VOXIO-T (Touch)



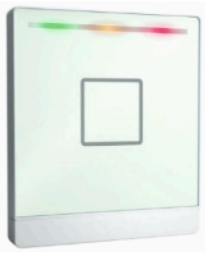
black, with keypad
(Option with QR code reader)



black, without keypad
(Option with QR code reader)



white, with keypad



white, without keypad

All variants are available with and without keyboard and flush-mounted and surface-mounted.
Customer-specific customization (e.g. own logo, other colors) is available on request.

Product name

Variant	RFID technology	Special feature
VOXIO-T-1260-A	Multi-ISO reader **(based on LEGIC SM-4200M)** ▪ LEGIC prime / advant ▪ MIFARE classic / DESFire / EV1 / EV2 / EV3 ▪ ISO 14443 A+B / ISO 15693	Works with Apple Wallet
VOXIO-T-156A-A	Multi-ISO reader **(based on LEGIC SM-6300)** ▪ Bluetooth® SIG Certification (see note under "General information" on the last page) ▪ LEGIC prime / advant ▪ MIFARE classic / DESFire / EV1 / EV2 / EV3 ▪ ISO 14443 A+B / ISO 15693 ▪ INSIDE secure ▪ Sony FeliCa subset (NFC Forum Type 3 Tag) ▪ ST SR Series ▪ NTAG	Bluetooth *Supports BLE resp. LEGIC connect* works with Google Wallet
VOXIO-T-156B-A (including additional LAIRD BLE module onboard)		Works with Apple Wallet
VOXIO-T-156E-Q (including additional QR reader module)		Bluetooth *Supports BLE resp. LEGIC connect* *Reads QR and other 1D and 2D codes* works with Google Wallet Works with Apple Wallet

Datasheet VOXIO-T (Touch)

Interfaces

- RS485
  - ➔ expandable to Ethernet TCP/IP ***(with separate RS485<->TCP/IP interface converter. Optionally available)***
- Magstripe Clock/Data
- WiegandD0/D1

Application areas

- access control
- Machine data acquisition (MDE)
- Operational data acquisition (BDE)
- Alarm systems
- Parking systems
- general user identification

Special features

- Apple Wallet ready
- Google Wallet ready (only reader with LEGIC6300)
- Option with QR code reader
- Function can be expanded by plug-in modules (relay, ...) – not possible with VOXIO-T-156**E**-Q
- Bluetooth possible (only reader with LEGIC6300)
- Backlit glass front with or without capacitive keyboard
- Connection via screw terminal
- Suitable for indoor and outdoor use
- Sabotage monitoring
- Signal elements
  - 3 RGB LEDs, colors and intensity adjustable
  - acoustic signaling, frequency adjustable
- Reading module, wall bracket and surface-mounted housing are made of plastic

Firmware / software protocols

- phg_crypt
- Active Sending
- OSDP
- " Magstripe " Clock/Data
- "Wiegand" D0/D1
- Customer-specific protocols possible

Technical data

Product name	Nominal voltage [V DC]	Power [W]	Temperature ranges [°C]		Dimensions [mm]	Weight [g]
			storage	Operation		
VOXIO-T-1260-A	8 … 30	Typ. 1,5 Max: 3.5	-30 … +70	-25 … +60	see below	Surface-mounted: 160 Flush-mounted: 140
VOXIO-T-156A-A VOXIO-T-156B-A		Typ. 1,5 Max.3.9				
VOXIO-T-156E-Q		Typ. 1,9 Max. 4,2		-20 … +60		

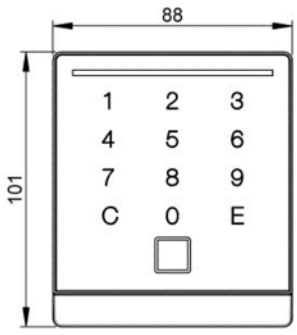
Protection class: IP 54

The sealing against the mounting wall determines the maximum achievable protection class IP 54.

When using the surface-mounted housing , the cable entry on the wall side must be sealed accordingly with sealants.

