Commands"	Commands
2	Place the Transponder in the antenna field (Antenna 1) Select [0x01] Inventory Mode: New Inventory Requested	ID ISC.LR2000 Commands         Special Commands         ISD Host Commands         ISD Host Commands         ISD Host Commands         ISD Host Commands         ISD ISO ISO3 Commands         ISD (0x01) Inventory         ISD (0x02) Inventory         ISD (0x02) Stay Quiet         ISD (0x22) Lock Multiple Blocks         ISD (0x23) Read Multiple Blocks         ISD (0x24) Write Multiple Blocks         ISD (0x25) Select         ISD (0x26) Reset to Ready         ISD (0x27) Write AFI
3	Read UID by clicking on "Send"	Send
4	The serial number, DSFID and Transponder type are displayed in a window. Write down the serial number of the Transponder	<pre>[0xB0] [0x01] Read Serial Number Statusbyte: 0x00 (0K) 1 Transponder in Protocol 1. Transponder TR-TYPE: 0x03 (IS015693 - Philips Semiconductors) DSFID: 0x00 SNR: E00401000003165C</pre>
5	Select "[0x27] Write AFI" ADR: 1: addressed Serial Number: Select TransponderUID AFI: Desired AFI Number (not equal to 00)	ID ISC.LR2000 Commands         Special Commands         ISO Host Commands         ISO Host Commands         IOxB0] ISO1 5693 Commands         IOx02] Stay Quiet         IOx22] Lock Multiple Blocks         IOx23] Read Multiple Blocks         IOx26] Reset to Ready         IOx27] Write AFI         IOx28] Lock AFI         IOx29] Write DSFID         IOx21] Lock DSFID
6	Write AFI byte on to the transponder by click on "Send"	Send

7	To verify, read AFI byte by using the command [0x2B] Get System Information	Ox23] Read Multiple Blocks     Ox24] Write Multiple Blocks     Ox25] Select     Ox26] Reset to Ready     Ox27] Write AFI     Ox28] Lock AFI     Ox29] Write DSFID     Ox24] Lock DSFID     Ox24] Lock DSFID     Ox24] Get System Information     Ox2C] Get Multiple Block Security S	[0xB0] [0x2B] Get System Information Mode ADR 1: addressed Serial Number E00401000001FADF
---	--	--	---

#### 5.5 Activating the Automatic Mode



Which Mode is useful in your application, has to be defined in advance.

Here we describe the activation of the Buffered Read Mode.

Here the tags are read at maximum speed and the information is stored in the Reader's ring buffer. This data sets can be read by the host.

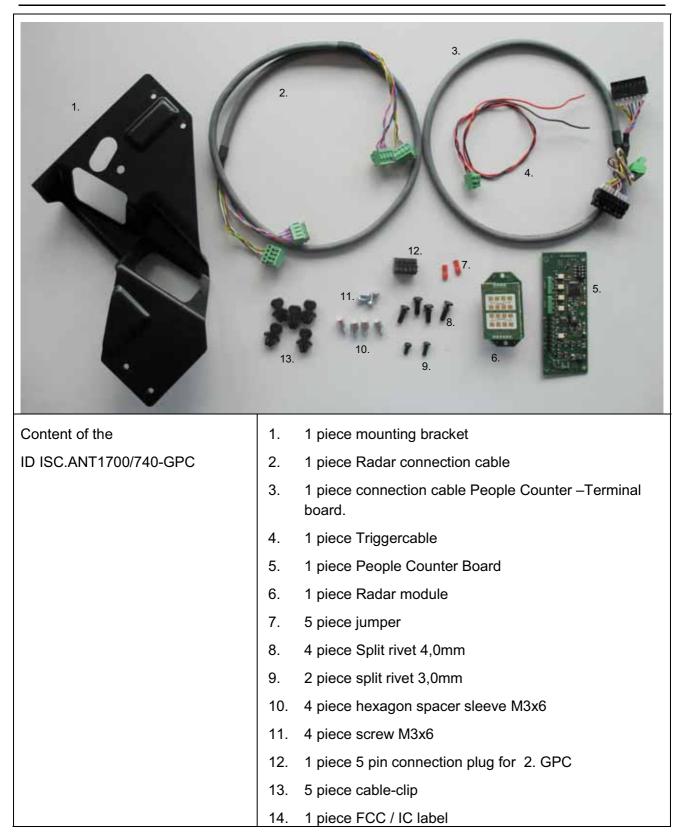
Step	Action	Note
1	Select "Configuration"	Configuration
2	<b>Operation Mode:</b> "Mode" - Buffered Read Mode "Data Selector" -UID -Antenna No - Time -Date "Filter" Set Transponder Valid Time. (e.g. 55 x 100ms)	Buffered Read Mode
3	Set clicking on "Apply"	

Note:

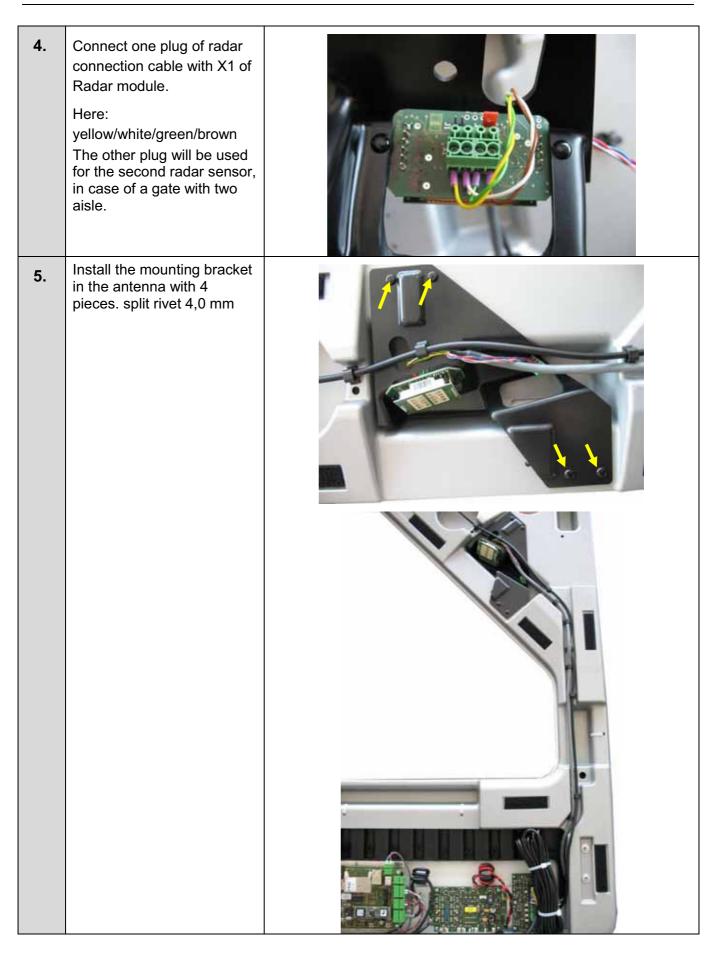
The configuration of the Notification or Scan Mode are similar (See System Manual of the reader) To test the function of the Gate in the Buffered Read Mode, the BRM Window of ISOStart or the BRMDemo program can be used. See Siehe System Manual reader LR2000

#### 6 Installation of the Gate People Counter ID ISC.ANT1700/740-GPC

#### 6.1 Installation and Connections



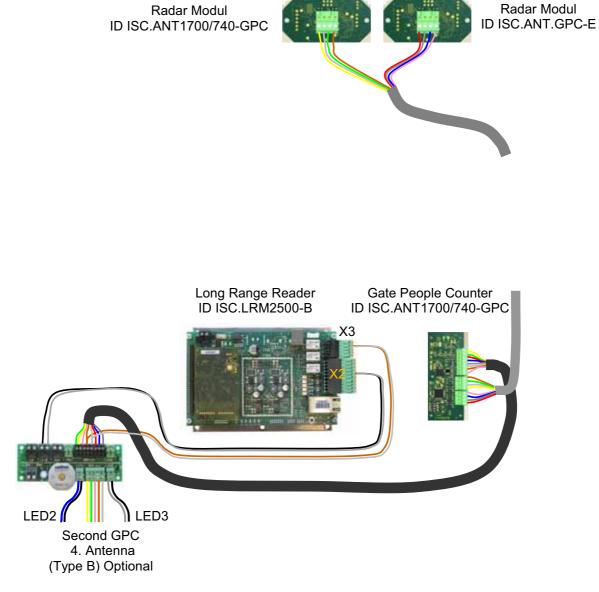
Step	Action	Note
1.	Attention !! Note: Do not touch the an- tenna surface of the Radar module to avoid damaging the electronic components and soiling.	
2.	Set sensitivity of Radar sensor by setting jumper J1 and J2. <u>Sensitivity:</u> JP1+2 open : Low JP1 closed: Middle <u>JP2 closed: High</u> JP1+2 closed: Very high Recommended Sensitivity: High	
3.	Install Radar module with split rivet 3,0 mm at the mounting bracket.	



6.	Fix the cable with the cable clips beside the coax cable.	
7.	Install People Counter Board with the hexagon spacers and the screws into antenna foot beside the multiplexer.	

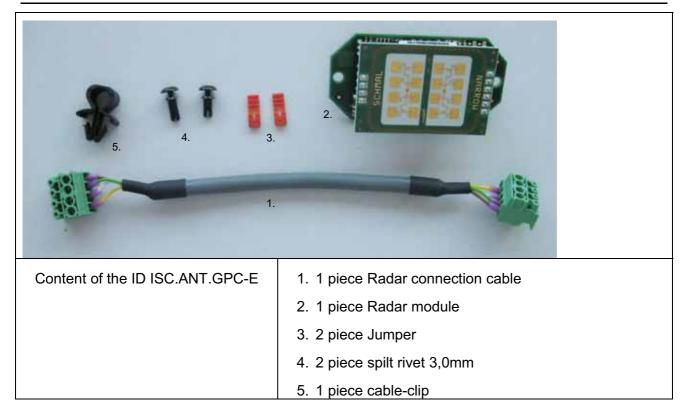
8.	Plug Radar connection ca- ble onto X11 Sen 1 Here: yellow/white/green/brown The other plug should be connected to X12 Sen 2, but has no function at the use of only one radar sen- sor. Plug connection cable of people counter onto X1	
9.	Remove connector form X5 GPC-in and the three wires from X2 of the reader ID ISC.LRM2500.	LR 1/0 HUX TRG BPC-10 LED3 CALL CONTROL CONTR
10.	Plug connection cable of People Counter onto X5/GPC-IN of Terminal Board	LA LO HUX TRG COLOS DO LOS COLO

11.	Connect RS485 cable to X3 of reader.	
12.	Plug 5 pin connection plug onto X13/GPC-OUT of Terminal Board.	
13.	Installing the People Counter at antennas Type B The installation must be done in the same way like at the antenna Type A. Only the RS485 cable will not be connected. This cable has to be tied together to small loops with the cable tie	
14.	After the installation you have to stick the adhesive label of the GPC below of the type plate of the antenna	contains TX-Module with IC: 6633A-GPC and FCC ID: UXS-IPS154US





#### 6.2 Installation ID ISC.ANT.GPC-E



Step	Action	Note
1.	Attention !! Note: Do not touch the an- tenna surface of the Radar module to avoid damaging the electronic components and soiling.	
2.	Set sensitivity of Radar sensor by setting jumper J1 and J2. <u>Sensitivity</u> : JP1+2 open: Low JP1 closed: Middle <u>JP2 closed: High</u> JP1+2 closed: Very high Recommended Sensitivity: High	

3.	Install Radar module with split rivet 3,0mm at the back of the mounting bracket	
4.	Connect second plug of radar connection cable with X1 of Radar module. Here: red/Grey/blue/pink	
5.	Plug second plug of Radar connection cable onto X12 Sen 2	

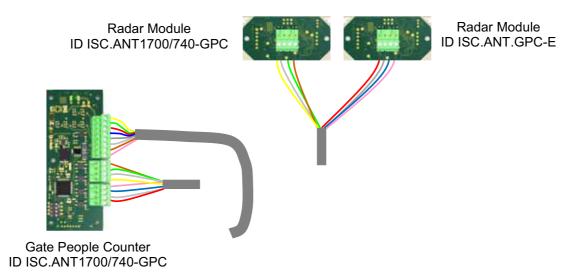
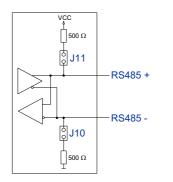


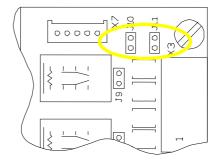
Fig. 24: Connections GPC-E 2.Radarmodule

#### 6.3 Configuration and Test

To activate the People Counters the following settings hast o be done.

Set additional the Jumpers JP10 and J11 of Reader ID ISC.LRM2500-B to configure the RS485 interface. (see also manual M01111-xde-ID-B , page 54 and 55). The Termination has to be activated via software in the reader configuration.





Dusaddress	000	
Baudrate	38400 baud	
Parity	even Parity	6
Number of Databits	8 Data Bits	
Number of Stopbits	1 Stop Bit	
E R5485		
Enable Termination Resistors	<b>V</b>	

Fig. 25: Jumper settings RS485 Interface

By using <u>several</u> People Counters at gates with 3 to 6 aisles, you have to set the corresponding bus address. The bus address could be set by the Dip-Switch at the People Counter Board. See Fig. 26. At one reader, up to 3 People Counter (bus address 1-3) could be operated.

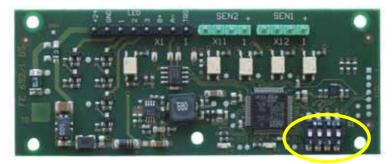


Fig. 26: Position of Dip Switch at People Counter Board

	DIP-Switch S1			
bus address	1	2	3	4
1	OFF/ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	OFF	OFF	ON	OFF
4		Res	erved	

Table 8 Setting the bus address of People Counter

#### 6.3.1 Connecting several People Counter

If you have to use several People Counters (max. up to 3) you could connect them parallel at the Terminal Board. For the connection you must use 5 pin shielded, twisted-pair cable. Example: LiYCY (TP) 3x2x0,25

The connection X13/GPC-Out of the first Terminal Board has to connected to X13 GPC-out of the second and third Terminal Board of the antenna /People Counter. More details to the terminal assignment of X13 you will find in <u>9.Annex A</u>

e.g.

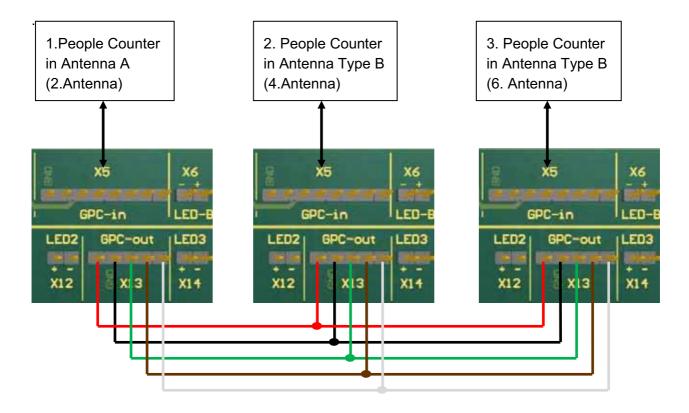


Fig. 27 Connecting the People Counters

#### 6.3.2 Configuration and Test in ISO-Host or Buffered Read

Step	Action	Note
1	Select "Configuration"	Configuration
2	Host Interface Set RS 485 to "True" "Enable Termination Resistors" The RS232/485 Settings should be set to: Busaddress=0, Baudrate=38400 baud, Parity = even , Number of Databits = 8, Number of Stopbits = 1	■ Disclete/Society - Gon/Iguration         ■ Notification         ■ Notification         ■ Organization
3	Confirm with "Apply"	
4	Peripheral Devices Set People Counter to,,True" and Detection Mode for Ext. I/O-Boards to "Search up to Busaddress 1"	Complete Control planetion     Complete Control planetion     Construction     Constructin     Construction     Construction     Construction     Construc
5	Confirm with "Apply"	
6	Peripheral Device Digital IO: Setting Time: "Setting Time" set the dura- tion time for the alarm. (10 means 1 second) (e.g. 10 x 100ms) Assign Output 1 to antenna 1+2 Output 2 to antenna 3+4 Output 2 to antenna 3+4 Output 3 to antenna 5+6 "True" means: Output 1,2 or 3 will be active if the reader read a valid trans- ponder on the correspond- ing antenna	Consiste Constantional  Constant Constantional Constant Constant  Constant Constant  Constant Constant  C

7	Set by clicking on "Apply".	
	Test: People Counter	
8	Select "Commands"	Commands
9	Select Command - "Get Reader Info" - Peripheral Devices	DISCLEZOOO - Dominands DISCLEZOOO - Dominands DISCLEZOOO Convesade Discle Data Diffie big D
10	Confirm with "Send" Number of Devices should be 1	Send
11	Select Command "Set People Counter Values"	ID       ISIC LR2000 - Commands         ID       ISIC LR2000 (commands         ID       ID
12	Confirm with "Send"	Send
13	Select Command "Get People Counter Values"	ID     ISC/LECCOOL     Committabilit       ID     ISC/LECCOOL     Committabilit       ID     ISC/LECCOOL     Entropy Commands       ID     ID     ISC/LECCOOL       ID     ISC/LECCO
14	Confirm with "Send" All counter values should be 0	Send
15	Walk through the gate from both directions.	Counter 1   Counter 2 In   Out

	Salast Command	ID ISC LR2000 - Commanda	
16	Select Command "Get People Counter Values"	B DISCAR2000 Commands     Bolt Set Comm	
17	Confirm with "Send"	Send	
18	Counter values will be displayed.	[0x77] Get People Counter Values Radar Detector 1 Counter 11 Counter 21 Radar Detector 2 Counter 10 Counter 20	

In ISO-Host or Buffered Read the People Counter has to be polled by the Host Application to get the data.

In Notification Mode the Reader sends the People Counter Data automatically to the Host.

