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Operating Instructions

R30A001
Industrial RFID Reader with IO-Link



EN

Translation of the original operating instructions
Subject to change without notice
Available as PDF file only
Version 2.1
www.wenglor.com

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1 General

1.1 Information Concerning these Instructions

- These instructions make it possible to use the product safely and efficiently.
- These instructions are an integral part of the product and must be kept on hand for the entire duration of its service life.
- Local accident prevention regulations and national work safety regulations must be complied with as well.
- The product is subject to further technical development, and thus the information contained in these operating instructions may also be subject to change. The current version can be found at www.wenglor.com in the product's separate download area.



INFORMATION

The operating instructions must be read carefully before using the product and must be kept on hand for later reference.

1.2 Explanation of Symbols

- Safety precautions and warnings are emphasized by means of symbols and signal words.
- Safe use of the product is only possible if these safety precautions and warnings are adhered to.

The safety precautions and warnings are laid out in accordance with the following principle:

SIGNAL WORD

Type and source of danger!

Possible consequences in the event that the hazard is disregarded.

→ Measures for averting the hazard.

The meanings of the signal words, as well as the scope of the associated hazards, are listed below:



⚠ DANGER

This signal word indicates a hazard with a high degree of risk which, if not avoided, results in death or severe injury.



⚠ WARNING

This signal word indicates a hazard with a medium degree of risk which, if not avoided, may result in death or severe injury.



⚠ CAUTION

This signal word indicates a hazard with a low degree of risk which, if not avoided, may result in minor or moderate injury.



NOTICE

This signal word draws attention to a potentially hazardous situation which, if not avoided, may result in property damage.

INFORMATION

Information draws attention to useful tips and suggestions, as well as information on efficient, error-free use.

1.3 Limitation of Liability

- The product has been developed in consideration of the current state-of-the-art technology, as well as applicable standards and guidelines. Subject to change without notice.
- A valid declaration of conformity can be accessed at www.wenglor.com in the product's separate download area.
- wenglor sensoric elektronische Geräte GmbH (hereinafter referred to as "wenglor") excludes all liability in the event of:
  - Non-compliance with the instructions
  - Use of the product for purposes other than those intended.
  - Use by untrained personnel.
  - Use of unapproved spare parts.
  - Unapproved modification of products.
- These operating instructions do not include any guarantees from wenglor with regard to the described procedures or specific product characteristics.
- wenglor assumes no liability for printing errors or other inaccuracies contained in these operating instructions unless wenglor was verifiably aware of such errors at the point in time at which the operating instructions were prepared.

1.4 Copyrights

- The contents of these instructions are protected by copyright law.
- All rights are reserved by wenglor.
- Commercial reproduction or any other commercial use of the provided content and information, in particular graphics and images, is not permitted without previous written consent from wenglor.

2 For Your Safety

2.1 Use for Intended Purpose

Industrial RFID

These RFID readers are used to read and write RFID data carriers.

RFID stands for radio-frequency identification. The read/write devices emit an electromagnetic field, which is received by a transponder. The exchange of energy initiates mutual communication, which allows data to be exchanged between the transponder and the read/write device. The RFID readers listed in these instructions have an IO-Link interface, which enables easy and fast parameterization.

This product can be used for production control and reliable traceability in the following industry sectors:

- Special-purpose mechanical engineering
- Logistics
- Automotive industry
- Food industry
- Packaging industry
- Clothing industry
- Plastics industry
- Consumer goods industry
- Electronics industry
- Chemicals industry

2.2 Use for Other than the Intended Purpose

- Not a safety component in accordance with 2006/42/EC (Machinery Directive).
- The product may be used only with accessories supplied or approved by wenglor, or in combination with approved products. A list of approved accessories and combination products can be found at www.wenglor.com on the product detail page.



⚠ DANGER

Risk of personal injury or property damage in case of use for other than the intended purpose!

Use for other than the intended purpose may lead to hazardous situations.

→ Observe instructions regarding use for intended purpose.

2.3 Personnel Qualifications

- Suitable technical training is a prerequisite.
- In-house electronics training is required.
- Trained personnel who use the product must have (permanent) access to the operating instructions.



⚠ DANGER

Risk of personal injury or property damage in case of incorrect initial start-up and maintenance!

Personal injury and damage to equipment may occur.

→ Adequate training and qualification of personnel

2.4 Modification of Products

⚠ DANGER

Risk of personal injury or property damage if the product is modified!

Personal injury and damage to equipment may occur. Noncompliance may result in loss of the CE and/or UKCA mark and voiding of the warranty.

→ Modification of the product is not permitted

2.5 General Safety Precautions

INFORMATION

These instructions are an integral part of the product and must be kept on hand for the entire duration of its service life.