An additional seal between the rear module and the wall is possible. Suitable sealants (e.g. silicone) must be selected by the specialist staff according to the ambient conditions.

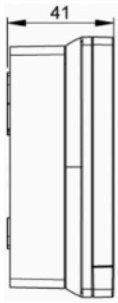
Dimensions:



Front view



Side view of flush-mounted version



Side view surface-mounted variant

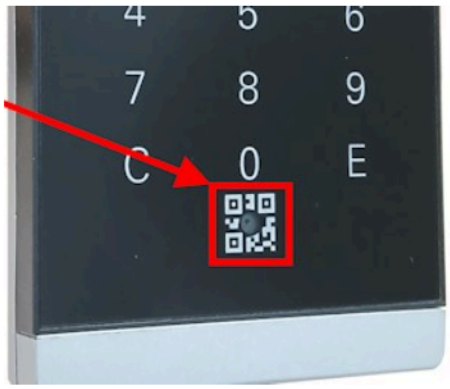
Supported transponder media

Support for the transponder media listed below generally depends on the respective variant or reading technology (hardware platform) and the respective reader firmware. The list of transponder media is not guaranteed to be complete. Further information is available on request.

Transponder type	VOXIO-T-1260-A (LEGIC SM-4200M)	VOXIO-T-156A-A VOXIO- T-156B-A (LEGIC SM-6300)
LEGIC MIM 256	X	X
LEGIC MIM 1024	X	X
LEGIC ATC256-MV410 (ISO 15693)	X	X
LEGIC ATC2048-MP110 (ISO 14443A)	X	X
LEGIC ATC4096-MP310 (ISO 14443A)	X	
LEGIC ATC4096-MP311 (ISO 14443A)	X	X
LEGIC AFS4096-JP11 (ISO 14443A)	X	X
LEGIC ATC1024-MV010 (ISO 15693)	X	X
LEGIC ATC1024-MV110 (ISO 15693)	X	X
LEGIC CTC4096-MP410 (Prime)	X	X
LEGIC CTC4096-MP410 (ISO 14443A)	X	X
LEGIC CTC4096-MM410 (Prime)	X	X
LEGIC CTC4096-MM410 (ISO 14443A)	X	X
LEGIC CTC4096-MM410 (ISO 15693)	X	X
ISO 14443A transponder (UID/CSN)	X	X
ISO 15693 transponder (UID/CSN)	X	X
SONY FeliCa subset	X	X
INSIDE Secure (UID/CSN)	X	X
MIFARE-Classic	X	X
MIFARE DESFire EV1 / EV2 / EV3	X	X
Transparent, ISO14443A		
Transparent, ISO14443A Layer 3	X	X
Transparent, ISO14443A/B Layer 4 subset	X	X
Transparent, ISO15693 Layer 3	X	X
Transparent, NFC Forum Type 2 Tag	X	X
Transparent, NFC Forum Type 3 Tag	X	X
NTAG		X
hitag 1		
hitag 2		
hitag S		
EM4200		
EM4550		

Option with QR code reader

The following information applies to the VOXIO-T-156E-Q (option with QR code reader).

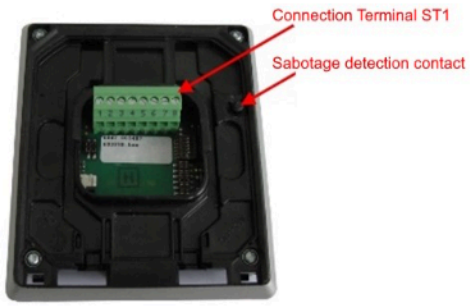


The QR code reader module is a scanner capable of reading 1D and 2D barcodes at high speed. It also boasts high scanning speeds for linear codes, even those printed on paper or screens. The QR code reader module utilizes an advanced barcode decoding algorithm based on image recognition, enabling it to read barcodes easily and accurately.