#### 6.3.3 Configuration and Test in Notification Mode

The following configuration hast o be done:

Step	Action	Note	
1	Select "Configuration"	Configuration	
2	Peripheral Devices/CFG8 Set People Counter and Notify Counter to "True"	Generation     G	[ProginCounter Autify Counter via Nonthration (Charver] Praise True True 000 = 100 ms
3	Confirm with "Apply"		
4	<b>Operating Mode</b> Select -Notification Mode	D ISC LR2000- Configuration  Consider Configuration  Consider Configuration  Consider Configuration  Construction  Construction	Notification Hode
5	Confirm with "Apply"		

		ID ISC LR2000 - Configuration		
	Set IP Address and Port for Notification Mode	Complete Configuration Complete Configuratio	CoperatingNode  Note  Date Date Date Date Date Date Date D	Notification Mode 💽
	IP Address of Host	🐨 🧾 PerpheraDevice	E Datafisieren E Filten El Trigger	
	e.g. here : 192.168.3.213		Endle Tradic Stand and and the Billion	P
	Port:20005		III EAS	continuously.
6	Set IP Address and Port for People Counter		Contractions Contractions Enable Annowindge El Destination Portifaction Connectorristifium	ini accesto 000 F 20001 005 secondo
	IP Address of Host		E IPv4 SA55ms E CempAlive	190.144.5.215 P
	e.g. here: 192.168.3.213		Enable IntervalTime EnablePeopleCounter II Transmission	00000 seconda
	Port:10005		E Destination Forthurber E IPv4	1000
			PAddress	192.186.3.213
7	Confirm with "Apply"			
9	A Test could be done with the People Counter Sample.	Detector 1 (S Detector 1 (S Comming in (D) Going out (Co Difference 0 Last Tag	ENI) ounter I) anter 2)	entector 2 (SEN2) nming in (Counter 3) 0 ang out (Counter 4) 0 Difference 0 Last Tags
		TCP-Settings	Reset Counter	Ed

#### 7 Configuring the Reader in accordance with national RF regulations

Configuration of the RFID Readers and the maximum transmitting power of the antennas are affected mainly by the country-specific RF regulations. For the entire EU the limits are set forth in the R&TTE Directive and EN 300 330.

The ID ISC.ANT1700/740 antenna with the ID ISC.LRM2500 Reader, when used as intended, complies with the basic requirements of Article 3 and the other relevant clauses of the R&TTE Directive 1999/5/EG of March 1999. This means that operation in the 27 EU countries and the EFTA countries (EU countries plus Switzerland, Norway and Iceland) is possible with a maximum field strength of 60 dBµA/m at 10 m distance.

RF approval (at a maximum field strength of <u>84 dB $\mu$ V/m</u> at 30 m) for the ID ISC.ANT1700/740 antenna with ID ISC.LRM2500 Reader has been granted in accordance with FCC Part 15 for the USA and the RSS-210 for Canada

RF approval in accordance with EN 300 330 is still possible in all 46 CEPT countries.

The CEPT countries are:

Albania (ALB), Andorra (AND), Austria (AUT), Azerbaijan (AZE), Belarus (BLR), Belgium (BEL), Bulgaria (BUL), Bosnia and Herzegovina (BIH), Croatia (HRV), Cyprus (CYP), Czech Republic (CZE), Denmark (DNK), Estonia (EST), Finland (FIN), France (F), Germany (D), Greece (GRC), Hungary (HNG), Iceland (ISL), Ireland (IRL), Italy (I), Latvia (LVA), Liechtenstein (LIE), Lithuania (LTU), Luxembourg (LUX), Malta (MLT), Former Yugoslav Republic of Macedonia (MKD), Moldova (MDA), Monaco (MCO), Netherlands (HOL), Norway (NOR), Poland (POL), Portugal (POR), Romania (ROU), Russian Federation (RUS), San Marino (SMR), Slovak Republic (SVK), Slovenia (SVN), Spain (E), Sweden (S), Switzerland (SUI), Turkey (TUR), Ukraine (UKR), United Kingdom (G), Vatican City (CVA) and Yugoslavia.

The following restrictions are in effect (as of: October 2009):

1. Outside the EFTA countries RF approval must in all cases be applied for. The existing measuring protocols in accordance with EN 300 330 are generally sufficient.

When placing the antennas in service, the systems integrator must ensure that the prescribed mounting instructions are followed, the necessary Reader settings are made and permissible limits according to the national regulations are not exceeded.

The Reader needs to be configured as follows depending on the installation location:

Parameter	USA / Canada / Europe	
Air Interface		
RF-Power:	maximum 4 W	
RF Modulation:	15%	
Transponder Parameters		
RF Modulation / ISO-MODE / MOD	10%	
RF Data coding ISO-MODE:	Normal (1/256)	
Timeslots ISO-MODE / NO-TS	1 or 16 Timeslots	
ISO Option – BREAK:	Complete Timeslot length at "NO TAG"	

#### 8 Technical Data

#### 8.1 Antenna ID ISC.ANT1700/740-SLA and -SLB

Mechanical Data	
• Housing	UV stabilized ABS
<ul> <li>Dimensions (W x H x D)</li> <li>Antenna</li> <li>Packing</li> </ul>	741 mm x 1700 mm x 76 mm ± 3 mm 870 mm x 1800 mm x 180 mm ± 10 mm
<ul> <li>Weight         <ul> <li>ID ISC.ANT1700/740-SLA Clear</li> <li>ID ISC.ANT1700/740-SLB Clear</li> </ul> </li> </ul>	Approx. 19,5 kg / 24,5 kg with packing Approx. 18,0 kg / 23 kg with packing
Enclosure rating	IP 43
• Color	Antenna frame: signal white RAL 9003 Antenna base: silver grey RAL 9022
<ul> <li>Mounting         <ul> <li>No. of attaching points</li> <li>Recommended anchors</li> <li>Recommended minimum load</li> <li>capacity of the floor fastener</li> </ul> </li> </ul>	2 Ø 10 mm 5000 N / anchor
Maximum horizontal load on the top     edge of the antenna	250 N*

#### **Electrical Data**

Supply Voltage     24 V === ± 15 %     Noise Ripple : max. 1	50 mV
Power Consumption max. 32 VA	
Operating Frequency     13,56 MHz	
Maximum transmitting power per 4 W antenna	
Permissible overall transmitting     power per antenna gate	
– EU-territory (per EN 300 330) 4.0 W	
– USA (per. FCC Part 15) 4.0 W	
- Canada (per RSS 210) 4.0 W	

24 V === / 30 mA Reader Synchronization 24 V === / 1 A (LED Alarm Antenna 1-3)
Max. 24 V ==== / 20 mA Reader Synchronisation
RS232 / RS485 USB Ethernet (TCP/IP)
FEIG ISO HOST BRM (Data Filtering and Data Buffering) Scan Mode (RS 232/485) Notification Mode (TCP/IP)
ISO 15693, ISO 18000-3-A, (EM HF ISO Chips, Fujitsu HF ISO Chips, KSW Sensor Chips, Infineon my-d, NXP I-Code , STM ISO Chips, TI Tag-it) NXP I-Code 1
approx. 150 / 160 cm** approx. 120 / 130 cm***
1 x SMA plug (50 Ω)
RG58, 50 Ω, approx. 8,55 m long

**Ambient Conditions** 

<ul> <li>Temperature range</li> <li>– Operating</li> <li>– Storage</li> </ul>	–25 °C to +50 °C –25 °C to +70 °C
Applicable Standards	
• Funkzulassung	
– Europa	EN 300 330
– USA	FCC Part 15
- Canada	RSS 210
• EMC	EN 301 489
Safety	
– Low Voltage Directive	EN 60950-1
– Human Exposure	EN 50364

\* Persistent deformation after load release approx. 1 cm.

\*\* Qty. 2 ID ISC.ANT1700/740-SLA/-SLB antennas, antenna spacing (antenna center), same flow direction, Tag 46 mm x 75 mm ISO15693, sensitivity / minimum field strength  $H_{min}$ =60 / 40 mA/m rms, transmitting power 8 W, tag orientation parallel to antenna for horizontal movement through the antenna. The maximum antenna distance also depending of the strength of the Transponder answer signal! Z.B NXP I-Code SLi / NXP I-Code SLi-S

\*\*\* Qty. 2 ID ISC.ANT1700/740-SLA/-SLB antennas, antenna spacing (antenna center),
 Tag 46 mm x 75 mm ISO 15693, sensitivity / minimum field strength H<sub>min</sub>=60 / 40 mA/m rms,
 transmitting power 8 W, aligned in all 3 dimensions for horizontal movement through the antenna.
 The maximum antenna distance also depending of the strength of the Transponder answer signal!
 Z.B NXP I-Code SLi / NXP I-Code SLi-S

#### 8.2 People Counter ID ISC.ANT1700/740-GPC and ID ISC.ANT.GPC-E

Mechanical Data	
Housing	Printed Boards
<ul> <li>Board Dimensions (B x H x T)         <ul> <li>People Counter Board</li> <li>Radar Sensor Board</li> </ul> </li> </ul>	100 mm x 40 mm x 16 mm ± 1 mm 60 mm x 30mm x 25 mm ± 1 mm
<ul> <li>Weight <ul> <li>ID ISC.ANT1700/740-GPC</li> <li>ID ISC.ANT.GPC-E</li> </ul> </li> <li>Mounting</li> </ul>	ca. 200 g / 290 g (0.64 lb) with packing ca. 50 g / 100 g (0.22 lb) with packing
– No. of attaching points	People Counter: 4 / Radar Sensor: 2
Electrical Data	
Supply Voltage	<ul> <li>24 V === ± 15 % Noise Ripple : max. 150 mV</li> </ul>
Power Consumption	• max. 2 VA
Operating Frequency	• 24,125 GHz
RF-Output power	• 16 dBm (e.i.r.p.)
<ul> <li>Temperature range         <ul> <li>Operation</li> <li>Storage</li> </ul> </li> </ul>	–25 °C bis +55 °C –25 °C bis +85 °C

#### 8.3 Approval

As per Section 7

#### 8.3.1 Europe (CE)

#### 8.3.1.1 Antenna ID ISC.ANT1700/7400

This RF equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC dated March 99.

# CE

Equipment Classification according to ETSI EN 300 330 and ETSI EN 301 489: Class 1

The technical data of the ID ISC.LRM2500 Reader built into the ID ISC.ANT1700/740-SLA antenna can be found in the Installation Manual which is included with the device.

8.3.1.2 People Counter ID ISC.ANT1700/740-GPC

This RF equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC dated March 99.



Equipment Classification according to ETSI EN 300 330 and ETSI EN 301 489: Class 2

#### 8.3.2 USA (FCC) and Canada (IC)

#### 8.3.2.1 Antenna ID ISC.ANT1700/740

Product name:	ID ISC.ANT1700/740		
Antenna name:	ID ISC.ANT1700/740 Type SLA and SLB		
Reader name:	ID ISC.LRM2500-B		
FCC ID: IC:	PJMLRM2500 6633A-LRM2500		
Notice for USA and	This device complies with Part 15 of the FCC Rules and with		
Canada	RSS-210 of Industry Canada.		
	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,		
FC	including interference that may cause undesired operation.		
	Unauthorized modifications may void the authority granted under Federal communications Commission Rules permitting the operation of this device.		
	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.		
	Le présent appareil est conforme aux CNR d'Industrie Canada appli- cables aux appareils radio exempts de licence. L'exploitation est auto- risée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonc- tionnement.		

Further information and technical data of the ID ISC.LRM2500-B Reader built into the ID ISC.ANT1700/740 antenna can be found in the Installation Manual which is included with the device.

#### 8.3.2.2 People Counter ID ISC.ANT1700/740-GPC

FCC ID: IC:	UXS-IPS154US 6633A-GPC
Notice for Canada	Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Usually this is followed by the
	following RSS caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
	Le présent appareil est conforme aux CNR d'Industrie Canada appli- cables aux appareils radio exempts de licence. L'exploitation est auto- risée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit acceptor tout brouillage radioélectrique
	(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonc- tionnement.

#### 8.3.3 USA and Canada (UL)

The following picture indicates the label position:



#### 9 Annex A

#### 9.1 Terminal assignment "Terminal Board"

Terminal	Acronym	Description
X1 / LR		24V DC Reader
X1 / Pin 1		+24 V DC Reader
X1 / Pin 2	GND	GND Reader
X2 / I/O		24V DC Input/Output
X2 / Pin 1		+24 V DC Input/Output
X2 / Pin 2	GND	GND Input/Output
X3 / MUX		24V DC Multiplexer
X3 / Pin 1		+24 V DC Multiplexer
X3 / Pin 2	GND	GND Multiplexer
X4 / TRG		Trigger People Counter 1
X4 / Pin 1	+	TRG Trigger People Counter
X4 / Pin 2	-	GND Trigger People Counter
X5 / GPC-in		Connection Cable to People Counter
X5 / Pin 1		+24V DC LED2
X5 / Pin 2		+24V DC LED3
X5 / Pin 3		n.c.
X5 / Pin 4		RS485-A
X5 / Pin 5		RS485-B
X5 / Pin 6		TRG Trigger People Counter
X5 / Pin 7		+24 V DC People Counter
X5 / Pin 8	GND	GND People Counter
X6 / LEDB		Connection LED / Alarm light B-Antenna
X14 / Pin 1	+	+24V DC LEDB
X14 / Pin 2	-	GND LEDB
X11		24V DC Power Supply
X11 / Pin 1	24V	Power Supply +24 V DC
X11 / Pin 2	- / GND	Ground – Power Supply

X12 / LED2		Connection LED / Alarm light 2. Antenna
X12 / Pin 1	+	+ 24 V DC LED2
X12 / Pin 2	-	GND LED2
X13 / GPC-out		Connection Cable to 2. People Counter
X13 / Pin 1	+	+24 V DC People Counter 2
X13 / Pin 2	GND	GND People Counter 2
X13 / Pin 3		TRG Trigger People Counter
X13 / Pin 4		RS485-A
X13 / Pin 5		RS485-B
X14 / LED3		Connection LED / Alarm light 3. Antenna
X14 / Pin 1	+	+24V DC LED3
X14 / Pin 2	-	GND LED3

Table 9: Pin-Configuration X11-X14 Terminal Board

#### 9.2 Internal wiring

Terminal	Acronym	Description
X1 / LR		24V DC Reader
X1 / Pin 1		X13 +24 V DC Reader (red)
X1 / Pin 2	GND	X13 GND Reader (black)
X2 / I/O		24V DC Input/Output
X2 / Pin 1		Reader LR2500 X2 Pin Out2-C (white)
X2 / Pin 2	GND	Reader LR2500 X2 Pin Out2-E (black)
X3 / MUX		24V DC Multiplexer
X3 / Pin 1		X1 +24 V DC Multiplexer (red)
X3 / Pin 2	GND	X1 GND Multiplexer (black)
X5 / I/O		Relay Output
X5 / Pin 1		Reader LR2500 X2 Pin REL3-COM (blue)
X5 / Pin 2		Reader LR2500 X2 Pin REL2-COM (yellow)
X5 / Pin 3		Reader LR2500 X2 Pin REL1-COM (green)
X6 / LED 1		LED
X6 / Pin 1		LED X1 + (green)
X6 / Pin 2	GND	LED X1 - (yellow)





## ID ISC.ANT1800/700 Type A and B



draft public (B) 2011-04-07 M00910-2e-ID-B.doc



English

## Note

© Copyright 2011 by FEIG ELECTRONIC GmbH Lange Strasse 4 D-35781 Weilburg Tel.: +49 6471 3109-0 http://www.feig.de

With the edition of this document, all previous editions become void. Indications made in this manual may be changed without previous notice.

Copying of this document, and giving it to others and the use or communication of the contents thereof are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

Composition of the information in this document has been done to the best of our knowledge. FEIG ELECTRONIC GmbH does not guarantee the correctness and completeness of the details given in this manual and may not be held liable for damages ensuing from incorrect or incomplete information. Since, despite all our efforts, errors may not be completely avoided, we are always grateful for your useful tips.

The instructions given in this manual are based on advantageous boundary conditions. FEIG ELECTRONIC GmbH does not give any guarantee promise for perfect function in cross environments and does not give any guaranty for the functionality of the complete system which incorporates the subject of this document.

FEIG ELECTRONIC call explicit attention that devices which are subject of this document are not designed with components and testing methods for a level of reliability suitable for use in or in connection with surgical implants or as critical components in any life support systems whose failure to perform can reasonably be expected to cause significant injury to a human. To avoid damage, injury, or death, the user or application designer must take reasonably prudent steps to protect against system failures.

FEIG ELECTRONIC GmbH assumes no responsibility for the use of any information contained in this document and makes no representation that they free of patent infringement. FEIG ELECTRONIC GmbH does not convey any license under its patent rights nor the rights of others.

OBID<sup>®</sup> and OBID i-*scan*<sup>®</sup> are registered trademarks of FEIG ELECTRONIC GmbH. I-CODE<sup>®</sup> is a registered trademark of Philips Electronics N.V. Tag-it<sup>™</sup> is a registered trademark of Texas Instruments Incorporated.