In the event of possible changes, the current version of the operating instructions can be found at www.wenglor.com in the product's separate download area.

Read the operating instructions carefully before using the product.

Protect the sensor against contamination and mechanical influences.

2.6 Approvals and Protection Class

FCC Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1 This device may not cause any harmful interference, and

(2) This device must accept all interference, including interference that may cause undesired operation.

Caution! Any changes or modifications that have not been expressly approved by the institution responsible for compliance could void the user's authorization to operate the equipment.

FCC Identifier: 2ANZQ-RFM18HF | 2ANZQ-RFM30HF | 2ANZQ-RF44HF

IC Information:

This device complies with the license-exempt RSS standards of Industry Canada. Operation is subject to the following two conditions:

1 This device may not cause any harmful interference, and

(2) This device must accept all interference, including interference that may cause undesired operation.

Certificate No.: 23367-RFM18HF | 23367-RFM30HF | 23367-RFC44HF

This device complies with the ISO 15693 standard.

3 Technical Data

3.1 General Data

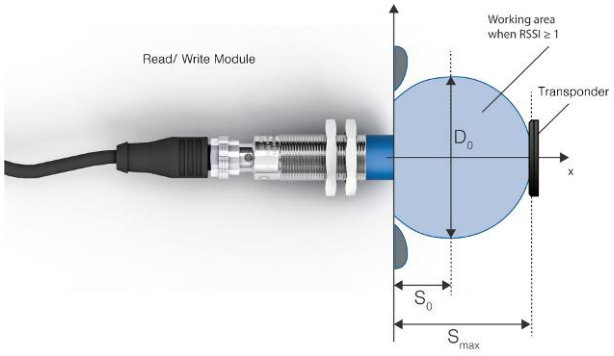
Technical Data	
RFID Data	
Operating range	0 ... 50 mm*
Frequency band	13.56 MHz
Mounting type	Non-flush
Mounting A/B/C/D in mm	30/60/90/10
RFID standard	ISO/IEC 15693
Electrical Data	
Supply voltage with IO-Link	18 ... 32 V DC
Supply voltage	11 ... 32 V DC
Temperature range	-25 ... 80 °C
Storage temperature	-25 ... 80 °C
Number of switching outputs	2
Switching current, switching output	200 mA
Short-circuit proof	Yes
Reverse polarity protected	Yes
Overload-protected	Yes
Interface	IO-Link V1.1
Protection class	III
Mechanical Data	
Housing material	Brass, chrome-plated
Active area	Plastic, PBTP
Protection rating	IP67
Connection type	M12 × 1; 4-pin
Output Functions	
Output function	PNP
	Normally open
Adjustable Parameters	
Output	PNP
Circuit	Normally closed
	Normally closed/Normally open
	Normally open
Additional parameters	Alarm mode
	RSSI value

* The specified operating range refers to a transponder with a diameter of 50 mm and RSSI = 0. The resulting operating range may vary depending on the transponder.

3.2 Default Settings

The default values of the individual parameters are listed in the interface protocol.

3.3 Transponder-Specific Ranges



Transponder	S_{max} [mm]	S_0 [mm]	D_0 [mm]
Z89Q001	26	12	30
Z89Q002	17	5.5	24
Z89Q003	28	13	31
Z89Q004	30	13	38
Z89Q005	46	19	54
Z89Q006	26	11.5	31
Z89Q007	34	15	38
Z89Q008	44	18	54

NOTICE

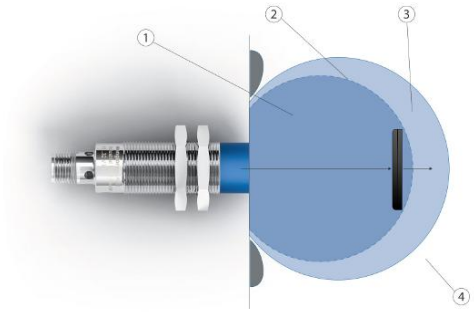
The ranges indicated present a selection for sample data carriers. The RFID readers mentioned can be combined with transponders that work with the ISO/IEC 15693 protocol standard and a transmission frequency of 13.56 MHz. Depending on the data carrier, the range may be greater or smaller than indicated here.