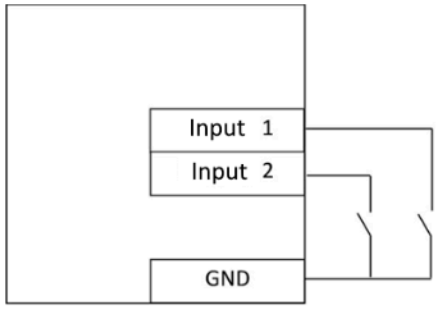
Parameter	Description
Readable 1D Codes	e.g. EAN-13, EAN-8, UPC-A, UPC-E *Further details available upon request*
Readable 2D Codes	e.g. QR Code, Data Matrix, PDF417 *Further details available upon request*
Reading distance	50 … 300 mm, *In individual cases, checking the maximum achievable reading distance is recommended.*
Min. contrast	>25 %
Max. scan angle (viewing angle)	65° horizontal , 50° vertical
Data limit at phg_crypt	200 Bytes
Data limit at OSDP	127 Bytes
Data limit at Active Sending	127 Bytes

Tests were conducted at an ambient temperature of approximately +21 °C, 50% relative humidity and an illuminance of approximately 250 lux.

Pin assignment



Reading module rear with connection terminal



Basic hardware circuitry

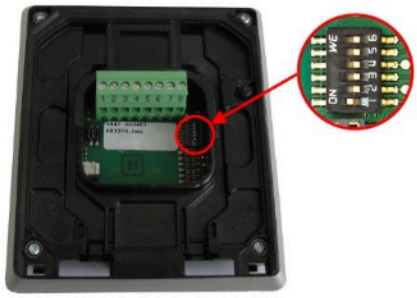
Connection terminal ST1 (8-pin screw terminal)

Pin code No.	Interface variant		
	RS485	**“Magstripe” Clock/Data**	**"Wiegand" D0/D1**
1	Data "A"	-	-
2	Data "B"	-	-
3	Output 1	Data	D1
4	Output 2	Clock	D0
5	Input 1 (Active Low)		
6	Input 2 (Active Low)		
7	GND		
8th	+Ub (8 to 30 V / DC)		

Terminal specification:
Stranded wire or solid wire: AWG 28 - 16
Cable stripping length: 6-7 mm

Attention! The reader must be wired when the power is off, ie the operating voltage may only be switched on after the reader has been completely installed.