## Contents

1.	Safe	y Instructions / Warning - Read before Start-Up !	6
2.	Main	tenance	7
3.	Perfo	ormance Features of the ID ISC.ANT1800/700 Antennas	8
	3.1	Performance Features of the People Counter ID ISC.ANT1800/700-GPC	9
	3.2	Available Antenna Types	12
4.	Insta	llation and Wiring	13
	4.1	Mounting Preparation	14
	4.2	Installing the antenna	15
	4.2.1	Dimensions of antenna	15
	4.2.2	Drilling the Mounting Holes	
	4.2.3	Installing the Antenna Base and Antenna Body	18
5.	Турі	cal Antenna Configuration (Gate Antenna with two Antennas)	19
	5.1	Project Notes	
	5.2	Gate Configuration and Setup using Antennas	
	<b>5.2</b> 5.2.1	Gate Configuration and Setup using Antennas	22
			<b>22</b> 22
	5.2.1	Required Components Configuration of a Gate Antenna with Multiplexer	
	5.2.1 5.2.2	Required Components Configuration of a Gate Antenna with Multiplexer	<b>22</b> 22 23 26
	5.2.1 5.2.2 5.2.3	Required Components Configuration of a Gate Antenna with Multiplexer Setting the Multiplexer Setting the Antenna Tuner Interface Connections	22 23 26 27 28
	5.2.1 5.2.2 5.2.3 5.2.4	Required Components Configuration of a Gate Antenna with Multiplexer Setting the Multiplexer Setting the Antenna Tuner Interface Connections	22 22 23 26 27 28 28
	5.2.1 5.2.2 5.2.3 5.2.4	Required Components Configuration of a Gate Antenna with Multiplexer Setting the Multiplexer Setting the Antenna Tuner Interface Connections 5.2.5.1 RS 232 5.2.5.2 LAN / TCP/IP	22 22 23 26 27 28 28 29
	5.2.1 5.2.2 5.2.3 5.2.4 5.2.5	Required Components Configuration of a Gate Antenna with Multiplexer Setting the Multiplexer Setting the Antenna Tuner Interface Connections	22 22 23 26 27 28 28 29 30
	5.2.1 5.2.2 5.2.3 5.2.4 5.2.5 5.2.6	Required Components Configuration of a Gate Antenna with Multiplexer Setting the Multiplexer Setting the Antenna Tuner Interface Connections 5.2.5.1 RS 232 5.2.5.2 LAN / TCP/IP Reader Configuration with Multiplexer	22 22 23 26 27 28 28 29 30 33
	5.2.1 5.2.2 5.2.3 5.2.4 5.2.5 5.2.6 5.2.7	Required Components Configuration of a Gate Antenna with Multiplexer Setting the Multiplexer Setting the Antenna Tuner Interface Connections 5.2.5.1 RS 232 5.2.5.2 LAN / TCP/IP Reader Configuration with Multiplexer Tuning the Gate Antenna	22 22 23 26 27 28 28 29 30 33 34
	5.2.1 5.2.2 5.2.3 5.2.4 5.2.5 5.2.6 5.2.7 <b>5.3</b>	Required Components         Configuration of a Gate Antenna with Multiplexer         Setting the Multiplexer         Setting the Antenna Tuner         Interface Connections         5.2.5.1       RS 232         5.2.5.2       LAN / TCP/IP         Reader Configuration with Multiplexer         Tuning the Gate Antenna	22 22 23 26 27 28 28 29 30 31 34

	Setting the Alarm Kit	39
5.4.1	Reader Setting for Indicator	
5.4.2	Programming a Transponder with the AFI Byte	
5.5	Activating the Automatic Mode	43
5.6	Installation ID ISC.ANT.GPC-E	44
5.7	Configuration and Test	46
5.7.1	Connecting several People Counter	47
5.7.2	Configuration and Test in ISO-Host or Buffered Read	
5.7.3	Configuration and Test in Notification Mode	51
5.7.4	Using the trigger function of Gate People Counter	53
6. Con	figure the reader in accordance with national RF regulations	55
7. Tecl	nnical Data	57
7.1	Antenna ID ISC.ANT1800/700 Type A and B	
	Antenna id 130. Anti 1600/700 Type A and B	57
7.2	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E	
7.2 7.3		60
	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E	60 61
7.3	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E Approvals Europe (CE)	60 61 61 61
7.3	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E	60 61 61 61
7.3	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E         Approvals         Europe (CE)         7.3.1.1 Antenne ID ISC.ANT1800/700         7.3.1.2 People Counter ID ISC.ANT1800/700-GPC	60 61 61 61 61
<b>7.3</b> 7.3.1	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E Approvals Europe (CE) 7.3.1.1 Antenne ID ISC.ANT1800/700 7.3.1.2 People Counter ID ISC.ANT1800/700-GPC USA (FCC) and Canada (IC) 7.3.2.1 Antenna ID ISC.ANT1800/700	
<b>7.3</b> 7.3.1	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E Approvals Europe (CE) 7.3.1.1 Antenne ID ISC.ANT1800/700 7.3.1.2 People Counter ID ISC.ANT1800/700-GPC USA (FCC) and Canada (IC)	
<b>7.3</b> 7.3.1	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E Approvals Europe (CE) 7.3.1.1 Antenne ID ISC.ANT1800/700 7.3.1.2 People Counter ID ISC.ANT1800/700-GPC USA (FCC) and Canada (IC) 7.3.2.1 Antenna ID ISC.ANT1800/700 7.3.2.2 People Counter ID ISC.ANT1800/700-GPC	
<b>7.3</b> 7.3.1 7.3.2 7.3.3	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E Approvals Europe (CE) 7.3.1.1 Antenne ID ISC.ANT1800/700 7.3.1.2 People Counter ID ISC.ANT1800/700-GPC USA (FCC) and Canada (IC) 7.3.2.1 Antenna ID ISC.ANT1800/700 7.3.2.2 People Counter ID ISC.ANT1800/700-GPC	
<b>7.3</b> 7.3.1 7.3.2 7.3.3	People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E         Approvals         Europe (CE)         7.3.1.1 Antenne ID ISC.ANT1800/700.         7.3.1.2 People Counter ID ISC.ANT1800/700-GPC         USA (FCC) and Canada (IC)         7.3.2.1 Antenna ID ISC.ANT1800/700.         7.3.2.2 People Counter ID ISC.ANT1800/700.         T.3.2.2 People Counter ID ISC.ANT1800/700.         T.3.2.2 People Counter ID ISC.ANT1800/700.         T.3.2.4 Antenna ID ISC.ANT1800/700.         T.3.2.5 People Counter ID ISC.ANT1800/700.         T.3.2.6 People Counter ID ISC.ANT1800/700.         T.3.2.7 People Counter ID ISC.ANT1800/700.         T.3.2.8 People Counter ID ISC.ANT1800/700.         T.3.2.9 People Counter ID ISC.ANT1800/700.         T.3.2.1 Antenna ID ISC.ANT1800/700.         T.3.2.2 People Counter ID ISC.ANT1800/700.         T.3.2.3 People Counter ID ISC.ANT1800/700.         T.3.2.4 People Counter ID ISC.ANT1800/700.         T.3.2.5 People Counter ID ISC.ANT1800/700.         T.3.2.6 People Counter ID ISC.ANT1800/700.         T.3.2.7 People Counter ID ISC.ANT1800/700.         T.3.2.8 People Counter ID ISC.ANT1800/700.         T.3.2 People Counter ID ISC.ANT1800/700.         T.3.2 People Counter ID ISC.ANT1800/700.         T.3.2 People Counter ID ISC.         T.3.2 People Counter ID ISC.	60 61 61 61 62 62 63 64 65

### 1. Safety Instructions / Warning - Read before Start-Up !

- The device may only be used for the intended purpose designed by for the manufacturer.
- The operation manual should be conveniently kept available at all times for each user.
- Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.
- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
- Repairs may only be executed by the manufacturer.
- Installation, operation, and maintenance procedures should only be carried out by qualified personnel.
- Use of the device and its installation must be in accordance with national legal requirements and local electrical codes .
  - When working on devices the valid safety regulations must be observed.
- Please observe that some parts of the device may heat severely.
- Before touching the device, the power supply must always be interrupted. Make sure that the device is without voltage by measuring. The fading of an operation control (LED) is no indicator for an interrupted power supply or the device being out of voltage!
- For installation and dismantling you should wear suitable safety gloves, because parts of antenna housing could be sharp-edged.



# CAUTION! The Antenna-Tuner and the Antenna conductor carry voltages up to 1000V.



The Antenna is not water proof and should not be exposed to rain or humidity. Under extreme circumstances water could seep into the antenna and damage the electronic circuits.

Special advice for wearers of cardiac pacemakers:

• Although this device doesn't exceed the valid limits for electromagnetic fields you should keep a minimum distance of 25 cm between the device and your cardiac pacemaker and not stay in an immediate proximity of the reader's antennas for any length of time.



 CAUTION! Do not look directly into the LED light. There is a danger of injury of the eyes!

#### Maintenance 2.

The antenna ID ISC.ANT1800/700 is a design product with high quality surfaces, and should always be handled with caution. The antenna was designed to work reliably and flawlessly for years without special maintenance.



Attention! The surfaces should be cleaned with a clean, soft cloth dampened in a dishwashing liquid - water solution. The use of alcohol, spirit, thinners, glass cleaners or other harsh cleaning liquids is prohibited and will damage the acrylic plate.

To improve the durability and the appearance, please follow the instructions below:

- Keep the antenna clean and take care the antenna is not scratched. Also regularly apply specific antistatic products for acrylic surfaces.
- Regularly remove dust and other impurities with a soft cloth and a solution of water with a little • dishwashing liquid.
- Keep the antenna dry. All kinds of moisture should be avoided during operation and storage. • Precipitation, humidity and liquids contain minerals that will corrode electronic circuits and damaging transparent plastic parts.
- Protect the antenna from high temperatures. Mount the antenna away from heaters and other • heat sources. Operation under direct sunlight can cause extreme high temperatures and a fading cause of the surface.
- Avoid storing or operating the antenna at dirty or wet locations. The surfaces or electronic • components may be-damaging.
- Handle the device with care. Shocks may break internal circuit boards. •
- Do not try to open the antenna during operation or outside maintenance periods. Non-• professional management can result in damage to the device.

If any device not working properly, please contact the appropriate representative.

#### 3. Performance Features of the ID ISC.ANT1800/700 Antennas

The ID ISC.ANT1800/700-A antenna is a version with integrated Dynamic Antenna Tuning Board ID ISC.DAT, Long Range Reader ID ISC.LRM2500-B, 4-times Multiplexer Module ID ISC.ANT.MUX M4, signal light and buzzer.

Additionally, one People Counter and one radar Detector are already integrated in the antenna ID ISC.ANT1800/700-A.

The ID ISC.ANT1800/700-B antenna is a version with integrated Dynamic Antenna Tuning Board ID ISC.DAT and signal light mounted, only.

Up to

- two antennas with reader and multiplexer as a single gate,
- three to four antennas with reader and multiplexer as a double gate or triple gate
- up to 8 antennas as multiple gate with up to 7 aisle at the use of the 8-times Multiplexer ID ISC.ANT-MUX M8.

can be operated.

Depending on the antenna configuration, one, two or all three read orientations of the Smart Tags and various aisle widths (gate widths) are possible.

The ID ISC.ANT1800/700-A/B is a "figure-of-eight" antenna with tuner and has been optimized as transmitting and receiving antennas for the ID ISC.LRM2500 Reader. It is however also possible to operate them with other readers at a transmission frequency of 13.56 MHz and an output impedance of 50  $\Omega$ . The read ranges indicated in this document and the tuning procedures may vary.

The antennas comprise the electrical antenna conductor, the housing, the ID ISC.DAT *Dynamic Antenna Tuner* and the connection cables. The antennas are tuned to the factory default to an impedance of 50  $\Omega$  in a magnetically neutral environment at a distance of 95 cm. When installing in different ambient conditions the antenna can be retuned using the "DATuningTool" PC software. After tuning, the antennas will retain their settings as long as the ambient conditions remain unchanged.

The antennas can be used for detecting both product and persons. It is for indoors use, only.

#### 3.1 Performance Features of the People Counter ID ISC.ANT1800/700-GPC

The product ID ISC.ANT1800/700-GPC, short form "Gate People Counter" or "GPC", are made for mounting in the gate antennas ID ISC.ANT1800/700.

A Gate People Counter consist of a People Counter board (PC) and one Radar Detector! The product ID ISC.ANT.GPC-E Extension Radar Detector is used to extend the People Counter to a second gate aisles.

The People Counter has two counters per aisle. The values of the incoming and outgoing persons will be separately captured.

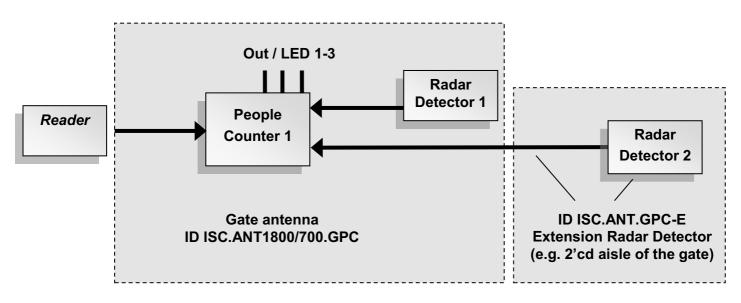


Fig. 1: Gate People Counter Structure (2-3 antennas, 1-2 gate aisles)

A change of the counter values will be stored in the EEPROM of the People Counter board. By sending the command "0x78 Set People Counter" the values could be set/reset to the needed value.

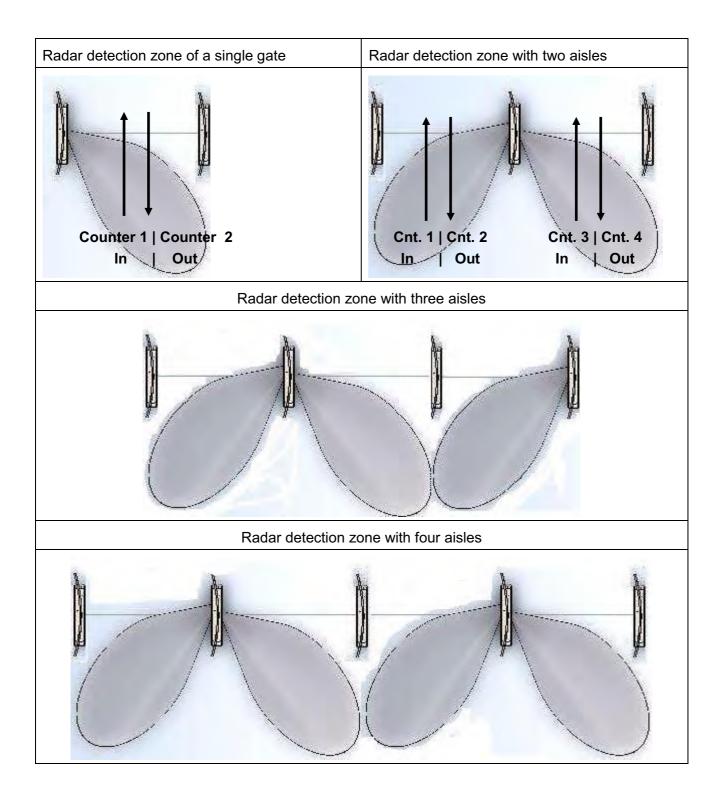


Fig. 2: Top view of the detection areas (2-3 antennas, 1-2 gate aisles)

The People Counter board and the Radar detectors are mounted in the base of the antennas. Due to the radar beam can pervade the plastic housing of the antenna, no openings a necessary.

The three digital output can be used, to enable a signal light at every gate antenna or activate an alarm buzzer in the gate antenna.

The Connection between reader and people counter takes place trough the RS485 Interface of the reader, inside the antenna.

There is no need of a direct connection from the GPC to the Host. All commands from the Host to the People Counters are embedded in the Pickyback command of the reader.

Generally, there are two possibilities to get the actual people counter values. Either the Host poll the People Counter periodically or in the Notification Mode of the reader, the reader send a notification protocol at every change.

In ISO Host or Buffered Read Mode, the host poll the GPC by sending protocols. Only, in the Notification Mode, the reader poll the counter values, automatically, and send data according the reader configuration to the host.

See also System Manual H01011-0e-ID-B.DOC

## 3.2 Available Antenna Types

The following products are currently available:

Antenna Type	Description
ID ISC.ANT1800/700-A	Antenna with Reader, Multiplexer , dynamic tuning board, signal
Crystal Gate	light, buzzer and People Counter Board with one radar detector.
ID ISC.ANT1800/700-B	Antenna with dynamic tuning board ID ISC.DAT and signal light
Crystal Gate	
ID ISC.ANT1800/700-GPC	People Counter and one piece of radar detector for antenna ID
Gate People Counter	ISC.ANT1800/700 incl. Mounting and cabling set. (optional)
ID ISC.ANT.GPC-E Exten-	Second radar detector with cable for the second direct parallel aisle
sion Radar Detector	(optional)

Table 1: Available Antenna Types and Accessories

Required components to setup a gate by using the Gate People Counter:

	Antenna		People Counter (Optional)		
Number of antennas	ID ISC. ANT1800/700 -A	ID ISC. ANT1800/700 -B	ID ISC. ANT1800/ 700-GPC	ID ISC.ANT. GPC-E	Note
2 Antennas	1	1	0		
3 Antennas	1	2	0	1	
4 Antennas	1	3	1	1	

 Table 2 Required components for gates with People Counter

#### 4. Installation and Wiring

#### Notes:

Before installing the antennas please read 5.1 <u>Project Notes</u>. The spacing of the antennas in a gate depends on the antenna configuration.

If multiple antennas or gates are connected to different readers, a minimum clearance of 8 m must be kept between the antennas or gates. For shorter distances (1 m - 8 m) the readers must be synchronized. The synchronization of the readers is only possible in one of the Automatic Modes (Buffered Read, Notification or Scan Mode). Below a distance of 1.5 m the antennas must also be shielded from each other. Otherwise the read range will be significantly reduced. The antennas must have a minimum distance of 20 cm to all larger metal parts! At a distance of less than 50 cm between the antenna and metal parts the read range will be significantly reduced.

#### 4.1 Mounting Preparation

For the assembly of the antenna it has to be carefully unpacked and the antenna base to be opened. This is done as described in the following steps:

1. Place the packed antenna on the floor with the top side facing up. Carefully open the box and then remove the antenna.