NOTICE

The specified transponders are not suitable for direct mounting on metallic materials. In addition, the following environments can impair the function of the RFID readers:

1. Damp/wet environments
2. Metallic environments
3. Use of inductive sensors

3.4 Status Indicators



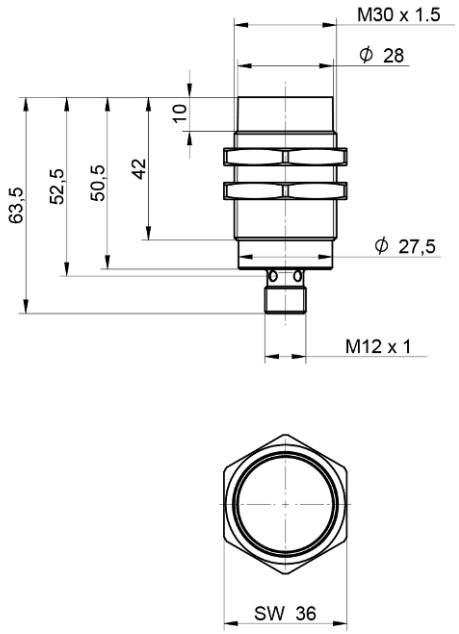


Affected LED	Color	Status
All four LEDs	Off	the device is not ready for use
	Solid green	SIO mode: the RFID reader is ready for use
	Flashing green (1 Hz)	IO-Link mode: the RFID reader is ready for use
	Flashing yellow (1 Hz)	IO-Link mode: the transponder is in zone 1
	Flashing yellow (5 Hz)	IO-Link mode: the transponder is in zone 3
	Solid yellow	SIO mode: A1 is active
	Flashing green/yellow (5 Hz)	SIO mode: the transponder is in zone 3

The error messages can be assigned to the following causes:

Error number	Description of the error	Explanation
1	Command Not Supported	The command is not supported by the RFID reader.
2	Format Error	The command is not recognized due to a format error.
3	Option Not Supported	The desired function is not supported.
5	Command Problem	The command cannot be executed.
6	Comm Tag Error	The transponder could not process the command information.
15	Tag Error	There is no response signal from the transponder.
16	No Memory Block	The data block does not exist.
18	Block Protected	The data block is locked and cannot be overwritten or read.
27	App LOG Error	The RFID reader's password does not match the password of the data carrier.
30	TAG Comm Error	There is a communication error with the transponder (for example, if several transponders are detected).
255	App General Error	Error without a specific error code.

3.5 Housing Dimensions



Dimensions in mm (1 mm = 0,03937 Inch)

3.6 Complementary Products

wenglor offers you the right connection and mounting technology as well as other accessories for your product. You can find this at www.wenglor.com on the product details page at the bottom.

3.7 Scope of delivery

- RFID reader
- Safety precaution

4 Transport and Storage

4.1 Transport

Upon receipt of shipment, the goods must be inspected for damage in transit. In the case of damage, conditionally accept the package and notify the manufacturer of the damage. Then return the device, making reference to damage in transit.

4.2 Storage

The following points must be taken into consideration with regard to storage:

- Do not store the product outdoors.
- Store the product in a dry, dust-free place.
- Protect the product against mechanical impacts.
- Protect the product against exposure to direct sunlight.



NOTICE

Risk of property damage in case of improper storage!

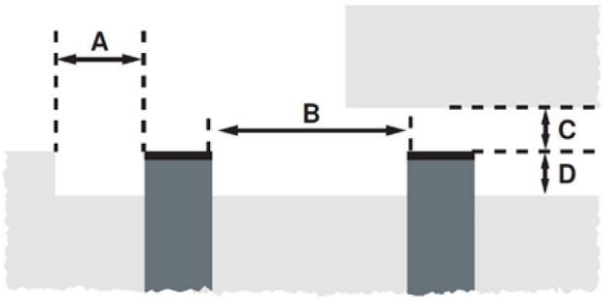
The product may be damaged.

→ Storage instructions must be complied with.

5 Installation and Electrical Connection

5.1 Installation

- Protect the product from contamination during installation.
- Observe all applicable electrical and mechanical regulations, standards, and safety rules.
- Protect the product against mechanical influences.
- Make sure that the sensor is mounted in a mechanically secure fashion.
- Specified torque values must be complied with (see section Technical Data [▶ 8]).
- To ensure reliable detection of the data carriers, the required distances as shown in the following installation drawing must be observed:



Einbau A/B/C/D in mm	30/60/90/10

NOTICE

Risk of property damage in case of improper installation!

The product may be damaged!

→ Comply with installation instructions.

⚠ CAUTION

Risk of personal injury or property damage during installation!

Personal injury and damage to the product may occur.

→ Ensure a safe installation environment.

5.2 Electrical Connection

- Wire the sensor in accordance with the connection diagram.
- Switch on the supply voltage (see section Technical Data [▶ 8])

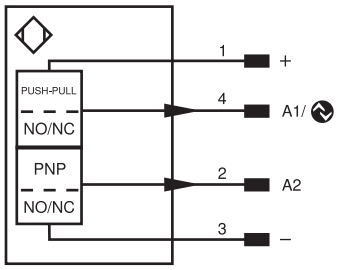
⚠ DANGER

Risk of personal injury or property damage due to electric current.