DIP switch

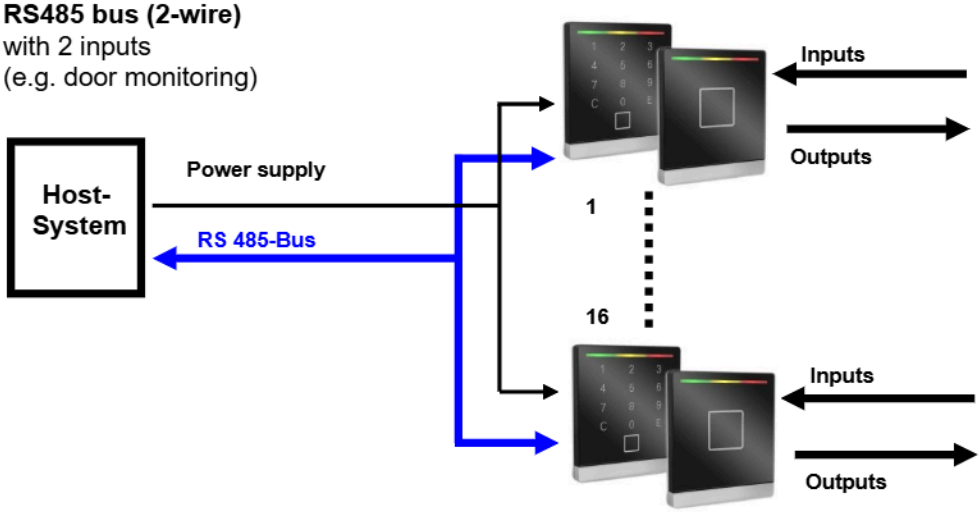


Reading module rear with connection terminal

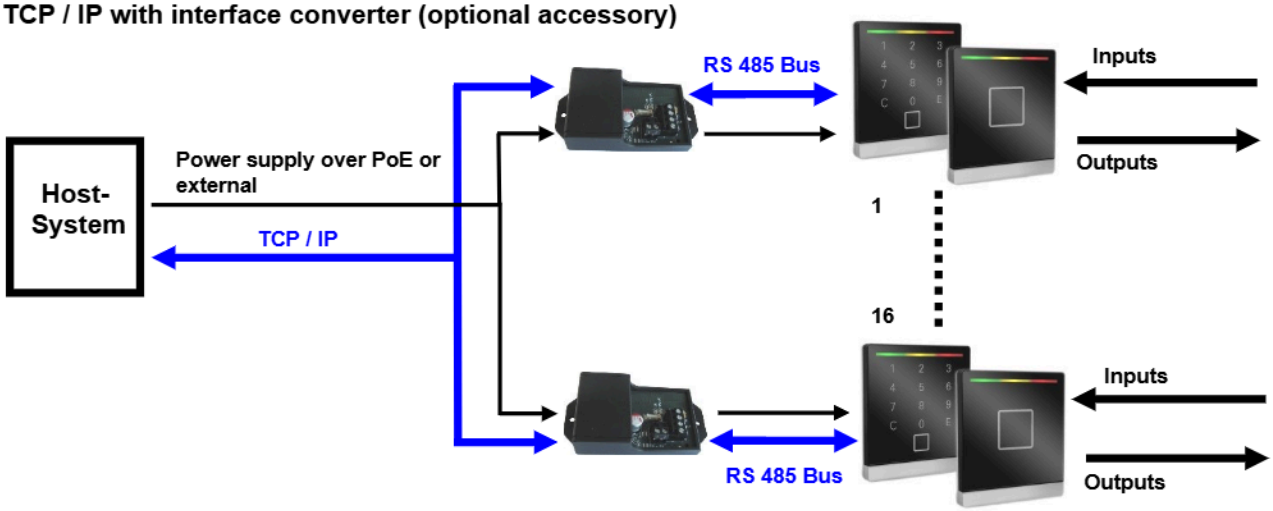
Dip switch	function
S1…S6	**firmware dependent** e.g. setting of the reader address, LED functions, baud rate, bus termination resistor, etc.
	The appropriate connection plan is included with each reader and also includes the DIP switch settings

Configuration options

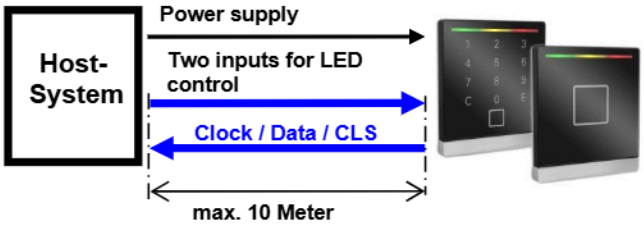
RS485 bus (2-wire)
with 2 inputs
(e.g. door monitoring)



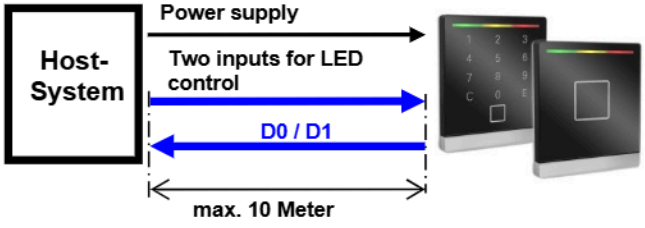
TCP / IP with interface converter (optional accessory)