Fig. 3: Packed Antenna

2. Afterwards, the antenna has to be placed carefully on the floor again. Now, the two fastening screws (hexagon socket width AF 2,5) have to remove of the antenna base cover. By moving the cover upwards, carefully, remove the cover from the antenna base. Fig. 4

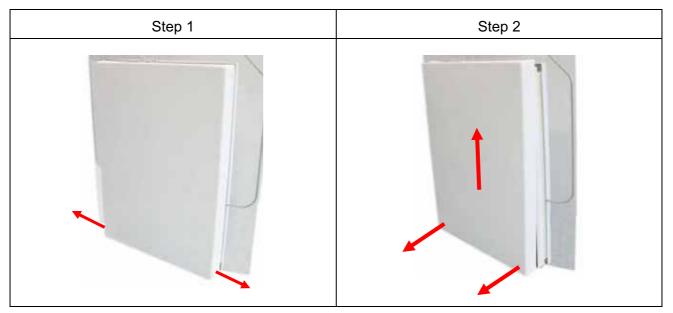


Fig. 4: Opening the antenna base

## 4.2 Installing the antenna

#### 4.2.1 Dimensions of antenna

The overall dimensions of the antenna are shown in Fig. 5

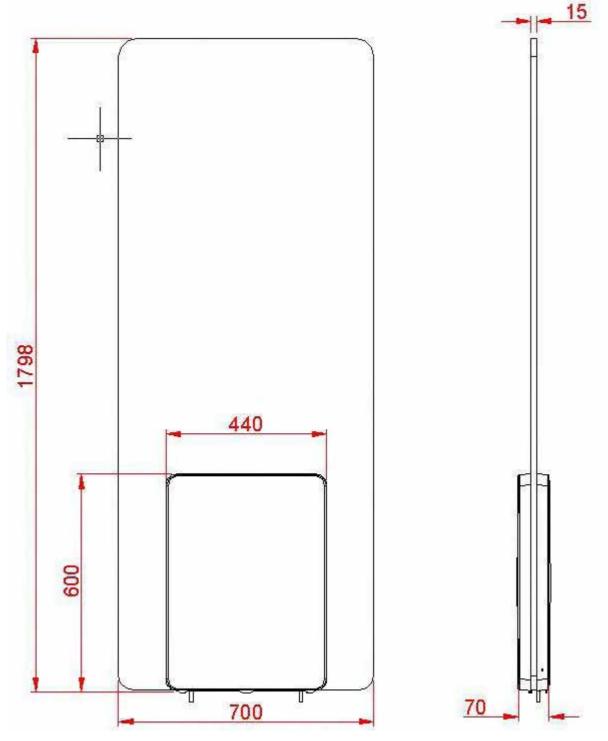


Fig. 5: Antenna outside dimensions

All dimensions are in mm with general tolerance according to ISO 2768 m (mean).

#### 4.2.2 Drilling the Mounting Holes

If the position of the antennas has been marked or determined, the mounting holes and the holes for the cable entry, can be marked and drilled. The dimensions are shown in Fig. 6:

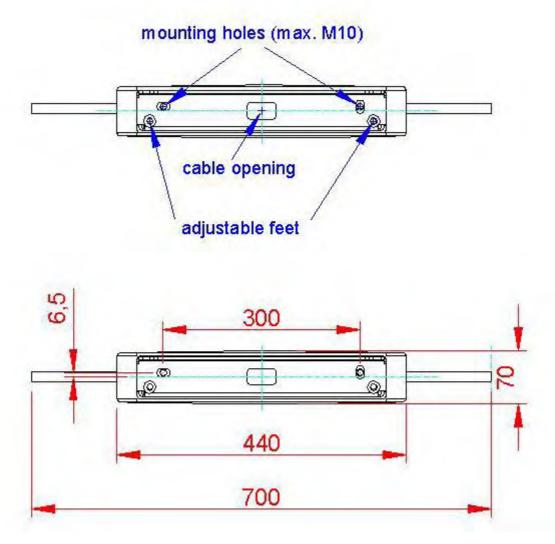


Fig. 6: Floor plate dimensions

All dimensions are in mm with general tolerance to ISO 2768 m (middle).

The size and type of the anchors depends considerably on the strength of the base or floor. The anchors should be capable of withstanding a permissible load of at least 5 kN per anchor for all load directions (e.g. for concrete floor Hilti HVA anchors with HAS-(E) M8 threaded rod or Hilti HIS-N M8 (5/16") threaded inserts). The size of the mounting holes in the antenna is 10 mm (.39"). The length of the anchors or bolts should be selected such so they jut out at least 40 mm (1.6") and maximum of 55 mm (2.2") of the floor.

### Please follow the mounting instructions of the anchor manufacturer!

A cable opening is provided for the necessary connection cable (see Fig. 6). The cable opening is dimensioned such as up to 10 cables having a diameter of 6 mm can be passed through the opening.

Alternatively the cables can be routed at the sides of the antenna bas like shown in Fig. 7



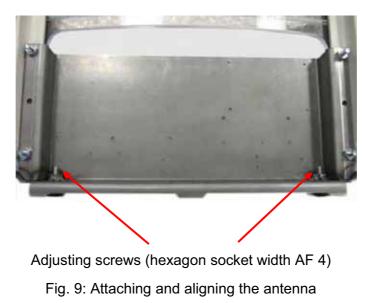
Fig. 7 Cable routing at the antenna sides

#### 4.2.3 Installing the Antenna Base and Antenna Body

The antenna will be mounted on the floor. Please note, the antenna conductors in the middle of the antenna body have to have the same direction (Fig. 8). Afterwards, the antenna has to be aligned the antenna vertically, by using the adjusting screws (Fig. 9). Please read also <u>5.7.4Using the trigger function of Gate People Counter</u>



Fig. 8 Conductors shape have to have same direction



#### 5. Typical Antenna Configuration (Gate Antenna with two Antennas)

The standard configuration of a gate with three-dimensional tag orientation consists of one ID ISC.ANT1800/700-A with reader and multiplexer and one ID ISC.ANT1800/700-B. If a tag moves, at horizontal line, through the gate, it can be read at least once. This ensures high reliability of the antenna system.

#### 5.1 Project Notes

The antenna configuration as described allows detection of a tag moving at a horizontal line, through the reading area of the gate. The tag orientation is non-critical. The tags are detected along a horizontal axis of motion in certain regions within the antennas. The area of detection depends on the tag orientation.

The size of the three-dimensional reading area of the antennas is shown in the sketch below.

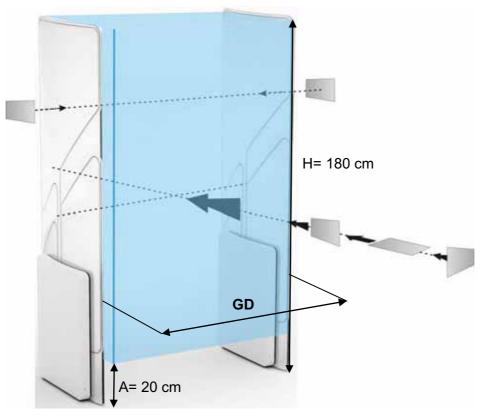


Fig. 10: Capture area and tag orientation

#### Notes:

Note that the entire reading area of the antenna gate is larger than the three-dimensional area shown in the drawing. This means there are tag orientations in which the tag can be detected outside the reading area.

To get a optimal performance the reader has to be configured and run in one of the Automatic Modes (Buffered Read, Notification or Scan Mode).

If multiple gates are arranged with short distances (1-8m) between each other, these will mutually interfere with each other. In this case, the readers for the individual gates have to be synchronized and run in one of the automatic modes.

By using the trigger function of the gate people counter, you have to take care about the mounting direction of the antennas/radar detector. Before mounting the antennas please read also <u>5.7.4</u> Using the trigger function of Gate People Counter

To achieve three-dimensional reading of the tag in the reading area drawn above, the following conditions must be fulfilled:

- The gate distance (GD) depends on the antenna configuration (see Table 4: ).
- The tags should be at least ISO card size (46 mm x 75 mm).
- The activation field strength of the tags should be less than or equal to 60 mA/m.
- The distance from tag to tag should be greater than 10 cm. If the tag to tag distance is reduced, the gate distance GD must be reduced correspondingly. This applies in particular to distances under 5 cm.
- The maximum number of tags (serial number or data) depends on the traverse speed with which the tags are brought through the capture area of the gate (see Table 4: ). The number of tags may be increased in the gate distance GD is correspondingly reduced and the maximum speed adjusted accordingly.
- The antenna should be at least 50 cm away from metal parts.
- The minimum distance between the antennas of a gate and antennas of RFID work station or terminals (transmitting frequency 13,56 MHz) should be:

Transmitted	Minimum Distance
output power	
< 0.5 W	1 m
0.5 W-1.0 W	2 m
1.1 W – 2.0 W	3 m
> 2 W	4 m
>= 4 W	8 m

#### Table 3: Minimum Distances

- There should be no interference of the Reader from other electrical devices in the environment. The Noise Level difference should be less than 20 mV.
- The ID ISC.LRM2500 reader should be set to an RF power of 8 watts.
- When using ISO 15693 transponders, the Readers should be set as described in <u>5.2.6 Reader</u> <u>Configuration.</u>

- If multiple gates are operated at the same time at a distance of less than 8 m, the Readers must by synchronized. See Application Note *Synchronizing RFID Long Range Readers using the digital in-/outputs* (N11200-xe-ID-B.pdf).

	Gate with antenna
	Type A and Type B
Gate distance GD	≤ 100 cm
Number of tags at a speed of 1 m/s	
- Read serial number	16
- Read data	8

Table 4: Gate distance

A minimum distance of 65cm between the two gate antennas is required.

#### 5.2 Gate Configuration and Setup using Antennas

#### 5.2.1 Required Components

To set up the gate you need the following components:

- Qty. 1 ID ISC.ANT1800/700-A Crystal Gate (Base) (incl. Qty. 1 ID ISC.NET24V-B Power Supply Unit)
- Qty. 1 ID ISC. ANT1800/700-B Crystal Gate
- Power cable, interface cable and connection cable for the DC power supplies (2-wire, twisted)
- Mounting materials (screws, anchors)

To calibrate the Reader you will need the software

- ISOStart Version 2011

and for tuning the antennas the service software

- DATuningTool Version 1.10 or higher

on a personal computer running under  $Microsoft^{\ensuremath{\mathbb{R}}}$  Windows<sup> $\ensuremath{\mathbb{R}}$ </sup>. The service can be downloaded at the Download Area of the Homepage <u>www.feig.de</u>.

#### 5.2.2 Configuration of a Gate Antenna with Multiplexer

Connect the components as shown in Fig. 11. Almost, all cable should be mounted already. Normally, the antenna cable from antenna Type B has to be connected to OUT2 at the multiplexer and the 24V DC power supply to X11 of the terminal board only. Optional the cable of the signal light of antenna Type B has to be connected to X12 LED2 (third antenna X14 LED3) of the terminal board.

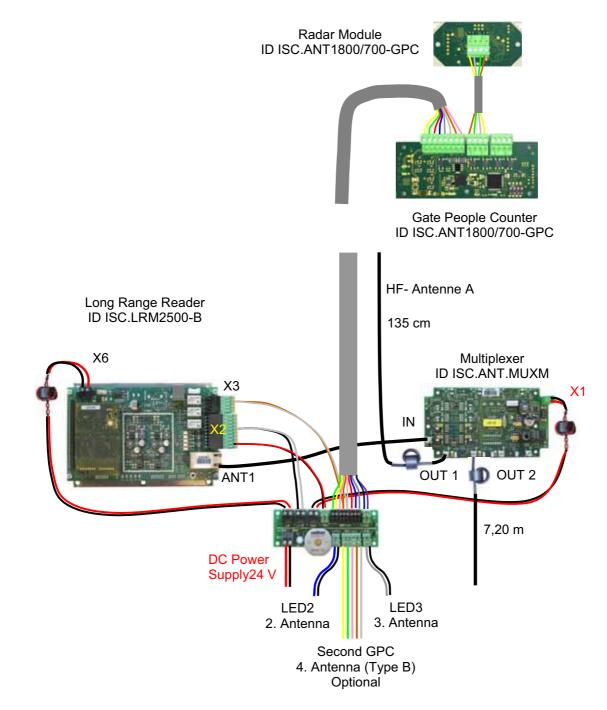


Fig. 11: Connecting the components for a gate consisting of two antennas, reader and multiplexe



Fig. 12: Terminal board

An overview of the terminal board assignment is given in <u>8</u>. Annex A

Note:

• A reverse polarity could damage the device or the In-/Outputs.

The coax cables have fixed lengths and may not be shortened and therefore need to be tied into small loops (see Fig. 13). Tie all cables as far away from the antenna conductor as possible. The cables must never be allowed to contact the antenna conductor. The cable from antenna type B to the antenna type A should preferably be connected shortly. Unused cable lengths are possible should be tied in antenna B type.

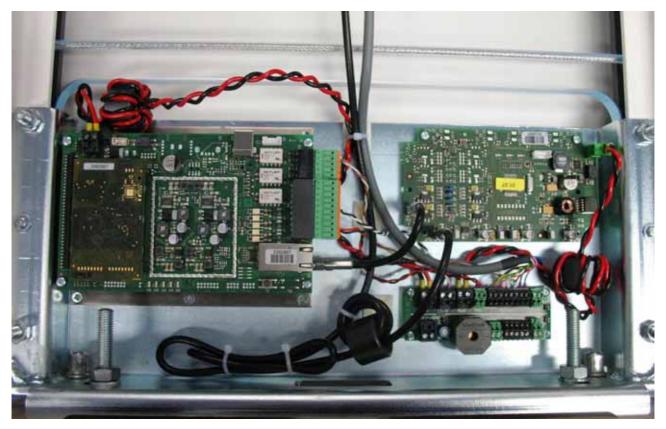


Fig. 13:Connection of the components in an antenna Type A



Fig. 14: Unused coaxial cables are tied in antenna Type B

## 5.2.3 Setting the Multiplexer

The jumpers JP11-JP14 should be set (factory setting) as shown. More on setting the ID ISC.ANT.MUX.M4 Multiplexer can be found in the corresponding installation manual (M90700-xde-ID-B).

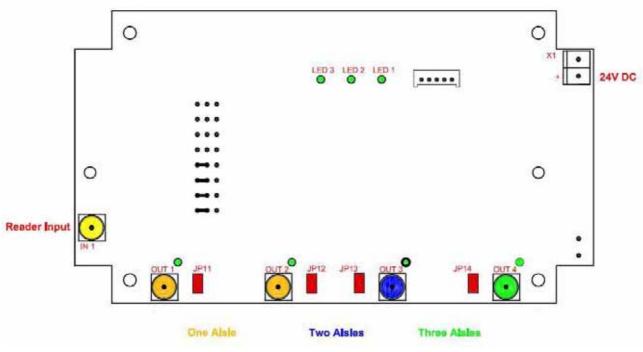


Fig. 15: Jumper positions

#### 5.2.4 Setting the Antenna Tuner

For checking the settings of the antenna tuner the antenna base has to be opened. For this the two fastening screws (hexagon socket width AF 2,5) have to remove of the antenna base cover. By moving the cover upwards, carefully, remove the cover from the antenna base.

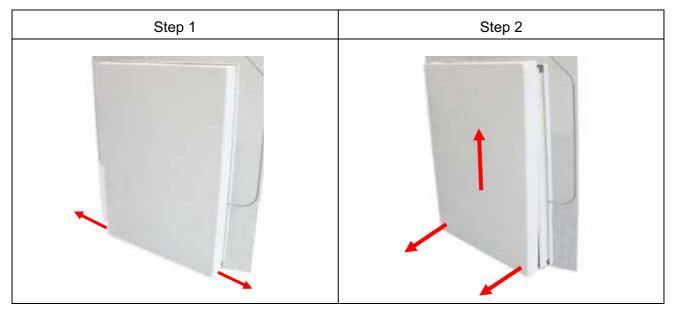


Fig. 16 Removing the antenna base covers

The jumpers JP1-JP26 of the Dynamic Antenna Tuning board should be set (factory setting) as follows:

Function	Jumper	Position
$1\Omega$ Q resistor	JP1	open
$2\Omega$ Q resistor	JP2	closed
Antenna switch	JP3	closed
Capacitor C1	JP 11,12,13,14	open
Capacitor C2	JP21,22,23,24 25,26	open

Table 5: Jumper settings for Antenna Tuner



Verify these settings. More on setting the ID ISC.DAT antenna tuner can be found in the corresponding installation manual (M40401-xde-ID-B).

#### 5.2.5 Interface Connections

### 5.2.5.1 RS 232

The RS232 interface is connected on X3.

The transmission parameters can be configured by means of software protocol.

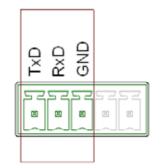


Figure 1: RS232 interface pin-outs on X3

Kurzzeichen Description	
TxD	RS232 – (Transmit)
RxD	RS232 – (Receive)
GND	RS232 – (Ground)

Table 6: RS232 interface pin-outs

9-pol. D-SUB-Buchse

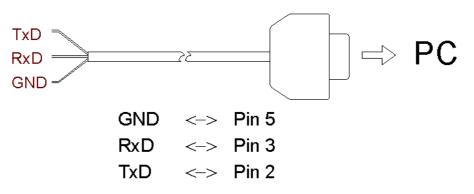


Fig. 17: Wiring example for connecting the RS232 interface

Note:

If there is an USB/RS232 converter used on the PC/Notebook side, we recommend to increase the "Char Timeout Multiplier" parameter in the COM-Port settings from "1" to about "5".

#### 5.2.5.2 LAN / TCP/IP

The Reader has an integrated 10 / 100 Base-T network port for an RJ-45. Connection is made on X1 and has an automatic "Crossover Detection" according to the 1000 Base-T Standard.

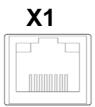


Figure 2: LAN interface for host communication

With structured cabling CAT 5 cables should be used. This ensures a reliable operation at 10 Mbps or 100 Mbps.

The prerequisite for using TCP/IP protocol is that each device has a unique address on the network. All Readers have a factory set IP address.

Network	Address
IP-Adresse	192.168.10.10
Subnet-Mask	255.255.255.0
Port	10001
DHCP	OFF

Table 7 Standard factory configuration of the Ethernet connection

#### Note:

#### The Reader TCP/IP interface has a DHCP option.

More Information about the interfaces you will find in the manual M01111-xde-ID-B of the reader.