Voltage-conducting parts may cause personal injury or damage to equipment.

→ The electric device may be connected by appropriately qualified personnel only.

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Legend

+	Supply Voltage +
–	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
Ā	Switching Output (NC)
V	Contamination/Error Output (NO)
V̄	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)

PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W–	Ground for the Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AMV	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY–	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
⏚	Grounding
SnR	Switching Distance Reduction
Rx+/–	Ethernet Receive Path
Tx+/–	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(–)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring

ENA RS422	Encoder A/Ā (TTL)
ENB RS422	Encoder B/B̄ (TTL)
ENA	Encoder A
ENB	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
OLT	Brightness output
M	Maintenance
rsv	reserved

Wire Colors according to IEC 60757

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

6 Setting via IO-Link and wTeach2

The sensors can exchange parameters and process data via IO-Link. The parameters can be used to make many additional settings on the device. The process data transmit cyclical data and condition monitoring.

To this end, the sensor is connected to a suitable IO-Link master (see product detail page/complementary products). The interface protocol and the IODD can be found at www.wenglor.com in the download area for the respective product.

For information on installing and connecting the wTeach2 software and its structure, as well as information on the general functions, see the wTeach2 operating instructions. They can be found online in the download area at www.wenglor.com under order number DNNF005.

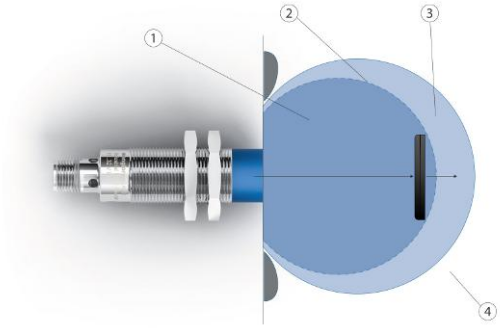
7 Function Description

7.1 Setting the RSSI Value

The RSSI value is an important parameter for defining the working range. It describes the signal strength of the response from the transponder to the read/write device. For the RFID readers listed here, the final value 7 represents the highest signal strength, while the value 0 represents the lowest signal level. The RSSI value is determined by the following influencing factors:

- The larger the transponder is, the higher the RSSI value
- The greater the distance between the read/write device and the transponder, the lower the RSSI value
- Metals in the vicinity of the transponder can interfere with electromagnetic waves and impair the RSSI value.

Using IO-Link, a limit value can be set on the read/write device to determine the RSSI values at which the read/write device is to react. The defined limit value then specifies the minimum RSSI value that must be reached in order to process the transponder data.



The effective range of the read/write devices can be divided into four zones:

Range	RSSI value	Meaning
1	RSSI level of the transponder ≥ set limit value	The RSSI level of the transponder is greater than/equal to the set limit value. The RFID tag is therefore in the optimum working range.
2	RSSI level of the transponder = set limit value	The RSSI level of the transponder corresponds to the set limit value.
3	RSSI level of the transponder < set limit value	The RSSI value of the transponder is still within the detection range of the RFID reader, but outside the set limit value. No reading and writing process is executed.
4		The transponder is outside the detection range of the RFID reader.

An RSSI level of 0 to 7 can be set for the RFID readers listed here. The default values can be found in the interface protocol.

7.2 Pin Function

The pin function is used to define the function of pins A1 and A2, as these can be used for different functions.

In SIO mode, the read/write devices offer two configurable switching outputs, while one switching output is available in IO-Link mode.

Function	Possible settings	Defaults
A1	**Switching output** The following triggers can be set for the switching output: **Presence of the transponder**	Presence of the transponder

Function	Possible settings	Defaults
	The output switches as soon as the RFID chip enters zone 1 of the RFID reader **Data comparison** The output switches as soon as the data of the data carrier matches the reference data. **Alarm** The output switches as soon as the conditions for alarm 1 or alarm 2 are satisfied.	
A2	**Switching output** The following triggers can be set for the switching output: **Presence of the transponder** The output switches as soon as the RFID chip enters zone 1 of the RFID reader **Data comparison** The output switches as soon as the data of the data carrier matches the reference data. **Alarm** The output switches as soon as the conditions for alarm 1 or alarm 2 are satisfied.	Presence of the transponder

7.3 Output Functions

The output functions are used to set the physical outputs.