"Magstripe" Clock/Data



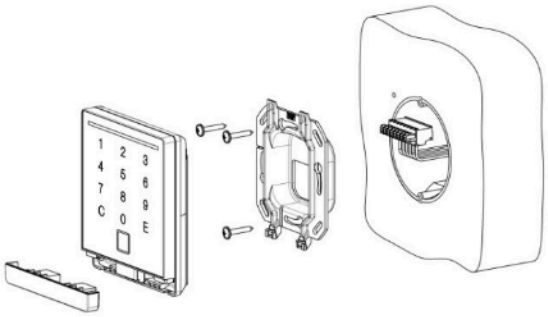
"Wiegand" D0/D1



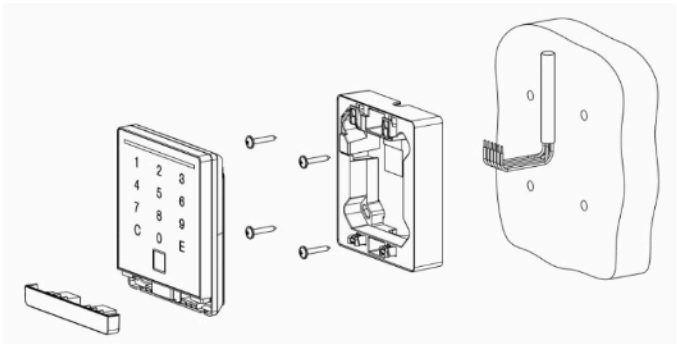
Accessories (card holder, surface-mounted frame, etc.) are described in detail in the separate data sheet " *VOXIO-T Accessories* ". This is available on request.

Installation

Attention! The reader must be wired when the power is off, i.e. the operating voltage may only be switched on after the reader has been completely installed.



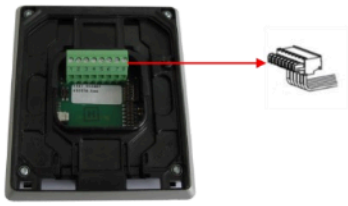
Flush-mounted version (UP)



Surface-mounted version (AP)

Assembly process

Installation preparation **Lay the connection cable accordingly and prepare it for connection. Remove the pluggable 8-pin screw/plug-in terminal from the reading module and wire it according to the respective connection plan**

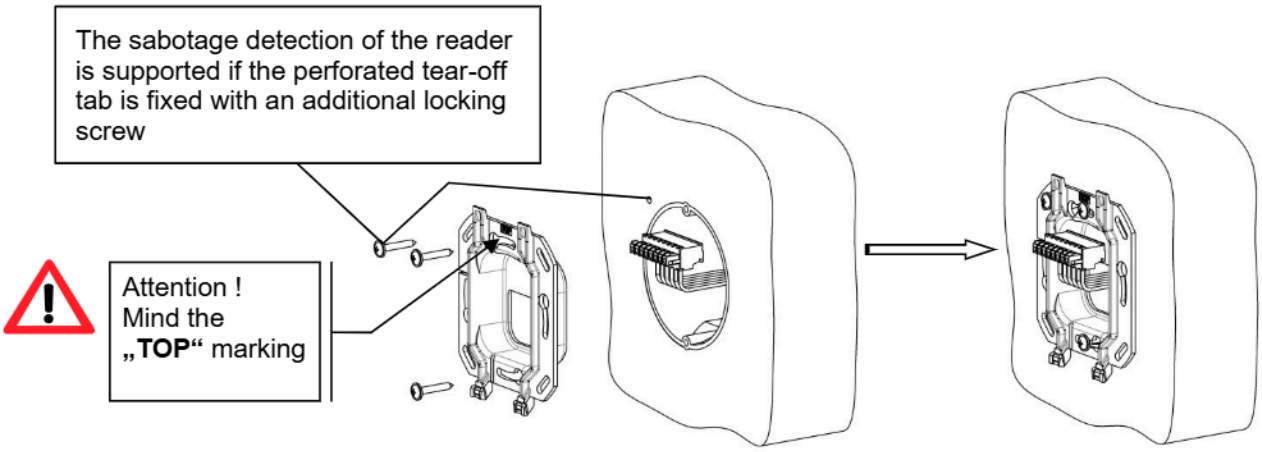


The appropriate connection plan is included with every reader

Attention! The wiring must be carried out in a de-energized state, ie the operating voltage may only be switched on after the reader has been completely installed.