## 5.2.6 Reader Configuration with Multiplexer

To tune the antennas, open the ISOStart software and read out the current configuration of the Reader:

Step	Action	Note
1	Start ISOStart Software	ISOStart.exe
	Select "Detect"	Quick Start Wizard - Step 1: Detect a Reader       Image: Comparison of the start wizard         Welcome to FEIG Quick Start Wizard       Image: Comparison of the start wizard
2		Communication Interface  COM-Port Nr. 1 More BusAdr. 0  USB  TCP/IP IP-Adr. 192.168. 0 . 0 Port 10001  Detect Keep Configuration unchanged  And exit Wizard  (Back. Next.> Cancel
	Select "Keep Configuration unchanged and exit Wizard" and click on "Exit" Note:	Quick Start Wizard - Step 1: Detect a Reader         Reader-Name       : ID ISC.LR2000         Device-ID       : 0x0DD7197E (232200574)         Software Version RFC       : 01.15.131         Software Version FFGA       : 02.00.04
3	This has to be done at each start of ISO-Start program otherwise the configuration of the reader will be changed by the wizard.	Communication Interface COM-Port Nr. 1 More BusAdr. 0 USB TCP/IP IP-Adr. 192.168. 0 . 0 Port 10001 Detect OKeep Configuration unchanged Keep Configuration unchanged Keep Configuration unchanged Cancel
4	Select "Options => Program"	File       Edit       View       Window       Options       Help         Image: Comparison of the period of th

Step	Action	Note		
5	Select "Expert Mode" and confirm with OK.	Program Options         Image: Automatic search for readers after program start with Scen over following Seriel Ports:         Image: Im	Duck Stat Woard	
6	Select "Logical View"	Commands	Ation Configuration	

Afterwards set the operating power, Transponder Parameters and ISO Host Mode:

Step	Action		Note	
1	Select "Configuration"		Configuration	
	Air Interface:	AirInterface     TimeLinit	00240 × 5 ms	
	"Output -Power" = 8W	Antenna     HF	00040 X 3 Ha	
	"Multiplexer Enable"	No1 OutputPower Miscellaneous	8 W	¥
•	,1 Input (Single Mode)"	Enable_PowerUpTuning Enable_DCPower Multiplexer	Ē	
2	"No of Output Channels "	Ensble HF Esternal	2	
	(e.g. 2)	InputChannelMode NoOFOutputChannels	1 Input (Single Mode) 2	• •
	"Antenna Active Time"	E No1 ActiveTime	00100 × 5 ms	
	100 x 5ms	ActiveTime	00100 × 5 ms	
3	Set by clicking on "Apply".			
4	<ul> <li>Transponder:</li> <li>Configure the parameters as following:</li> <li>"Driver" – here ISO 15693</li> <li>"Anticollision" – enable</li> <li>"No of Timeslots" – <ol> <li>timeslot</li> <li>"Data Coding" – 1 of 4</li> <li>"AFI" – Disabled</li> </ol> </li> </ul>	<ul> <li>Transponder</li> <li>Driver</li> <li>HF</li> <li>ICode1</li> <li>ISO_15693</li> <li>ICode01</li> <li>EPC_ClassIGen2</li> <li>Mcochip_MCRF45x</li> <li>Anticollision</li> <li>Enable</li> <li>PersistenceReset</li> <li>HF</li> <li>ICode1</li> <li>ISO_15693</li> <li>Anticollision</li> <li>NoOTimesiots</li> <li>Enable, AFI</li> <li>AFI2</li> <li>AFI2</li> <li>AFI2</li> <li>AFI2</li> <li>AFI4</li> <li>Miscellaneous</li> <li>WiteOption</li> <li>CommandBreak</li> <li>ElsoCiterSelection</li> <li>ElsoCiterSelection</li> </ul>	I timeslot I of 4 Disabled 00 00 00 00 00 00 00 00 00 00 00 00 00	4 4 4
			egulations may require different s he reader in accordance with nati	
5	Set by clicking on "Apply".			
6	<b>Operating Mode:</b> For antenna tuning the reader	OperatingMode     Mode     Mode     Mode     BufferedReadMode     NotificationMode     Geneticide	Host Mode Nost Mode Scan Mode	
	has to be set to "Host Mode".	ScanMode     Miscellaneous	Buffered Read Mode Notification Mode	
7	Set by clicking on "Apply".			

## 5.2.7 Tuning the Gate Antenna

Before tuning the gate antenna, you must quit the ISOStart software. Then the gate can be tuned as follows:

Step	Action	Note
1	Start "DATuningTool" software	
2	Select "Detect Reader". In the "Detect Reader" window select the interface (COM-Port 1, BusAdr. 0) and then click on "Detect".	Detect a Reader       Reader       Post       ID ISC LR2000       Detect Reader       IP COM Post       Nr.       1       BusAdz.       0       1050       ID TOPAP       IP Adz.       Detect
3	Use "Settings" to enter the configuration: Single Mode, Number of Antennas 2 Click on "with Multiplexer" Number of Tuning Iterations 3	Tuning Status     Settings
4	Activate "Start Tuning" and wait until the tuning process is finished.	Start Tuning
5	The tuning status is displayed after each tuning pass. After successful tuning both antennas are shown in green.	Tuning Status       Settings         Reader       Multiplexer         Out 1: Antenna 1       Single Mode         Out 2: Antenna 2       Out 3:         Out 3:       Out 4:         Out 5:       Image: Constant and the second and
6	If this does not succeed on the first try, start the process again by clicking on "Start Tuning"	Start Tuning

After successful tuning, close the DATuningTool.

## 5.3 Testing the Gate Antenna

After tuning the gate antenna, you can check for proper function using a reader, the ISOStart service software and a Transponder. Here the Noise Level and performance of the gate are tested.

## 5.3.1 Checking the Noise Level

Step	Action	Note
1	Activate antenna 1 with command: "Function Unit Commands - Multiplexer" Parameter: "Channel Select" "Cascade Level = 1" "Output Channel of Input 1 = 1"	ID ISC.LR2000 - Commands D ISC.LR2000 Commands Special Commands Function Unit Commands Multiplexer (0xDD) Channel of Input 1 1 + (0xDD) Channel of Input 2 0 + (0xDD] Select Channel of Input 2 0 + (0xDD) Channel of Input 2 0 +
2	Confirm with "Send"	Send
3	Activate "Test and Measurement"	Test and Measurement
4	Select "Noise Level" and start by clicking on "Start"	Test ISO Inventory Measurement Noise Levels
5	Normal Noise Level values: Average: < 20mV Difference (Max-Min): < 20mV	Test       Massium       7 of       Arrays       5 of       Measure 4 of         Massium       7 of       Arrays       5 of       Measure 4 of         1000       av       1000       1000       1000       1000         6 of       av       1000       1000       1000       1000       6 of         Feadlern 1000       Headlern 1000       Headlern 1000       1000       1000       1000       1000

Step	Action	Note
6	Activate antenna 2 with command: "Function Unit Commands - Multiplexer" Parameter: "Channel Select" "Cascade Level = 1" "Output Channel of Input 1 = 2"	ID ISC.LR2000 - Commands Special Commands Spec
7	Confirm with "Send"	Send
8	Repeat Step 3 to 5 for every further antenna	Test and Measurement

If the values are not proper, check the following:

- Are all cables pulled tight and will contact well?
- Are the ring cores installed in the antenna cable?
- Are the cables routed as specified?
- Are other RFID systems installed closed by?
- Are there large metal parts close to the antenna (distance < 1.0 m)?
- Are there devices nearby which may emit noise interferences (larger machines or wireless devices)?
- Are there interferences from the mains?

To determine which devices may be disturbing the gate, briefly disconnect them from the mains.

## 5.3.2 Reading a Serial Number

Step	Action	Note
1	Attach a tag to an antenna Here to antenna at multip- lexer output 1	Use adhesive tape, for example
2	Activate antenna 1 with command: "Function Unit Commands - Multiplexer" Parameter: "Channel Select" "Cascade Level = 1" "Output Channel of Input 1 = 1"	ID ISC.LR2000 - Commands D ISC.LR2000 Commands Special Commands
3	Confirm with "Send"	Send
4	Select "Test and Measurement"	Test and Measurement
5	Select "ISO Inventory" function and activate by clicking on "Start". The serial number and tag type will be shown in the display.	ID ISC.LR2000 - Test and Measurement         Test       No. Tag-Type       Serial Number         ISO Inventory       ISO Inventory       1       ISO15693 - Philips Semiconductors       E00401000003165C         Measurement       Noise Levels       ISO15693 - Philips Semiconductors       E00401000003165C
6	Repeat Step 1 to 5 for every further antenna	Test and Measurement

#### 5.3.3 Testing the performance

For testing the performance you must switch the reader to one of the Automatic Modes. <u>See 5.5 Activating the Automatic Mode</u>

A read transponder will be displayed by a blue LED on the reader or by the LED light of the antenna. See also <u>5.4.1 Reader Setting for Indicator</u>

In this test the capture area of the gate antenna described in <u>5.1 Project Notes</u> is checked. For other tags or other configurations the indicated ranges and read areas may differ accordingly.



Fig. 18: Performance Test of the gate antenna

The test begins by checking the read range outside the gate (see Fig. points ① and ②), assuming the configuration and locality permit it. If the tag is oriented parallel to the antenna at the outside, a read range of 65 to 70 cm should be achieved.

The three tag orientations are checked inside the gate. This corresponds to the lines and orientations  $\Im$   $\odot$   $\odot$ . Now slowly move the tag in the vertical and parallel direction with respect to the antenna along the line  $\Im$  from one side to the other. The tag should always be read.

Then repeat this along the line 3 in the vertical tag direction transverse to the antenna and on the line 3 in the horizontal tag orientation. Here again the tag should always be read.

The tag should be read within the gate by moving in a horizontal line through the gate in all three read orientations.

If one or more "holes" are detected, check the noise values on the Reader (see <u>5.3.1 Checking the</u> <u>Noise Level</u>).

The following may result in faulty readings:

- Antenna improperly installed (orientation, antenna distance, check cabling)
- The torrid / ring cores are not mounted on the antenna and power cables
- Metal near the antennas is detuning or interfering with them.
- The antennas are not properly tuned.
- Noise level too high (Vmax Vmin  $\ge$  20 mV)
- Transponder too insensitive, detuned or defective
- Reader improperly configured (transmitting power, transponder type, modulation, transponder parameters, etc.).
- A cable is defect or has a weak contact.
- Reader, multiplexer or antenna defect.

#### 5.4 Setting the Alarm Kit

The solution provided here presumes that the alarm indicator (buzzer) is switched through the digital output 2 /X2 on the ID ISC.LRM2500-B reader and the LED 1 light through output 1 of the Gate People Counter. The pulse duration can be set (CFG2 / OUT2) between 100 ms and 65535 s by adjusting the Reader configuration. The volume of the buzzer could be adjusted by R1



Fig. 19 Volume adjusting

## 5.4.1 Reader Setting for Indicator

The ISOStart software can be used to set the Reader configuration so that the output 1 X6-1/-2 opens or closes or the outputs of the People Counter closes when a Transponder is read.

Step	Action	Note	
1	Start ISOStart Software	<b>I</b> SOStart.exe	
2	Select "Configuration" and click on "Read" to read the complete configuration.	Configuration [0x80] <u>R</u> ead	
3	<b>Operating Mode</b> Select Buffered Read Mode.	OperatingMode           Mode         Duffered Read Mode           BufferedReadMode         Host Mode           NotificationMode         Scan Mode           ScanMode         Buffered Read Mode           Miscellaneous         Notification Mode	
4	Digital IO: Output Idle Mode: OFF Idle Flash Mode: 1Hz Setting Time: with "Setting Time" set time of output 1 for alarm duration. (10 means 1 second) (e.g. 10 x 100ms) Assign Output 2 to antenna 1+2. "True" means: Output 1 and will be active if the reader read a valid trans- ponder.	Consider Configuration	
5	Set by clicking on "Apply".	Арру	
6	Ext. IO: Enable People Counter by setting to "True" Set Detect Mode to "Search up to Busaddress 1"	Complete Configuration AccessProtector * Statistication * Stati	
7	Set by clicking on "Apply".		