Function	Possible settings	Default
Polarity A1	Push-pull	Push-pull
Polarity A2	PNP	PNP
Circuit	**Normally open (NO)** The output is high when the condition has been satisfied, depending on the settings. **Normally closed (NC)** The output is low when the condition has been satisfied, depending on the settings.	Normally open contact (NO)

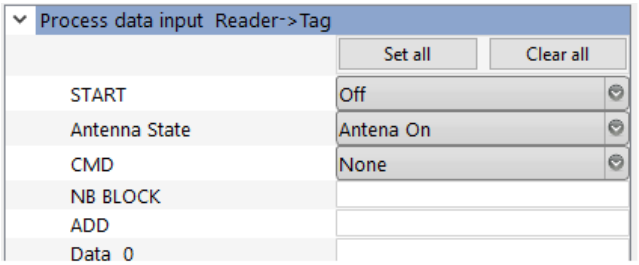
7.4 Setting the Alarm

Two alarms can be configured via IO-Link and read out via the output in SIO mode. For this purpose, the following triggers can be set for both alarm types:

RSSI Less than Set Limit Value

An alarm is triggered if the receiving signal strength (= RSSI value) is below the specified threshold value. A value between 0 and 7 must be defined as the threshold value.

1. Switch antenna status to “on”



2. Activate the desired alarm 1 or 2 and set the trigger to “RSSI”. The limit value must then be defined.

Alarm	
Measurement alarm 1 configuration	Active
Measurement alarm 1 threshold	4
Measurement alarm 1 source	RSSI
Measurement alarm 2 configuration	Always OFF
Measurement alarm 2 threshold	0
Measurement alarm 2 source	RSSI

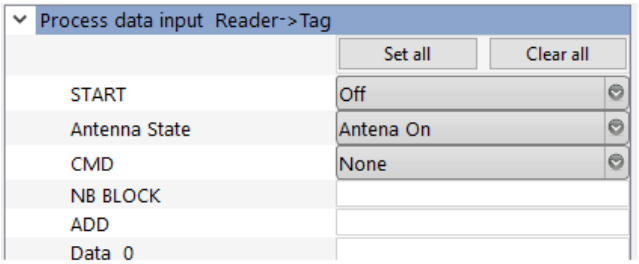
3. If desired, the alarm can be output via the switching output.

SIO PARAMETERS	
A1 PIN SIO Operating Mode	Alarm 1
A1 Transponder memory address to read (Hex)	00
A1 Value (Hex)	00
A1 Polarity	Close (NC)
A1/A2 Output Hold Time	Hold Time 100 ms
A2 Pin SIO Operation Mode	Transponder
A2 Transponder memory address to read (Hex)	00
A2 Value (Hex)	00
A2 Polarity	Close (NC)

Transponder Presence Time Falls below Limit Value

The alarm is triggered if the transponder is in the working range of the RFID reader for less than the specified time span. The value is specified in ms.

1. Switch antenna status to “on”



2. Activate the desired alarm 1 or 2 and set the trigger to “Transponder in range time”. The limit value in ms must then be specified.

Alarm	
Measurement alarm 1 configuration	Active
Measurement alarm 1 threshold	500
Measurement alarm 1 source	Transponder in range time
Measurement alarm 2 configuration	Always OFF
Measurement alarm 2 threshold	0
Measurement alarm 2 source	RSSI

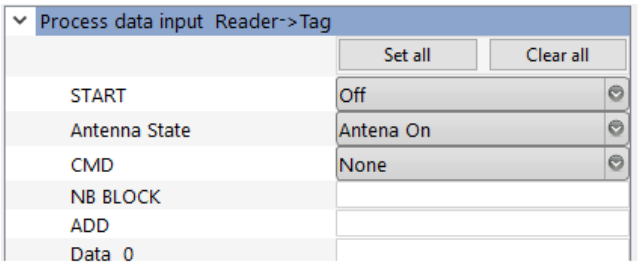
3. If desired, the alarm can be output via the switching output.

SIO PARAMETERS	
A1 PIN SIO Operating Mode	Alarm 1
A1 Transponder memory address to read (Hex)	00
A1 Value (Hex)	00
A1 Polarity	Close (NC)
A1/A2 Output Hold Time	Hold Time 100 ms
A2 Pin SIO Operation Mode	Transponder
A2 Transponder memory address to read (Hex)	00
A2 Value (Hex)	00
A2 Polarity	Close (NC)

Number of Switching Operations Exceeds Limit Value

The alarm is triggered as soon as the number of switching operations exceeds a specified number.

1. Switch antenna status to “on”



2. Activate the desired alarm 1 or 2 and set the trigger to “SIO CNT 1”. The limit value (in this case e.g. 5 switching operations) must then be defined.