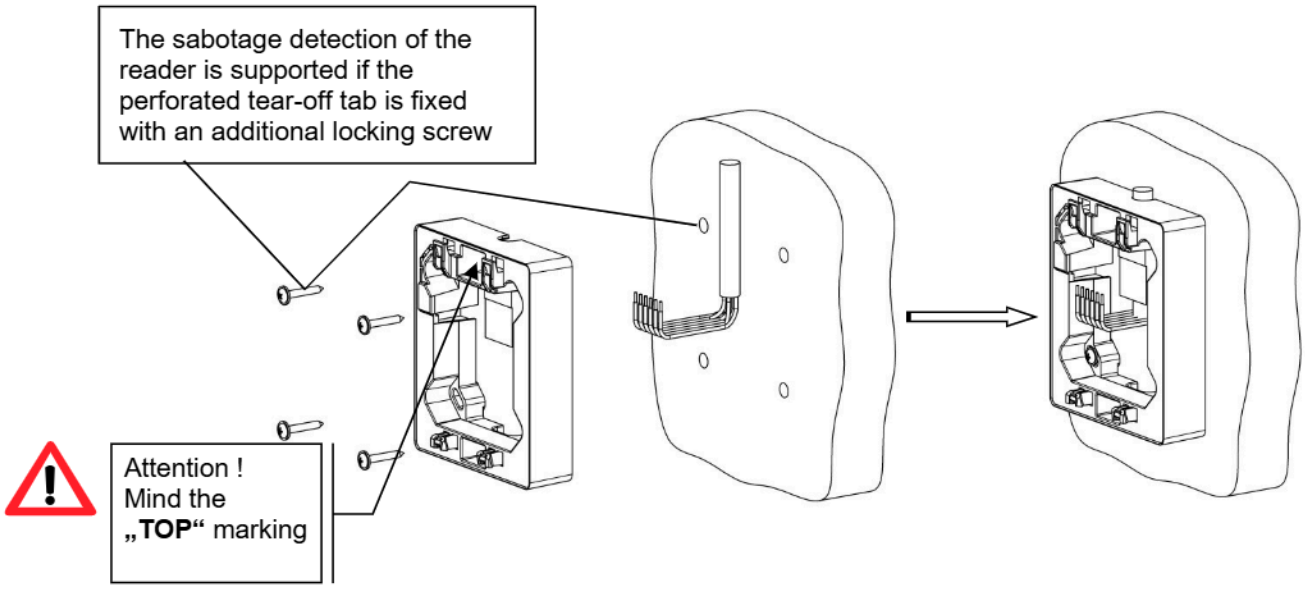
Flush-mounted variant

Screw the wall bracket onto a DIN device socket with a device screw spacing of 60mm using the screws provided.



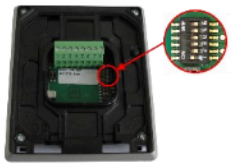
Surface-mounted variant

The connection cable can be fed in either from above, below or directly from the wall.
Screw the back panel to the wall using suitable screws



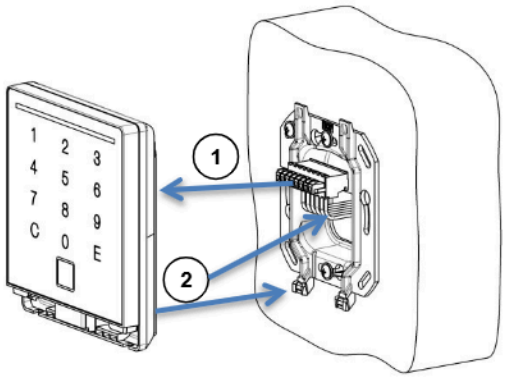
Configure reading module

DIP switch configuration: **Depending on the firmware function, the DIP switches must be set accordingly .**

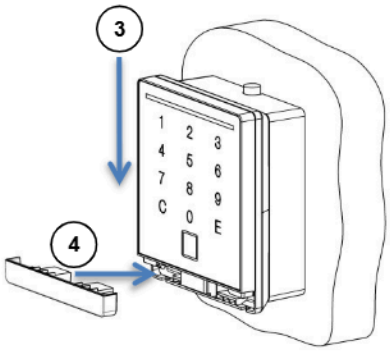


The appropriate connection plan is included with each reader and also includes the DIP switch settings