## ID ISC.ANT1800/700-A/-B

Jigital Outputs of People Counter         Setting Time:         with ,Setting Time: set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         Set:         Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 4 for LED 0 file antenna which detects the Transponder will be switched on.         Image: Set by clicking on _Apply"         Ima	Portal Couputs of People         Setting Time:         with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         8         Output 1 for LED 1 of Antenna 1 to "True"         Output 1 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 1 for LED 1 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 6 price         9       Set by clicking on "Apply"         It he alarm should occur by a transponder will be switched on.         10       ISO-15693 – Selection Mask set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode if the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"		Digital Outputs of Decal-	- Conplete Caring a atom			
Setting Time:       with _Setting Time'' set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         Set:       Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Output 4 for LED 3 of Antenna 2 to "True"       Output 5 for LED 3 of Antenna 3 to "True"         Output 5 for LED 3 of Antenna 2 to "True"       Output 6 the antenna which detects the Transponder will be switched on.         g       Set by clicking on _Apply"         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Configure the reader as follow:         10       ISO-15693 - Selection Mask Set "Enable AFI" set the value for the AFI in field "AFII" (e.g. 01) Note:       Image: Configure the reader as follow:         11       Operating Mode of Configure the reader as follow:       Image: Configure the reader as follow:         11       Operating Mode of Configure the reader as follow:       Image: Configure the reader as follow:         11       Operating Mode of Configure the reader as follow:       Image: Configure the reader as follow:	Counter         Setting Time:         with "Setting Time' set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         Sat:         Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         10         ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:         Up to four different AFI values could be set.         11       Operating Mode fill the alarm should occur by a transponder will be swit.         11       Operating Mode fill the alarm should occur by a ream should oc		Digital Outputs of People	AccessFectors		[PeopleCounter]	1
Setting Time:       with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         Set:       Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         Pransponder       If the alarm should occur by a far LED 1 of Antenna 3 to "True"         10       ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by configure the reader as follow:         11       Operating Mode If the alarm should occur by configure the reader as follow:	Setting Time:       with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         8       Set:         Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         Parasponder Will be switched on.         10       ISO-15693 – Selection Masks St "Enable AFI" set the value for the AFI in field "AFI1" (e.g. 01) Note:         Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         12       Set "EAS"		Counter	Operating/Node	Ext. 10-Board	Fulse	•
Setting Time:       with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         8       Output 2 for LED 1 of Antenna 1 to "True"         Output 2 for LED 3 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 2 to "True"         Oltput 4 for LED 3 of Antenna 3 to "True"         Oltput 5 for LED 3 of Antenna 3 to "True"         Oltput 6 LED 6 the antenna with detects the Transponder will be switched on.         9       Set by clicking on "Apply"         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI values could be set.         Up to four different AFI values could be set.       Image: Court by a four different AFI values could be set.         11       Rest, you have to configure the reader as follow:       Image: Court by a court by a configure the reader as follow:	Setting Time:       with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)         8       Set:         Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         Parasponder Will be switched on.         10       ISO-15693 – Selection Masks St "Enable AFI" set the value for the AFI in field "AFI1" (e.g. 01) Note:         Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         12       Set "EAS"			Arbzerface     Transporder			
with "Setting Time" set time of the outputs for alarm duration. (0 means 1 second) (e.g. 10 x 100ms)       iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	<ul> <li>with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)</li> <li>Set: Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 1 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>Set by clicking on "Apply"</li> <li>Set by clicking on "Apply"</li> <li>Iso-15693 - Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"</li> </ul>			😑 🦲 DiptaBD	DetectMode		
with "Setting Time" set time of the outputs for alarm duration. (0 means 1 second) (e.g. 10 x 100ms)       iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	<ul> <li>with "Setting Time" set time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)</li> <li>Set: Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 1 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>Set by clicking on "Apply"</li> <li>Set by clicking on "Apply"</li> <li>Iso-15693 - Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"</li> </ul>		Setting Lime:	* _ Output			
with ",Setting lime's set alarm duration. (10 means 1 second) (e.g. 10 X 100ms)       Set: Output 1 for LED 1 of Antenna 1 to "True"         0 utput 1 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         0 utput 3 for LED 3 of Antenna 3 to "True"       Image: Comparison of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         9       Set by clicking on "Apply"         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode onfigure the reader as follow:       Image: Comparison of the antenna which detects the Transponder with valid AFI byte, you have to configure the reader as follow:         11       Operating Mode onfigure the reader as follow:       Image: Comparison of the antenna which different AFI values could be set.	with "Setting Ime"set alarm duration. (10 means 1 second) (e.g. 10 x 100ms)       Imems for alarm duration. (10 means 1 second)         8       Set: Output 1 for LED 1 of Antenna 1 to "True"       Imems for antenna 1 to "True"         0 utput 3 for LED 3 of Antenna 3 to "True"       Imems for Output 3 for LED 3 of Antenna 3 to "True"         0 nly the LED of the antenna which detects the Transponder will be switched on.       Imems for a transponder         10       Set by clicking on "Apply"         10       ISO-15693 – Selection Masks Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"		-	H alay	SettingTime	000 x 000 mu	
10       imme of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)       Set:       Imme of the outputs for Antenna 1 to "True"         0       Output 1 for LED 1 of Antenna 2 to "True"       Output 3 for LED 2 of Antenna 3 to "True"       Imme of the outputs of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Imme of the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI in field "AFI1" (e.g. 01) Note:       Imme of the alarm should occur by a transponder the FAFI in field "AFI1" (e.g. 01) Note:         11       Operating Mode If the alarm should occur by a transponder the set.       Imme of the alarm should occur by a transponder the reader as follow:         11       Apply to four different AFI in field "AFI1" (e.g. 01) Note:       Imme of the alarm should occur by a transponder the reader as follow:	<ul> <li>time of the outputs for alarm duration. (10 means 1 second) (e.g. 10 x 100ms)</li> <li>Set: Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 1 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>Set by clicking on "Apply"</li> <li>Set by clicking on "Apply"</li> <li>It he alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:</li> <li>Set "EAS"</li> </ul>		with "Setting Time" set	Modelanesus			
alarm duration: (10 means 1 second) (e.g. 10 x 100ms)       Image: Constraint of the second of the sec	alarm duration: (10 means 1 second) (e.g. 10 x 100ms)       Image: Constraint of the second (e.g. 10 x 100ms)         8       Set: Output 1 for LED 1 of Antenna 1 to "True"       Image: Constraint of the second output 2 for LED 2 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"       Output be constraint of the second on.       Image: Constraint of the second output 3 for LED 3 of Antenna 3 to "True"         9       Set by clicking on "Apply"       Image: Constraint of the second on.         9       Set by clicking on "Apply"       Image: Constraint of the second on.         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Constraint of the second on the second of the second on the second of the second of the second on the second of the second of the second of the second on the second of th				El DigitalID		
alarm duration. (10 means 1 second) (e.g. 10 x 100ms)       set: Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Output 3 for LED 3 of Antenna 3 to "True"       Image: Comparison of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         J       Transponder H the alarm should occur by a transponder will valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by a transponder will be set.	alarm duration. (10 means 1 second) (e.g. 10 x 100ms)       Image: Set: Output 1 for LED 1 of Antenna 1 to "True"         0 utput 2 for LED 2 of Antenna 2 to "True"       Image: Set: Output 3 for LED 3 of Antenna 3 to "True"         0 utput 3 for LED 3 of Antenna 3 to "True"       Image: Set: Output 4 for LED 3 of Antenna 3 to "True"         0 utput 3 for LED 3 of Antenna 3 to "True"       Image: Set: Set: Transponder will be switched on.         9       Set by clicking on "Apply"         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"			* 385465			
10 means 1 second) (e.g. 10 x 100ms)       Set: Output 1 for LED 1 of Antenna 1 to "True"       Image: Constraint of the set of	8       (10 means 1 second) (e.g. 10 x 100ms)         8       Set: Output 1 for LED 1 of Antenna 1 to "True"         0utput 2 for LED 2 of Antenna 1 to "True"         0utput 3 for LED 3 of Antenna 3 to "True"         Oligo the LED of the antenna which detects the Transponder         If the alarm should occur by a transponder will be switched on.         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode ff the alarm should occur by a EAS, you have to configure the reader as follow: Set "EAS"		alarm duration.	25-94(19)10			
(e.g. 10 x 100ms)         Set:         Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         J       Transponder         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by a charge of the asterna should occur by a charge of the asterna should be set.         11       The alarm should occur by a charge of the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       The alarm should occur by a charge of the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       The alarm should occur by a charge of the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by a configure the reader as follow:	(e.g. 10 x 100ms)         Set:         Output 1 for LED 1 of         Antenna 1 to "True"         Output 2 for LED 2 of         Antenna 2 to "True"         Output 3 for LED 3 of         Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         It he alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"						100
8       Set: Output 1 for LED 1 of Antenna 1 to "True"         Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         If the alarm should occur by a transponder will valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	<ul> <li>8 Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>9 Set by clicking on "Apply"</li> <li>If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>10 ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI in field "AF</li></ul>				Actorea 2	Fulie	
8       Set: Output 1 for LED 1 of Antenna 1 to "True"       Image: Constraint of the set of t	<ul> <li>8 Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>9 Set by clicking on "Apply"</li> <li>If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>10 ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI in field "AF</li></ul>		(e.g. 10 x 100ms)				
<ul> <li>Set: Output 1 for LED 1 of Antenna 1 to "True" Output 2 for LED 2 of Antenna 2 to "True" Output 3 for LED 3 of Antenna 3 to "True" Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>Set by clicking on "Apply"</li> <li>Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:</li> </ul>	<ul> <li>8 Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>9 Set by clicking on "Apply"</li> <li>If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>10 ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI in field "AF</li></ul>		(eigi rex reenie)				
<ul> <li>Set: Antenna 1 to "True" Output 2 for LED 2 of Antenna 2 to "True" Output 3 for LED 3 of Antenna 3 to "True" Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>g Set by clicking on "Apply" Transponder Will be switched on.</li> <li>g Set by clicking on "Apply" Transponder Will valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:</li> </ul>	<ul> <li>8 Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>9 Set by clicking on "Apply"</li> <li>If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>10 ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI in field "AF</li></ul>					False	1
<ul> <li>8 Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>9 Set by clicking on "Apply"</li> <li>10 ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>11 OPerating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:</li> <li>11 If the alarm should occur by an EAS, you have to configure the reader as follow:</li> </ul>	<ul> <li>8 Output 1 for LED 1 of Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>9 Set by clicking on "Apply"</li> <li>If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>10 ISO-15693 – Selection Mask Set "Enable AFI" (e.g. 01) Note: Up to four different AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI in field "AF</li></ul>		Set:				-
Image: Second	<ul> <li>Antenna 1 to "True"</li> <li>Output 2 for LED 2 of Antenna 2 to "True"</li> <li>Output 3 for LED 3 of Antenna 3 to "True"</li> <li>Only the LED of the antenna which detects the Transponder will be switched on.</li> <li>Set by clicking on "Apply"</li> <li>Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:</li> <li>ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.</li> <li>Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"</li> </ul>				E NoZ		
Antenna 1 to "True"       Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"       Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFII" (e.g. 01) Note: Up to four different AFI values could be set.         0       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       If the alarm should occur by an EAS, you have to configure the reader as follow:	Antenna 1 to "True"       Output 2 for LED 2 of Antenna 2 to "True"         Output 3 for LED 3 of Antenna 3 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.       Image: Construction of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"       Image: Construction of the antenna which detects the Transponder with valid AFI byte, you have to configure the reader as follow:       Image: Construction of the antenna which detects the Transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Construction of the art of the aFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"       Image: Construction of the art of	8	Output 1 for LED 1 of			Technolog 21	
Output 2 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.       Image: Construction of Const	Output 2 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Ohly the LED of the antenna Wrich detects the Transponder will be switched on.       Image: Complete	-	Antenna 1 to "True"				
Output 2 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.       Image: Construction of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Apply         10       Sol 15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Construction of the affinities	Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: Set by clicking on "Setby clicking on clicking on clicking on clicking on clicking						
Output 2 for LED 2 of Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.       Image: Comparison of Com	Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: Set by clicking on "Setby clicking on clicking on clicking on clicking on clicking						
Antenna 2 to "True"       Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.       Image: Control of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Apply         Image: Control of the antenna which detects the Transponder will be switched on.       Image: Control of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Apply         Image: Control of the antenna which detects the Transponder with valid AFI byte, you have to configure the reader as follow:       Image: Control of the antenna with the reader as follow:         10       ISO-15693 – Selection Masks Set "Enable AFI"       Image: Control of the AFI in field "AFI1" (e.g. 01) Note:         Up to four different AFI values could be set.       Image: Control of the aten the should occur by an EAS, you have to configure the reader as follow:       Image: Control of the aten the should occur by an EAS, you have to configure the reader as follow:         11       Apply       Image: Control of the aten the should occur by an EAS, you have to configure the reader as follow:       Image: Control of the aten the should occur by an EAS, you have to configure the reader as follow:	Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: Set by clicking on "Setby clicking on clicking on clicking on clicking on clicking		Output 2 for LED 2 of		Actarca 5	False	•
Antenna 2 to True         Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: set of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: set of the antenna which detects the Transponder       Image: set of the set of the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: set of the set of the reader as follow:	Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: Set by clicking on "Setby clicking on clicking on clicking on clicking on clicking						
Output 3 for LED 3 of Antenna 3 to "True"       Image: Constraint of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"       Image: Constraint of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"       Image: Constraint of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"       Image: Constraint of the antenna which detects the Transponder will be switched on.         10       ISO-15693 – Selection Mask Set "Enable AFI"       Image: Constraint of the affinities of the a	Output 3 for LED 3 of Antenna 3 to "True"       Image: Constraints         Only the LED of the antenna which detects the Transponder will be switched on.       Image: Constraints         g       Set by clicking on "Apply"         Image: Constraints       Image: Constraints         g       Set by clicking on "Apply"         Image: Constraints       Image: Constraints         g       Set by clicking on "Apply"         Image: Constraints       Image: Constraints         g       Transponder         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Constraints         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:       Image: Constraints         Image: Constraint Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Constraints         11       Coperating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Constraints         set "EAS"       Image: Constraints       Image: Constraints		Antenna 2 to "I rue"		Artorea 8		
Output 3 for LED 3 of Antenna 3 to "True"       Perent (International Internation International Internation Internatio Internatio International Internation Internation Inte	Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         Image: Set Set by clicking on any clicking on an						
Output 3 for LED 3 of Antenna 3 to "True"       Image: Construction of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Apply         10       Set by clicking on "Apply"       Image: Construction of the antenna which detects the Transponder         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Construction of the antenna which detects the Transponder         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Construction of the antenna which detects the Transponder	Output 3 for LED 3 of Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: Set by clicking on "Apply"						
Antenna 3 to "True"       Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         9       Set by clicking on "Apply"         10       Transponder lift he alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	Antenna 3 to "True"         Only the LED of the antenna which detects the Transponder will be switched on.         g       Set by clicking on "Apply"         Image: Set Set by clicking on "Set Set Set Set Set Set Set Set Set Set		Output 3 for LED 3 of			Yake	
Only the LED of the antenna which detects the Transponder will be switched on.       Image: Constraint of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Image: Constraint of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"       Image: Constraint of the antenna which detects the Transponder will be switched on.         10       Transponder       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Constraint of the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Approximation of the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Configure the reader as follow:	Only the LED of the antenna which detects the Transponder will be switched on.         9       Set by clicking on "Apply"         Image: the second of the antenna which detects the Transponder of the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: the second of the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"						
which detects the Transponder will be switched on.       Image: switched on.         g       Set by clicking on "Apply"         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: switched switched image: switched image:	which detects the Transponder will be switched on.       Apply         9       Set by clicking on "Apply"         Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Imagender If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Imagender Imagender Imagender Imagender If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"						
which detects the Transponder will be switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         f       the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: switched image:	which detects the Transponder will be switched on.       Apply         9       Set by clicking on "Apply"         Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Imagender If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Imagender Imagender Imagender Imagender If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"						
which detects the Transponder will be switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         g       Set by clicking on "Apply"         Image: switched on.       Image: switched on.         f       the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: switched image:	which detects the Transponder will be switched on.       Apply         9       Set by clicking on "Apply"         Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Imagender If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Imagender Imagender Imagender Imagender If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"		Only the LED of the antenna				
Transponder will be switched on.         g       Set by clicking on "Apply"         Japply         Transponder       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Iso-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Description of the affir set of t	Image: Transponder will be switched on.       Apply         g       Set by clicking on "Apply"       Apply         Image: Transponder lift the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Transponder lift the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Transponder lift the alarm should occur by a transponder with valid AFI statement and the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Transponder lift the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"         11       Operating Mode lift the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"       Image: Transponder lift the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"		-				
on.       Apply         9       Set by clicking on "Apply"         9       Transponder         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Iso-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	on.       g       Set by clicking on "Apply"       ▲pply         g       Set by clicking on "Apply"       ▲pply         Image: set of the set of the set of the set of the reader as follow:       Image: set of the s		which detects the				
on.       Apply         9       Set by clicking on "Apply"         9       Transponder         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Iso-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	on.       g       Set by clicking on "Apply"       ▲pply         g       Set by clicking on "Apply"       ▲pply         Image: set of the set of the set of the set of the reader as follow:       Image: set of the s		Transponder will be switched				
9     Set by clicking on "Apply"       Image: the set of the s	g       Set by clicking on "Apply"         Image: Provide a set of the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Provide and the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Provide and the alarm should occur by an EAS, you have to configure the reader as follow:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Provide and the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"       Image: Provide and the provide		Transponder will be switched				
10       Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Improve It is to it is to it	9     Transponder       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:     Imagender       10     ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.     Imagender       11     Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"     Imagender		on.				
10       Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Improve It is to it is to it	9     Transponder       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:     Imagender       10     ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.     Imagender       11     Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"     Imagender						
10       Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Immediate Isol 1503         10       ISO-15693 - Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Immediate Isol 1503         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Immediate Isol 1503	9     Transponder       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:     Imagender       10     ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.     Imagender       11     Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"     Imagender						
10       Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Configure With the set of the alarm should occur by an EAS, you have to configure the reader as follow:         11       If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Configure the reader as follow:	Image: Constraint of the second occur by a transponder with valid AFI byte, you have to configure the reader as follow:       Image: Constraint of the second occur by a transponder with valid AFI byte, you have to configure the reader as follow:         IO       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         IO       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"       Set "EAS"						
10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"	0	Set by clicking on "Apply"		Apply		
10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"	9	Set by clicking on "Apply"		Apply		
10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       If the alarm should occur by an EAS, you have to configure the reader as follow:	10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"	9	Set by clicking on "Apply"				
10       ISO-15693 - Selection Mask Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01) Note:       Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	10       If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:       ISO - 15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       ISO - 15693 – Selection by an EAS, you have to configure the reader as follow:         11       Set "EAS"       Set "EAS"	9			Apply		
10       ISO-15693 – Selection Mask Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01) Note:       00         Up to four different AFI values could be set.       00         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Set the value for the reader as follow:         11       If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Set the value for the reader as follow:	a transponder with valid AFI       If todat         byte, you have to configure the reader as follow:       It todat         10       ISO-15693 – Selection Mask Set "Enable AFI"       It todat         Set the value for the AFI in field "AFI1" (e.g. 01)       It to four different AFI values could be set.       It todat         11       Operating Mode       If the alarm should occur by an EAS, you have to configure the reader as follow:       It to four the reader as follow:       It to four the reader as follow:         11       Set "EAS"       Set "EAS"       It to four the reader as follow:       It to four the reader as follow:	9		🖹 Driver	Apply		
10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	10       ISO-15693 – Selection Mask Set "Enable AFI"         Set "Enable AFI"       00         Set the value for the AFI in field "AFI1" (e.g. 01) Note:       00         Up to four different AFI values could be set.       00         11       If the alarm should occur by an EAS, you have to configure the reader as follow:       00         11       If the alarm should occur by an EAS, you have to configure the reader as follow:       00         Set "EAS"       00       00	9	Transponder	Driver     Anticollision	Apply		
10       ISO-15693 – Selection Mask         Set "Enable AFI"         Set the value for the AFI in         field "AFI1" (e.g. 01)         Note:         Up to four different AFI         values could be set.         11         11         11         11         11         11         12         13         14         14         15         15         16         17         18         19         11         11         12         12         13         14         15         15         16         17         18         19         19         11         11         12         12         13         14         15         15         16         17         17         18         19         19         19	byte, you have to configure the reader as follow:     ISO-15693 - Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:       Up to four different AFI values could be set.       Interference as follow:       Set "Enable AFI"       Set the value for the AFI in field "AFI1" (e.g. 01)       Note:       Up to four different AFI values could be set.       Interference as follow:       Set "EAS, you have to configure the reader as follow:       Set "EAS"	9	Transponder	Driver Controllision PersistenceReset	Apply		
10       ISO-15693 – Selection Mask         Set "Enable AFI"         Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01)         Note:         Up to four different AFI values could be set.         In the alarm should occur by an EAS, you have to configure the reader as follow:         If the alarm should occur by an EAS, you have to configure the reader as follow:	byte, you have to configure the reader as follow:         10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:         Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:         11       Set "EAS"	9	Transponder If the alarm should occur by	B Driver Anticollision PersistenceReset HF	Apply		
10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Count of the analysis of th	10       ISO-15693 – Selection Mask         Set "Enable AFI"       00         Set the value for the AFI in field "AFI1" (e.g. 01)       00         Note:       Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Count of the reader as follow:         Set "EAS"       Image: Count of the reader as follow:       Image: Count of the reader as follow:         Set "EAS"       Image: Count of the reader as follow:       Image: Count of the reader as follow:	9	<b>Transponder</b> If the alarm should occur by a transponder with valid AFI	Driver     Anticollision     PersistenceReset     HF     G ICode 1	<u>Apply</u>		
10       ISO-15693 – Selection Mask Set "Enable AFI"       Enable AFI Bit Set the value for the AFI in field "AFI1" (e.g. 01) Note:       Discrete Set Set Set Set Set Set Set Set Set	10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Comparison of the affinities of the aff	9	<b>Transponder</b> If the alarm should occur by a transponder with valid AFI	Driver Anticollision PersistenceReset HF Ctode1 ISO_15693	Apply		
10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Court of the arrow of	10       ISO-15693 – Selection Mask Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01)         Note:       Up to four different AFI values could be set.         11       Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"	9	<b>Transponder</b> If the alarm should occur by a transponder with valid AFI byte, you have to configure	Driver Anticollision PersistenceReset Hf Clode1 ISO_15693 CloteSision CloteReset	Apply		
10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Comparison of the com	10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       00         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"       00         11       Set "EAS"       00	9	<b>Transponder</b> If the alarm should occur by a transponder with valid AFI byte, you have to configure	Driver Anticollision PersistenceReset Hf Clode1 SO_15693 Anticollision ClinkRate SelectionMask			
10       ISO-15693 – Selection Mask Set "Enable AFI"         Set "Enable AFI"       Set the value for the AFI in field "AFI1" (e.g. 01)         Note:       Up to four different AFI values could be set.         11       Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:       Image: Imag	10       ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.       Image: Comparison of the compariso	9	<b>Transponder</b> If the alarm should occur by a transponder with valid AFI byte, you have to configure	Driver Anticolliston PersistenceReset HF Clode1 IS0_15693 Anticolliston LinkRate SelectionMask Enable_AF1	Enabled		
100-10000 - Objection Wask         Set "Enable AFI"         Set the value for the AFI in         field "AFI1" (e.g. 01)         Note:         Up to four different AFI         values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:	11       ISO-Floods - Selection Invasion         Set "Enable AFI"         Set the value for the AFI in         field "AFI1" (e.g. 01)         Note:         Up to four different AFI         values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"		<b>Transponder</b> If the alarm should occur by a transponder with valid AFI byte, you have to configure	Driver Anticollision PersistenceReset HF Ctode 1 ISO_15693 Anticollision ClinkRate Esole_AfI AF1	Enabled 01		[3
Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01)         Note:         Up to four different AFI values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:	Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01)         Note:         Up to four different AFI values could be set.         Image: Note:         Up to four different AFI values could be set.         Image: Note:         If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:	Driver Anticollision PersistenceReset Hf Clode1 ISO,15693 CAnticollision ClinkRate SelectionMask Enable_API AF11 AF12	Enabled 01 00		6
11       Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	Set the value for the AFI in field "AFI1" (e.g. 01) Note:       Up to four different AFI values could be set.         Image: the alarm should occur by an EAS, you have to configure the reader as follow:       Image: the teader as follow:         Set "EAS"       Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		
field "AFI1" (e.g. 01)         Note:         Up to four different AFI         values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:	11       field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		
field "AFI1" (e.g. 01)         Note:         Up to four different AFI         values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:	11       field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		(
Note:       Up to four different AFI values could be set.         Operating Mode       If the alarm should occur by an EAS, you have to configure the reader as follow:       If the reader as follow:	Note:       Up to four different AFI         values could be set.       Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:       Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI"	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		5
Note:       Up to four different AFI values could be set.         Operating Mode       If the alarm should occur by an EAS, you have to configure the reader as follow:       If the reader as follow:	Note:       Up to four different AFI         values could be set.       Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:       Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		6
11       Up to four different AFI values could be set.         11       Operating Mode lift the alarm should occur by an EAS, you have to configure the reader as follow:	Up to four different AFI values could be set.         Image: the set of the		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		
11       Up to four different AFI values could be set.         11       Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	Up to four different AFI values could be set.         Image: the set of the		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		
Values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:	Values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01)	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		(
It was a could be set.       Operating Mode       If the alarm should occur by an EAS, you have to configure the reader as follow:	Values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		5
11     Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:     If If CLFc000 - Configuration	11     Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow: Set "EAS"     If the alarm should occur by an EAS, you have to configure the reader as     If the alarm should occur by an EAS, you have to configure the reader as     If the alarm should occur by an EAS, you have to configure the reader as     If the alarm should occur by an EAS, you have to configure the reader as     If the alarm should occur by an EAS, you have to configure the reader as		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note:	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		13
11     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have the alarm should occur by an EAS, you have the alarm should occur by an EAS, you have the alarm should occur by an EAS, you have the alarm should occur by an EAS, you have the alarm should occur by an EAS, you have the alarm should occur	11     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:       Set "EAS"     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		6
11     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS (the full occur by an EAS) (the full occur by an EAS	11     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:       Set "EAS"     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI	Driver Anticollision PersistenceReset Hf Code1 Sto0_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI3 AFI3	Enabled 01 00 00		
11 If the alarm should occur by an EAS, you have to configure the reader as follow:	11     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the alarm should occur by an EAS, you have to configure the alarm should occur by an EAS, you have to configure		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.	Driver Anticollision PersistenceReset H F Code1 ISO_15893 Canticollision UnikRate SelectionMask Enable_AFI AFI3 AFI3 AFI4	Enabled 01 00 00		
11 If the alarm should occur by an EAS, you have to configure the reader as follow:	11     If the alarm should occur by an EAS, you have to configure the reader as follow:     If the alarm should occur by an EAS, you have to configure the reader as follow:       Set "EAS"		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.	Driver Anticollision PersistenceReset Hf CitCode1 ISO.15093 Anticollision CitRRate SelectionMask Enable_AFI AFI3 AFI3 AFI3 AFI3 AFI3 AFI3 AFI4	Enabled 01 00 00 00		
11 If the alarm should occur by an EAS, you have to configure the reader as follow:	11       If the alarm should occur by an EAS, you have to configure the reader as follow:       If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"       If the alarm should occur by an EAS, you have to configure the reader as follow:		Transponder If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow: ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.	Driver Anticollision PersistenceReset H  Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkBate Condet Configuration Condet Configurati	Enabled 01 00 00 00		
11 an EAS, you have to configure the reader as follow:	11     an EAS, you have to configure the reader as follow:       Set "EAS"		TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode	Driver Anticollision PersistenceReset Hf Clode1 ISO_15693 Anticollision LinkRate SelectionMask Enable_ATI AFI1 AFI2 AFI3 AFI4	Enabled 01 00 00 00 00	3./feed Field Mode	
configure the reader as follow:	configure the reader as follow:     Image: Configure the reader as follow:       Set "EAS"		TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode	B Driver Anticollision PersistenceReset HF CitCode1 ISO, ISO3 Anticollision CinkRate SelectionMask Endole_AFI AFI3	Enabled 01 00 00 00 00 00 00	Buffrend Read Houts	
follow:	Set "EAS"	10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00	Buffred Field Hole	
follow:	follow: Set "EAS"	10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00 00	P	(
Anternal Anternal	Set "EAS"	10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00 00	P	5
	Set "EAS"	10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to configure the reader as	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00 00	агага	
Set "EAS"		10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to configure the reader as	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00	агага	
		10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to configure the reader as	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00	агага	
	10 Set by clicking on Apply"	10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00	агага	1
	40 Not by allolying on Apply"	10	TransponderIf the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:ISO-15693 – Selection Mask Set "Enable AFI" Set the value for the AFI in field "AFI1" (e.g. 01) Note: Up to four different AFI values could be set.Operating Mode If the alarm should occur by an EAS, you have to configure the reader as follow:	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00 00	агага	
12 Set by clicking on Apply"	12 Set by clicking on "Apply"	10	Transponder         If the alarm should occur by a transponder with valid AFI byte, you have to configure the reader as follow:         ISO-15693 – Selection Mask Set "Enable AFI"         Set the value for the AFI in field "AFI1" (e.g. 01)         Note:         Up to four different AFI values could be set.         Operating Mode         If the alarm should occur by an EAS, you have to configure the reader as follow:         Set "EAS"	Driver Anticollision PersistenceReset HF Clode1 ISO_15693 Anticollision ClinkRate SelectionMask Enable_AFI AFI1 AF12 AF13 AF14 ClinkRate Condet Carliguitation Condet Carliguit	Enabled 01 00 00 00 00	агага	