Alarm	
Measurement alarm 1 configuration	Active
Measurement alarm 1 threshold	5
Measurement alarm 1 source	SIO CNT A1
Measurement alarm 2 configuration	Always OFF
Measurement alarm 2 threshold	0
Measurement alarm 2 source	RSSI

3. If desired, the alarm can be output via the switching output. For this purpose, the transponder must be stored as the trigger for switching output A1 and alarm 1 for switching output A2. Switching output A2 switches as soon as the transponder is detected more often than the defined limit value in the RFID reader write and read field.

SIO PARAMETERS	
A1 PIN SIO Operating Mode	Transponder
A1 Transponder memory address to read (Hex)	00
A1 Value (Hex)	00
A1 Polarity	Close (NC)
A1/A2 Output Hold Time	Hold Time 100 ms
A2 Pin SIO Operation Mode	Alarm 1
A2 Transponder memory address to read (Hex)	00
A2 Value (Hex)	00
A2 Polarity	Close (NC)

NOTICE

If the alarm is to be output via the A1, the setting “SIO CNT 2” must be used in step 2. The transponder is then stored as the trigger for switching output A2 and the relevant alarm is selected for A1.

7.5 Writing and Reading Data

The RFID reader enables both writing and reading of RFID data carriers. Parameterization and data transfer are carried out exclusively via IO-Link.

The RFID reader divides the data into data blocks of four bytes each:

Data block	Byte 3	Byte 2	Byte 1	Byte 0
0				
1				
2				
...				

Seven data blocks can be written or read out simultaneously. Each byte has a numerical value between 0 and 255. The ADDRESS (ADD) process parameter defines the data block from which the data is written or read out. The NB BLOCK process parameter defines the number of data blocks to be written or read out.



NOTICE

Bear in mind that the bytes are often referred to as data in the IO-Link tools. Byte 3 of data block 1 is thus referred to as Data 7 in the IO-Link tools. The numbering is consecutive.

In addition, the following functions are available for triggering the read/write function under the CMD process parameter:

Value	Explanation
Auto-read	The RFID reader reads the data of the transponder as soon as it enters the working range of the RFID reader.
Auto-write	The RFID reader overwrites the data of the transponder as soon as it enters the working range of the RFID reader.
Read	The RFID reader reads the data of the transponder as soon as the START process parameter is set to true.
Write	The RFID reader overwrites the data of the transponder as soon as the START process parameter is set to true.
UID	The transponder ID and transponder times are read out.

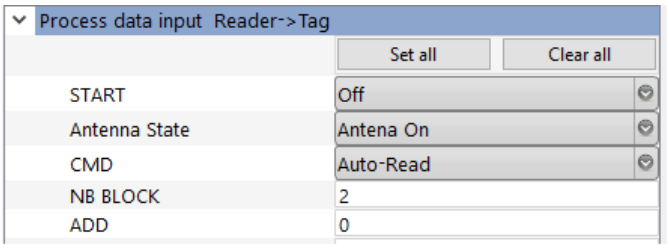


NOTICE

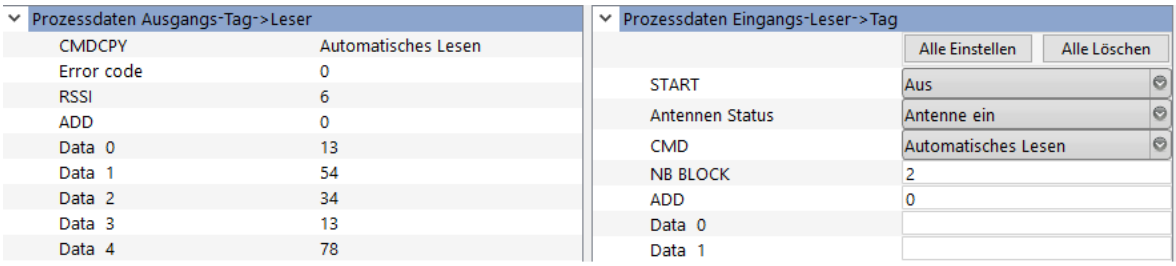
To use the read and write function, the antenna status must be set to “Antenna on.” If the RSSI value falls below the set limit value, no reading or writing process is triggered.