Connecting and mounting the reading module



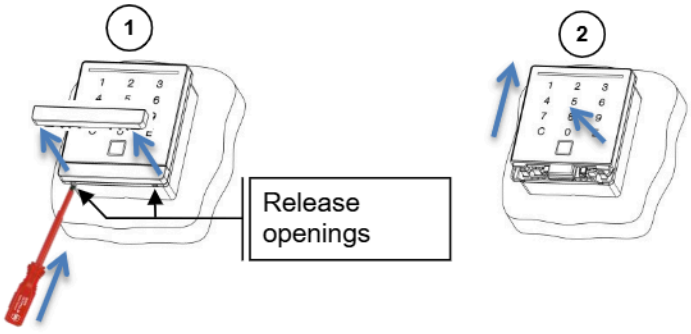
1. Insert wired terminal into reader module
2. Reading module flat on the wall bracket or on the Place the surface-mounted housing, connecting the cable with the reading module in the flush-mounted box or in the surface mounted housing push back
3. Slide the attached reading module down until the reading module on the wall bracket or snaps into the surface mounted housing.
4. After successfully locking the locking bar into the reading module Push in until it also locks



For successful locking processes A clear “click” can be heard

Disassembling the reading module

1. Unlock the locking bar.
   To do this, insert a screwdriver with a blade max. 4 mm wide into the release openings and press until the lock is released.
   Pull out the unlocked locking bar and remove it from the reading module
2. Push the reading module upwards (unlatch) and lift it forwards.



Detailed information on the assembly process can also be found in the corresponding assembly and installation instructions, which are included with each reader.

General information

Note on the use of Bluetooth trademarks on branded products of the VOXIO-T-156A-A, VOXIO-T-156E-Q and VOXIO-T-156B-A

Only members of Bluetooth SIG Inc. are authorized to use the "Bluetooth marks" (text and logo) as defined in the Bluetooth Trademark License Agreement (BTLA). When the marks are used in connection with a product, that product must have undergone and completed the Bluetooth qualification process.

If a company markets a device with BLE functionality certified by phg under its own name and logo (so-called branding), it must register or list it with Bluetooth SIG Inc. (Bluetooth Special Interest Group). However, an "Adopter Membership" must be applied for in advance.

The listing must then reference the phg listing. It is best to involve a BQC (Bluetooth Qualification Consultant) here. These can be found on the Bluetooth website (https://www.bluetooth.com/develop-with-bluetooth/qualification-listing/qualification-consultants/).

For branding with the Bluetooth label or using the term “Bluetooth”, the “Bluetooth Brand Guide.pdf” must be used. Available on the Bluetooth website (https://www.bluetooth.com/de/develop-with-bluetooth/marketing-branding/).

Influencing (reducing) the reading distance

There can be various reasons for the reading distance to be influenced.

Below is a list of points that reduce the reading distance:

- “Shading” or shielding the transponder medium by metal, such as an EC card in a wallet or a key chain on a key ring
- no optimal coupling, ie the antenna surface of the transponder medium is perpendicular (90°) to the antenna surface of the reader
- Transponder medium itself
  - key fob (small active antenna area) - “poor” resonance of the transponder medium (ID card / key fob) - combined ID card
- Metal surfaces in the "active" range of the HF field. The transmission energy is attenuated. This point is particularly relevant when installing the reader components in metal front panels (also metal columns, etc.).

EC Conformity

When used as intended, the product complies with the basic legal requirements. The relevant EC declaration of conformity is available on request.

Care instructions

Please do not operate the product with sharp-edged objects (rings, fingernails, etc.)!

Do not use any corrosive or plastic-disintegrating liquids such as petrol, turpentine, nitro, etc. for cleaning. Harsh cleaning agents can damage or discolor the surface. Do not use cleaning agents that work on a mechanical basis (e.g. scouring powder or scouring pad).

Clean with a soft, damp cloth. Use only clean water.

Disposal instructions



The product must **not** be disposed of in household waste!