#### 5.4.2 Programming a Transponder with the AFI Byte

If the Transponders will remain on the object when leaving the storage location, they must first be disabled. This is generally done by writing to a particular area of the Transponder.

The AFI byte (Application Family Identifier) is useful for this purpose, since it is contained in nearly all Transponder models in the ISO15693 family. To disable, simply write a different code to the Transponder than for valid Transponders which trigger an alarm.

Step	Action:	Note:
1	Select "Commands"	Commands
2	Place the Transponder in the antenna field (Antenna 1) Select [0x01] Inventory Mode: "New Inventory Requested "	<ul> <li>ID ISC.LR2000 Commands</li> <li>Special Commands</li> <li>ISO Host Commands</li> <li>ISO Host Commands</li> <li>IOX80] [0x01] Read Serial Number</li> <li>Mode</li> <li>New Inventory Requested</li> <li>Nove21 Stay Quiet</li> <li>[0x22] Lock Multiple Blocks</li> <li>[0x23] Read Multiple Blocks</li> <li>[0x24] Write Multiple Blocks</li> <li>[0x25] Select</li> <li>[0x26] Reset to Ready</li> <li>[0x27] Write AFI</li> </ul>
3	Read UID by clicking on "Send"	Send
4	The serial number, DSFID and Transponder type are displayed in a window. Write down the serial number of the Transponder	<pre>[0xB0] [0x01] Read Serial Number Statusbyte: 0x00 (0K) 1 Transponder in Protocol 1. Transponder TR-TYPE: 0x03 (IS015693 - Philips Semiconductors) DSFID: 0x00 SNR: E00401000003165C</pre>
5	Select "[0x27] Write AFI" ADR: 1: addressed Serial Number: Select Transponder UID AFI: Desired AFI Number (not equal to 00)	ID ISC.LR2000 Commands         Special Commands         ISO Host Commands         ISO Host Commands         IOx80] ISO1 S693 Commands         IOx02] Stay Quiet         IOx22] Lock Multiple Blocks         IOx23] Read Multiple Blocks         IOx24] Write Multiple Blocks         IOx25] Select         IOx26] Reset to Ready         IOx27] Write AFI         IOx29] Write DSFID         IOx24, Lock DSFID
6	Write AFI byte on to the transponder by click on "Send"	Send

7	To verify, read AFI byte by using the command [0x2B] Get System Information	[0x23] Read Multiple Blocks     [0x24] Write Multiple Blocks     [0x25] Select     [0x26] Reset to Ready     [0x27] Write AFI     [0x28] Lock AFI     [0x28] Write DSFID     [0x2A] Lock DSFID     [0x2A] Lock DSFID     [0x2B] Get System Information     [0x2C] Get Multiple Block Security S     ≡	[0xB0] [0x2B] Get System Information         Mode         ADR         T: addressed         Serial Number         E00401000001FADF
---	--	---	---

#### 5.5 Activating the Automatic Mode

The gate has to be used in one of the Automatic Modes (Buffered Read, Notification or Scan Mode) to get a maximum performance. Otherwise the reading performance will be significantly reduced.

For more information, see System Manual H01112-0e-ID-B.pdf ID ISC.LRM2500-A/B

Which mode the most suitable is for your application has to be defined in advance.

In this example it is described how to activate the Buffered Read Mode.

In the automatic modes, the tags are read at maximum speed and the information is stored in the ring buffer of the reader. Data set can be read by the host.

Due to the automatic alarm features at the automatic mode, the reader/gate can also run without any interface connection (Serial, Ethernet).

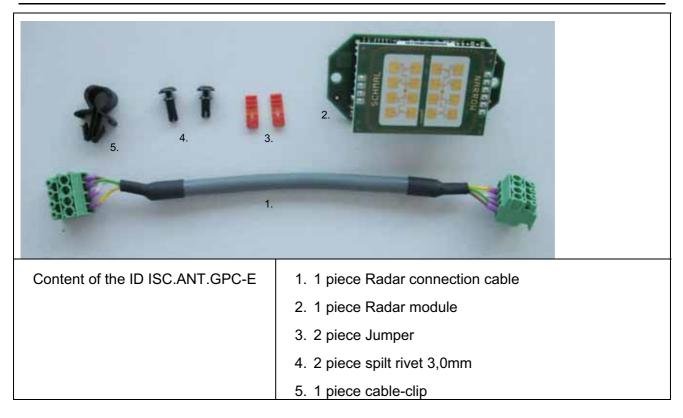
To activate "Buffered Read Mode" proceed as follows:

Step	Action	Note
1	Select "Configuration"	Configuration
2	<b>Operation Mode:</b> "Mode" - Buffered Read Mode "Data Selector" -UID -Antenna No -Time -Date "Filter" Set Transponder Valid Time. (e.g. 55 x 100ms)	OperatingMode         Mode       BufferedReadMode         ■ BufferedReadMode         ■ DataSelector         UID       ✓         DataSelector         UID       ✓         DataSelector       ✓         Data       ✓         Data       ✓         AccennaNo       ✓         Time       ✓         Date       ✓         InputEvents       ✓         AnternaExtended       ✓         Enable_AnternaPool       Collect transponder data from all antennas in one data record         ♥ DataSource       ✓         ■ Filter       ✓         TransponderValdTime       00055 x 100 ms         Enable_InputEvent       厂         Enable_TimeoutEvent       厂
3	Set clicking on "Apply"	

Note:

The configuration of the Notification or Scan Mode are similar (See System Manual of the reader) To test the function of the Gate in the Buffered Read Mode, the BRM Window of ISOStart or the BRMDemo program can be used.

## 5.6 Installation ID ISC.ANT.GPC-E



Step	Action	Note
1.	Attention !! Note: Do not touch the an- tenna surface of the Radar module to avoid damaging the electronic components and soiling.	
2.	Connect radar connection cable with X1 of Radar module.	

3.	Set sensitivity of Radar sensor by setting jumper J1 and J2. <u>Sensitivity:</u> JP1+2 open: Low JP1 closed: Middle <u>JP2 closed: High</u> JP1+2 closed: Very high Recommended Sensitivity: High	
4.	Install Radar module with split rivet See also picture in Step 4	
5.	Plug Radar connection cable onto X12 Sen 2	
	Radar Module ID ISC.ANT1800/700-GP	C Radar Module ID ISC.ANT.GPC-E

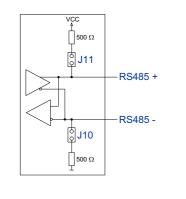
Gate People Counter ID ISC.ANT1800/700-GPC

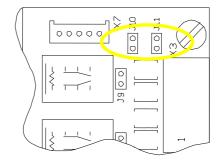
Fig. 20: Connections GPC-E 2.Radarmodule

#### 5.7 Configuration and Test

To activate the People Counters the following settings has to be done.

Set additional the Jumpers JP10 and J11 of Reader ID ISC.LRM2500-B to configure the RS485 interface. Fig. 21 (see also manual M01111-xde-ID-B , page 54 and 55). The Termination has to be activated via software in the reader configuration.





Enable Termination Resistors	2	
Number of Stopbits	1 Stop Bit	
Number of Databits	8 Data Bits	
Parity	even Parity	
Baudrate	38400 baud	
Busaddress	000	

Fig. 21: Jumper settings RS485 Interface

By using several People counters at gates with 3 to 6 aisles, you have to set the corresponding bus address. The bus address could be set by the Dip-Switch at the People Counter Board. See Fig. 22. At one reader, up to 3 People Counter (bus address 1-3) could be operated.

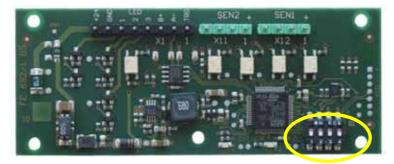


Fig. 22: Position of Dip Switch at People Counter Board

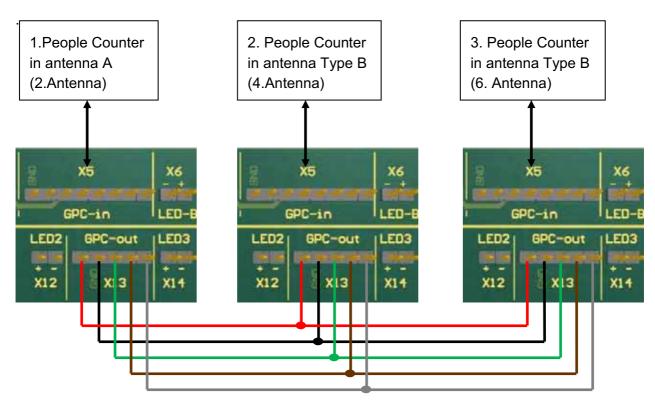
		DIP-Sw	vitch S1	
bus address	1	2	3	4
1	OFF/ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	OFF	OFF	ON	OFF
4		Res	erved	

Table 8 Setting the bus address of the People Counter

#### 5.7.1 Connecting several People Counter

When using several People Counters (up to 3), at one reader, have to be on the terminal board with each other in parallel. For the connection you have to use 5 pin shielded, twisted-pair cable. Example: LiYCY (TP) 3x2x0,25

The connection X13/GPC-Out of the first Terminal Board has to connected to X13 GPC-out of the second and third Terminal Board of the antenna /People Counter. More details to the terminal assignment of X13 you will find in <u>8.Annex A</u>



e.g.

Fig. 23 Connecting the People Counters

# 5.7.2 Configuration and Test in ISO-Host or Buffered Read

•			
Step	Action	Note	
1	Select "Configuration"	Configuration	
2	Host Interface Set RS 485 to "True" "Enable Termination Resistors" The RS232/485 Settings should be set to: Busaddress=0, Baudrate=38400 baud, Parity = even , Number of Databits = 8, Number of Stopbits = 1	D BICLUSION-B - Configuration Consiste Carlyparion Consiste Carlyparion Consiste Carlyparion Construction Con	
3	Confirm with "Apply"		
4	Peripheral Devices Set People Counter to,,True" and Detection Mode for Ext. I/O-Boards to "Search up to Busaddress 1"	Consider Configuration     Consider Configuration     Consider Configuration     Constraints     Constrai	1111
5	Confirm with "Apply"		
6	Peripheral Device Digital IO: Setting Time: "Setting Time" set the dura- tion time for the alarm. (10 means 1 second) (e.g. 10 x 100ms) Assign Output 1 to antenna 1. Output 2 to antenna 2. Output 3 to antenna 3. "True" means: Output 1,2 or 3 will be active if the reader read a valid trans- ponder on the correspond- ing antenna	IDE LICENCE - Configuration     Complete Configuration     Complete Configuration     Complete Configuration     Committee in a statement     Complete Configuration     Configuration     Configuration     Configuration     Configura	

7	Set by clicking on "Apply".		
	Test: People Counter		
8	Select "Commands"	Commands	
9	Select Command - "Get Reader Info" - Peripheral Devices	DiSCLECOOD - Dominands     DisSCLECOOD - Dominands     DisSCLECOOD Carebased     DisSCLECOO	
10	Confirm with "Send" Number of Devices should	Send	
11	be 1 Select Command "Set People Counter Values"	D ISDC LR20000 - Commands     D ISDC Scale Commands     D ISDC Sc	
12	Confirm with "Send"	Send	
13	Select Command "Get People Counter Values"	ID ISC/LIC0000 Commands         ID ISC/ID ISC0000 Commands         ID ISC/LIC0000 Commands         ID ISC/LIC0000 Commands         ID ISC/ID ISC0000 Commands         ID ISC/ID ISC0000 Commands         ID ISC/ID ISC0000 Commands         ID ISC00000 Commands         ID ISC000000 Commands         ID ISC000000000000000000000000000000000000	
14	Confirm with "Send" (All counter values should be 0)	Send	
15	Walk through the gate from both directions.	Counter 1   Counter 2 In   Out	

	Salaat Command	ID ISC LR2000 - Commanda	
16	Select Command "Get People Counter Values"	B DSCL82000 Commands     Special Commands     Special Commands     Gold Direct Commands	Part/1 Ear Progle Counter Values Radio Director 1 Counter 2 . 0 Radio Distortor 2 Counter 2 . 0
17	Confirm with "Send"		Send
18	Counter values will be displayed.	[0x77] Ge	Radar Detector 1 Counter 11 Counter 21 Radar Detector 2 Counter 10 Counter 20

In ISO-Host and Buffered Read the People Counter has to be polled by the Host Application to get the data.