7.5.1 Procedure for the Automated Writing and Reading Process

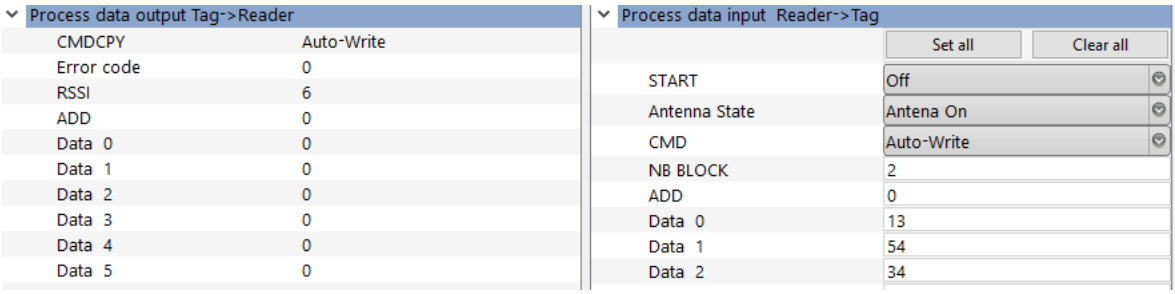
1. Switch antenna status to “on”. Then select the desired “Auto-Read” or “Auto-Write” command in the command line (CMD). The number of data blocks (NB block) to be written/read out must also be defined. A maximum of 7 data blocks can be written or read out simultaneously. The ADD line specifies the respective data block for which the read or write process is to start. Click on “Set all” to apply the settings.



2. After completing step 1, the transponder is read out as soon as the transponder is in the reading field of the RFID reader.

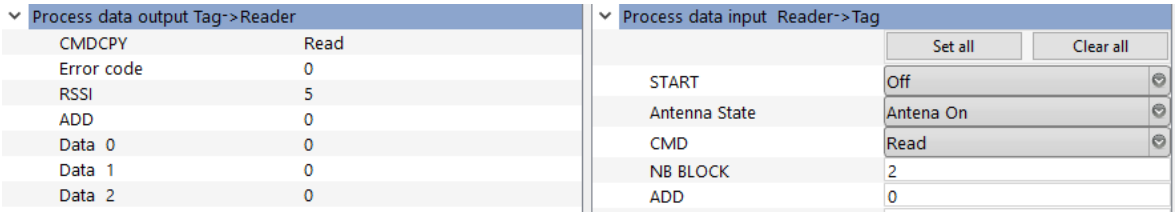


3. After step one, the data to be written must be stored for the write process. After clicking on “Set all”, the write process starts as soon as the transponder is in the write and read field of the RFID reader.

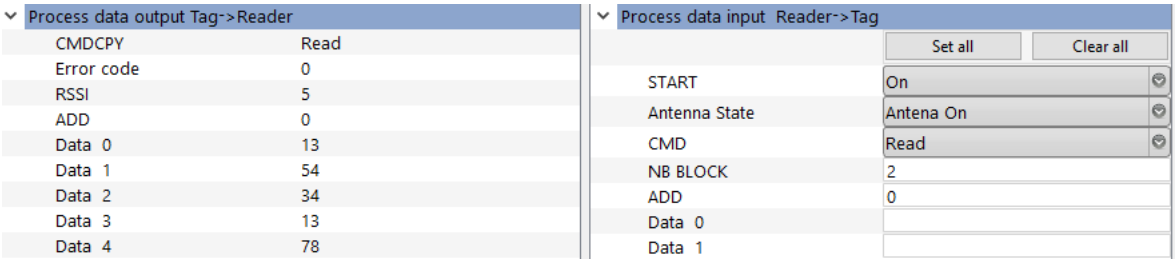


7.5.2 Procedure for the Manual Write and Read Process

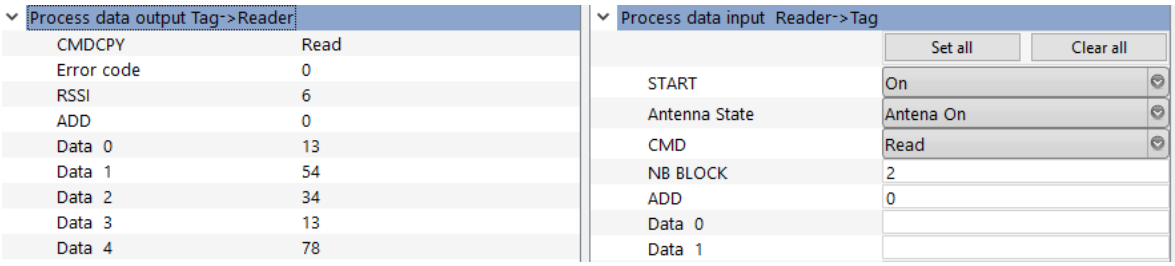
1. Switch antenna status to “on”. Then select the desired command “Read” or “Write” in the command line (CMD). The number of data blocks (NB block) to be written/read out must also be defined. A maximum of 7 data blocks can be written or read out simultaneously. The ADD line specifies the respective data block for which the read or write process is to start. Click on “Set all” to apply the settings.



2. After completing step 1, the transponder is read out once as soon as the start token is activated. The start token must be reactivated for a further read process.