In Notification Mode the Reader sends the People Counter Data automatically to the Host.

# 5.7.3 Configuration and Test in Notification Mode

The following configuration hast o be done:

Step	Action	Note	
1	Select "Configuration"	Configuration	
2	<b>Peripheral Devices/CFG8</b> Set People Counter and Notify Counter to "True"	Conduits Configuration     Configu	
3	Confirm with "Apply"		
4	Operating Mode Select -Notification Mode	DIBCLR2000::Configuration           Conplete Configuration           Image: Configurating<	
5	Confirm with "Apply"		
6	Set IP Address and Port for Notification Mode IP Address of Host e.g. here : 192.168.3.213 Port:20005 Set IP Address and Port for People Counter IP Address of Host e.g. here: 192.168.3.213 Port:10005	Condet Configuration     Destination     Destination     Destination     Source     Destination     Source     Destination     Condet Configuration     Condet Configuration     Condet Configuration     Destination     Condet Configuration     Destination     Condet Configuration     Condet Configuration     Destination     Condet Configuration     Condet Configuration     Condet Configuration     Destination     Condet Configuration	
7	Confirm with "Apply"		

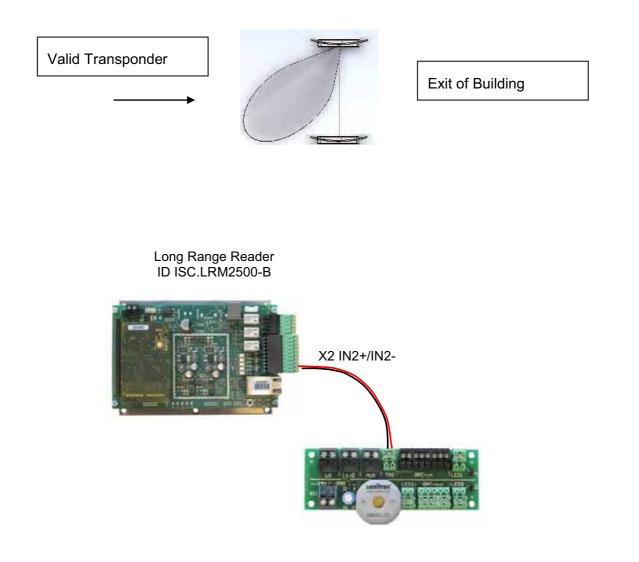
## ID ISC.ANT1800/700-A/-B

9	A Test could be done with the People Counter Sample.	Detector 1 (SEN1) Commission (Counter 1) O Going out (Counter 2) O List Tags	Detector 2 (SEN2) Comming in (Counter 3) 0 Going out (Counter 4) 0 Difference 0 Last Tags
		TCP-Settings.	Reset Counter Eve

#### 5.7.4 Using the trigger function of Gate People Counter

The trigger function could only be used in one of the Automatic Modes.

The trigger function works bidirectional, but a 100% safe reading of transponder is only possible form one direction. Due to this, it is necessary at the installation of the antennas, that the Radar module / Antenna faces to the direction of the transponder which could cause the alarm. At buildings (e.g. Libraries) the Radar module faces into the building. Otherwise the reading of the transponder will just be started, when the person/transponder is already in or outside the gate.



Step	Action	Note
1	Select "Configuration"	Configuration
2	Operating Mode Select -Buffered Read Mode or -Notification Mode	SCLLR2000 - Configuration     Consist Configuration     Consist Configuration     Consist Configuration     Consist Configuration     Consist Configuration     Constant Configura
3	Confirm with "Apply"	
4	Operating Mode Set -Trigger enable -Source Input No 2-Trigger Use set to - Start Trigger - Hold Time e.g. 20x100ms =2sec.	Complete Configuration AccessProtoction AccessProtoction AccessProtoction AccessProtoction AccessProtoction BodieredDeadStade BodieredDead
5	Confirm with "Apply"	
6	Multiplexer stops switching of antennas. All Output LED's at Outputs of Multiplexer are switched off.	
7	Walk through the gate. Multiplexer/Gate will be switch on for the set time.	

#### 6. Configure the reader in accordance with national RF regulations

Configuration of the RFID readers and the maximum transmitting power of the antennas are affected mainly by the country-specific RF regulations. For the entire EU the limits are set forth in the R&TTE Directive and EN 300 330.

The ID ISC.ANT1800/700 antenna with the ID ISC.LRM2500 Reader, when used as intended, complies with the basic requirements of Article 3 and the other relevant clauses of the R&TTE Directive 1999/5/EG of March 1999. This means that operation in the 27 EU countries and the EFTA countries (EU countries plus Switzerland, Norway and Iceland) is possible with a maximum field strength of  $42 \text{ dB}\mu\text{A/m}$  at 10 m distance.

RF approval (at a maximum field strength of <u>84 dB $\mu$ V/m</u> at 30 m) for the ID ISC.ANT1700/740 antenna with ID ISC.LRM2500 Reader has been granted in accordance with FCC Part 15 for the USA and the RSS-210 for Canada

RF approval in accordance with EN 300 330 is still possible in all 46 CEPT countries.

The CEPT countries are:

Albania (ALB), Andorra (AND), Austria (AUT), Azerbaijan (AZE), Belarus (BLR), Belgium (BEL), Bulgaria (BUL), Bosnia and Herzegovina (BIH), Croatia (HRV), Cyprus (CYP), Czech Republic (CZE), Denmark (DNK), Estonia (EST), Finland (FIN), France (F), Germany (D), Greece (GRC), Hungary (HNG), Iceland (ISL), Ireland (IRL), Italy (I), Latvia (LVA), Liechtenstein (LIE), Lithuania (LTU), Luxembourg (LUX), Malta (MLT), Former Yugoslav Republic of Macedonia (MKD), Moldova (MDA), Monaco (MCO), Netherlands (HOL), Norway (NOR), Poland (POL), Portugal (POR), Romania (ROU), Russian Federation (RUS), San Marino (SMR), Slovak Republic (SVK), Slovenia (SVN), Spain (E), Sweden (S), Switzerland (SUI), Turkey (TUR), Ukraine (UKR), United Kingdom (G), Vatican City (CVA) and Yugoslavia.

The following restrictions are in effect (as of: October 2009):

1. Outside the EU and EFTA countries RF approval must in all cases be applied for. The existing measuring protocols in accordance with EN 300 330 are generally sufficient.

When placing the antennas in service, the systems integrator must ensure that the prescribed mounting instructions are followed, the necessary Reader settings are made and permissible limits according to the national regulations are not exceeded.

The reader needs to be configured as follows depending on the installation location:

Parameter	USA / Canada / Europe	
Air Interface		
RF-Power:	maximum 8 W	
RF Modulation:	15%	
Transponder		
RF Modulation / ISO-MODE / MOD	10%	
RF Data coding ISO-MODE:	Fast (1/4) or Normal (1/256)	
Timeslots ISO-MODE / NO-TS	1 or 16 Timeslots	
ISO Option – BREAK:	Complete Timeslot length at "NO TAG"	

# 7. Technical Data

## 7.1 Antenna ID ISC.ANT1800/700 Type A and B

Mechanical Data	
Housing	UV stabilized ABS and Acrylic
<ul> <li>Dimensions (W x H x D)</li> <li>Antenna</li> <li>Packing</li> </ul>	700 mm x 1798 mm x 70 mm ± 3 mm 850 mm x 1930 mm x 150 mm ± 10 mm
<ul> <li>Weight <ul> <li>ID ISC.ANT1800/700-A</li> <li>ID ISC.ANT1800/700-B</li> </ul> </li> <li>Enclosure rating</li> </ul>	Approx. 29 kg without /33,5 kg with packing Approx. 28 kg without /32,5 kg with packing IP 41
<ul> <li>Colors</li> <li>Antenna frame</li> <li>Antenna base</li> </ul>	acryl glass, clear transparent surface painted, white aluminum RAL 9006
<ul> <li>Mounting         <ul> <li>No. of attaching points</li> <li>Recommended anchors</li> <li>Recommended minimum load capacity of the floor fastener</li> </ul> </li> </ul>	2 Ø 10 mm 5000 N / anchor
Maximum horizontal load on the top     edge of the antenna	250 N*

## Electrical Data\*\*\*\*

Supply Voltage	24 V === ± 15 %
Power Consumption	max. 32 VA
Operating Frequency	13,56 MHz
Maximum transmitting power per antenna	8 W
Permissible overall transmitting     power per antenna gate	
<ul> <li>– EU-territory (per EN 300 330)</li> </ul>	8.0 W
– USA (per. FCC Part 15)	8.0 W
- Canada (per. RSS210)	8.0 W

٠	Outputs	
	– 1 Optocoupler	24 V === / 30 mA
	– 1 Optocoupler	Reader Synchronization
	– 3 Relay ( 3 x NO)	24 V === / 1 A
•	Inputs	
	– 1 Optocoupler	Max. 24 V / 20 mA
	– 1 Optocoppler	Reader Synchronisation
•	Interfaces	RS232
		USB
		Ethernet (TCP/IP)
•	Protocol Modes	FEIG ISO HOST
		BRM (Data Filtering and Data Buffering)
		Scan Mode (RS 232)
		Notification Mode (TCP/IP)
•	Supported Transponders	ISO 15693, ISO 18000-3-A, (EM HF ISO Chips, Fujitsu HF ISO Chips, KSW Sensor Chips, Infineon my-d, NXP I-Code , STM ISO Chips, TI Tag-it) NXP I-Code 1
•	Ranges / pass-through width in gate with multiplexer	
	– One tag orientation	approx. 140 / 150 cm**
	– All tag orientations	approx. 110 / 120 cm***
•	Antenna connection	1 x SMA plug (50 Ω)
•	Antenna connector cable - Type B	RG58, 50 Ω, approx. 8,55 m long

**Ambient Conditions** 

<ul> <li>Temperature range</li> <li>Operating</li> <li>Storage</li> </ul>	–25 °C to +50 °C –25 °C to +70 °C
Applicable Standards	
RF approval	
– Europe	EN 300 330
– USA	FCC Part 15
- Canada	RSS 210
• EMC	EN 301 489
Safety	

•	Safety	
	<ul> <li>Low Voltage Directive</li> </ul>	EN 60950-1
	– Human Exposure	EN 50364

\* Persistent deformation after load release approx. 3 cm.

\*\* Qty. 2 ID ISC.ANT1800/700-A/-B antennas, antenna spacing (antenna center), same flow direction, Tag 46 mm x 75 mm ISO15693, sensitivity / minimum field strength  $H_{min}$ =60 / 40 mA/m rms, transmitting power 8 W, tag orientation parallel to antenna for horizontal movement through the antenna. The maximum antenna distance also depending of the strength of the Transponder answer signal! Z.B NXP I-Code SLi / NXP I-Code SLi-S

\*\*\* Tag 46 mm x 75 mm ISO 15693, sensitivity / minimum field strength H<sub>min</sub>=60 / 40 mA/m rms, transmitting power 8 W, aligned in all 3 dimensions for horizontal movement through the antenna. The maximum antenna distance also depending of the strength of the Transponder answer signal!
 Z.B NXP I-Code SLi / NXP I-Code SLi-S

# 7.2 People Counter ID ISC.ANT1800/700-GPC and ID ISC.ANT.GPC-E

Mechanical Data	
Housing	Printed Boards
<ul> <li>Board Dimensions (B x H x T)         <ul> <li>People Counter Board</li> <li>Radar Sensor Board</li> </ul> </li> </ul>	100 mm x 40 mm x 16 mm ± 1 mm 60 mm x 30mm x 25 mm ± 1 mm
<ul> <li>Weight         <ul> <li>ID ISC.ANT1800/700-GPC</li> <li>ID ISC.ANT.GPC-E</li> </ul> </li> <li>Mounting</li> </ul>	ca. 200 g / 250 g (0.55 lb) with packing ca. 50 g / 100 g (0.22 lb) with packing
– No. of attaching points	People Counter: 4 / Radar Sensor: 2
Electrical Data	
Supply Voltage	<ul> <li>24 V === ± 15 % Noise Ripple : max. 150 mV</li> </ul>
Power Consumption	• max. 2 VA
Operating Frequency	• 24,125 GHz
RF-transmitting power	• 16 dBm (e.i.r.p.)
<ul> <li>Temperature range         <ul> <li>Operation</li> <li>Storage</li> </ul> </li> </ul>	–25 °C to +55 °C –25 °C to +85 °C

#### 7.3 Approvals

As per Section 5.7.4

7.3.1 Europe (CE)

#### 7.3.1.1 Antenne ID ISC.ANT1800/700

This RF equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC dated March 99.

# CE

Equipment Classification according to ETSI EN 300 330 and ETSI EN 301 489: Class 2

The technical data of the ID ISC.LRM2500 Reader built into the ID ISC.ANT1800/700-A antenna can be found in the Installation Manual which is included with the device.

7.3.1.2 People Counter ID ISC.ANT1800/700-GPC

This RF equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC dated March 99.



Equipment Classification according to ETSI EN 300 330 and ETSI EN 301 489: Class 2

## 7.3.2 USA (FCC) and Canada (IC)

## 7.3.2.1 Antenna ID ISC.ANT1800/700

Product name:	ID ISC.ANT1800/700
Antenna name:	ID ISC.ANT1800/700 Type A and Type B
Reader name:	ID ISC.LRM2500-B
FCC ID: IC:	PJMLRM2500 6633A-LRM2500
Notice for USA and	This device complies with Part 15 of the FCC Rules and with
Canada	RSS-210 of Industry Canada.
	Operation is subject to the following two conditions.
	(1) this device may not cause harmful interference, and
FC	(2) this device must accept any interference received,
	including interference that may cause undesired operation.
	Unauthorized modifications may void the authority granted under Federal communications Commission Rules permitting the operation of this device.
	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.
	Le présent appareil est conforme aux CNR d'Industrie Canada appli- cables aux appareils radio exempts de licence. L'exploitation est auto- risée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonc- tionnement.

Further information and technical data of the ID ISC.LRM2500-B Reader built into the ID ISC.ANT1800/700 antenna can be found in the Installation Manual which is included with the device.

# 7.3.2.2 People Counter ID ISC.ANT1800/700-GPC

FCC : IC:	Contains: FCC ID: UXS-IPS154US 6633A-GPC
Notice for Canada	Operation is subject to the following two conditions:
	(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Usually this is followed by the following RSS caution:
	Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
	Le présent appareil est conforme aux CNR d'Industrie Canada appli- cables aux appareils radio exempts de licence. L'exploitation est auto- risée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonc- tionnement.

# 7.3.3 USA and Canada (UL)

## In preparation !

The following picture indicates the label position:



# 8. Annex A

# 8.1 Terminal assignment "Terminal Board"

Terminal	Acronym	Description
X1 / LR		24V DC Reader
X1 / Pin 1		+24 V DC Reader
X1 / Pin 2	GND	GND Reader
X2 / I/O		24V DC Input/Output
X2 / Pin 1		+24 V DC Output 2 (Sounder / Buzzer)
X2 / Pin 2		Output 2 Emitter (Sounder / Buzzer)
X3 / MUX		24V DC Multiplexer
X3 / Pin 1		+24 V DC Multiplexer
X3 / Pin 2	GND	GND Multiplexer
X4 / TRG		Trigger People Counter 1
X4 / Pin 1	+	Input 2, TRG Trigger People Counter
X4 / Pin 2	-	Input 2 GND Trigger People Counter
X5 / GPC-in		Connection Cable to People Counter
X5 / Pin 1		+24V DC LED2
X5 / Pin 2		+24V DC LED3
X5 / Pin 3		+24V DC LED1
X5 / Pin 4		RS485-A
X5 / Pin 5		RS485-B
X5 / Pin 6		TRG Trigger People Counter
X5 / Pin 7		+24 V DC People Counter
X5 / Pin 8	GND	GND People Counter
X6 / LED1		Connection LED / Alarm light antenna
X14 / Pin 1	+	+24V DC LEDB
X14 / Pin 2	-	GND LEDB
X11		24V DC Power Supply
X11 / Pin 1	24V	Power Supply +24 V DC

X11 / Pin 2	- / GND	Ground – Power Supply
X12 / LED2		Connection LED / Alarm light 2. Antenna
X12 / Pin 1	+	+ 24 V DC LED2
X12 / Pin 2	-	GND LED2
X13 / GPC-out		Connection Cable to 2. People Counter
X13 / Pin 1	+	+24 V DC People Counter 2
X13 / Pin 2	GND	GND People Counter 2
X13 / Pin 3		TRG Trigger People Counter
X13 / Pin 4		RS485-A
X13 / Pin 5		RS485-B
X14 / LED3		Connection LED / Alarm light 3. Antenna
X14 / Pin 1	+	+24V DC LED3
X14 / Pin 2	-	GND LED3

 Table 9: Pin-Configuration X11-X14
 Terminal Board

# 8.2 Internal wiring

Terminal	Acronym	Description
X1 / LR		24V DC Reader
X1 / Pin 1		X13 +24 V DC Reader (red)
X1 / Pin 2	GND	X13 GND Reader (black)
X2 / I/O		24V DC Input/Output
X2 / Pin 1		Reader LR2500 X2 Pin Out2-C (white)
X2 / Pin 2	GND	Reader LR2500 X2 Pin Out2-E (black)
X3 / MUX		24V DC Multiplexer
X3 / Pin 1		X1 +24 V DC Multiplexer (red)
X3 / Pin 2	GND	X1 GND Multiplexer (black)
X4 / Trg		Trigger
X4 / Pin 1		LR2500 X2 Pin IN2+ (red)
X4 /Pin 2	GND	LR2500 X2 Pin IN2- (black)
X5 /GPC-in		Cable People Counter
X5 / Pin 1-8		Verbindung GPC X1
X6 / LED 1		LED
X6 / Pin 1		LED X1 + (violet)
X6 / Pin 2	GND	LED X1 - (black)