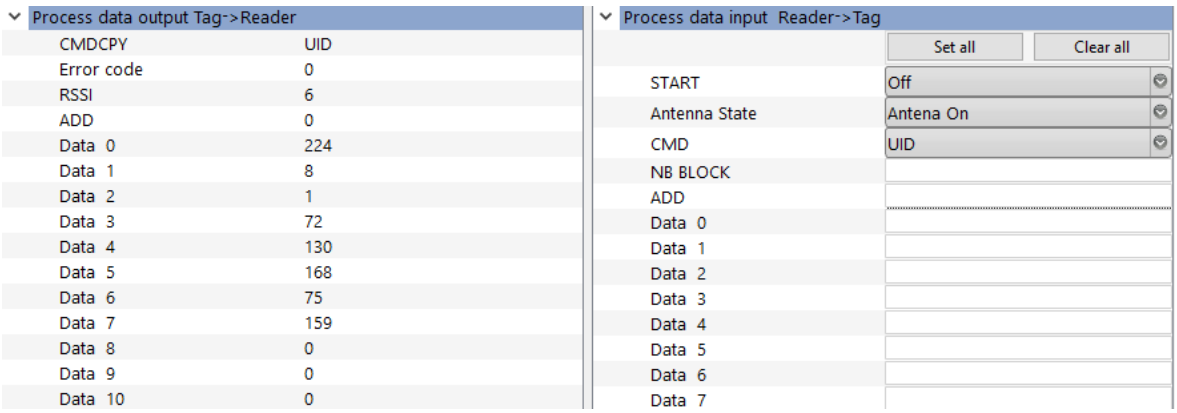


3. After step 1, the data to be written must be stored for the write process. After clicking on “Set all”, the write process starts as soon as the start token is activated. The start token must be reactivated for a further write process.



7.5.3 Procedure for Reading out the Transponder Serial Number (UID)

Switch the antenna status to “on” and select the “UID” function in the command line (CMD). The serial number of the transponder is then read out automatically.



7.6 Comparing Data

By configuring the switching outputs, the data can also be compared with reference data. Parameterization and data transfer are carried out exclusively via IO-Link.

Per switching output, one data block can be compared with specific reference data. These must be defined as hexadecimal numbers in index 0x0041 with subindex 0x03 or 0x08. It should be noted that the data content of the bytes is stored in reverse order in the subindex:

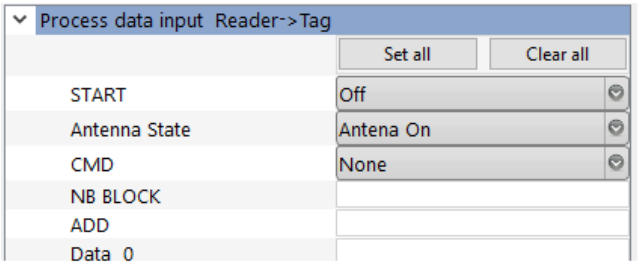
Sample dataset:

Data block	Byte 3	Byte 2	Byte 1	Byte 0
0	4	3	2	1
1	11	10	9	8

For switching outputs A1 and A2, the data comparison can be set as a switching condition under index 0x0041 for subindex 0x01 or 0x06.

Procedure Based on the Example of a Data Record:

1. Switch antenna status to “on”.



2. After completing step 1, the “Compare Data” trigger is selected for switching output A1 or A2. Furthermore, the relevant data block to be compared with the desired target data must be specified (here data block 01). Finally, the value to be compared must be defined. Note that the value must be specified in hexadecimal numbers and in reverse order. The data from the first data block, e.g. 11 10 9 8, is therefore stored as 0B 0A 09 08. The switching output now switches as soon as the relevant data block contains the defined values.

SIO PARAMETERS	
A1 PIN SIO Operating Mode	Compare Data
A1 Transponder memory address to read (Hex)	01
A1 Value (Hex)	0B 0A 09 08
A1 Polarity	Close (NC)
A1/A2 Output Hold Time	Hold Time 100 ms
A2 Pin SIO Operation Mode	Transponder
A2 Transponder memory address to read (Hex)	00
A2 Value (Hex)	00
A2 Polarity	Close (NC)

8 Maintenance Instructions



NOTICE

This wenglor product is maintenance-free.

Cleaning and inspection of the plug connections at regular intervals are advisable.

Do not clean the product with solvents or cleaning agents that could damage the product.

The product must be protected against contamination during initial start-up.

9 Proper Disposal

wenglor sensoric GmbH does not accept the return of unusable or irreparable products. Respectively valid national waste disposal regulations apply to product disposal.

10 Declarations of Conformity

Declarations of conformity can be found on our website at www.wenglor.com in the product's separate download area.