2N-Verso

Product designation

Variant	RFID technology
2N Verso-A-1200-A	Multi-ISO-reader (Basis LEGIC® 4200M) ▪ LEGIC prime/advant ▪ MIFARE classic / DESFire / EV1 / EV2 ▪ ISO14443 A+B ▪ ISO15693 *Note: LEGIC media cannot be initialized!*
2N Verso-A-2000-A	125 kHz
2N Verso-A-3100-A	MIFARE classic MIFARE DESFire / EV1 / EV2

Interface

- RS 485 (A, B) **not** electrically isolated
  Address setting via DIP-switch
  - connectable bus terminating resistor (also via DIP-switch)

  or
  "Magstripe" Clock/Data
  or
  "Wiegand" D0/D1

Fields of application

- Access control
- Time and attendance
- Data collection
- Parking systems
- General user identification

Special features

- Can be integrated into 2N door communication systems
- Connection type: via ribbon cable to 10-pin. terminal block

Signal elements

- 2 LEDs / red-green (bicolor), yellow
- 1 Piezo Buzzer

Firmware / Software protocols

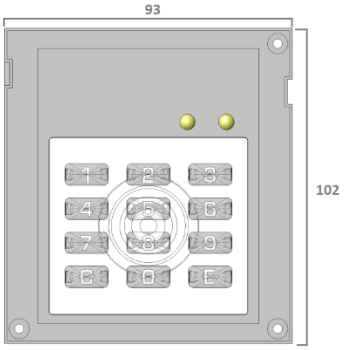
- phg_crypt
- Active sending
- „Magstripe“ Clock/Data Format: track 1 or track 2 (can be parameterized)
- „Wiegand“ D0/D1 Format: 26 Bit or 56 Bit (can be parameterized r)
- Customer specific

The support and availability of the different software protocol is depending on the respective RFID technology. Detailed information on this on request.

Technical data

Produkt designation	Nominal voltrage [V_{DC}]	Nominal power [W]	Temperature ranges [°C]		Dimensions [mm]
			Storage	Oparation	
2N Verso-A-1200-A	8 … 30 (interal reverse polarity protection)	Max. 2,0	-30 … + 70	-25 … +60	93 x 102
2N Verso-A-2000-A		Max. 1,2			
2N Verso-A-3100-A		Max. 2,0			

Dimensions:



Supported transponder media

**The support of the listed transponder media generally depends on the used firmware.
The listing of the transponder media is without guarantee of completeness.
Continuative information can be received on request.**

	RFID technology		
Transponder media	**LEGIC prime / advant**	**Mifare Classic / DESFire**	**125 kHz**
LEGIC MIM 22 / MIM 256 / MIM 1024	X		
LEGIC ATC512-MP110 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC2048-MP110 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC4096-MP310 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC4096-MP311 (ISO 14443A)	X	X (CSN/UID)	
LEGIC AFS4096-JP10/JP11 (ISO 14443A)	X	X (CSN/UID)	
LEGIC ATC128-MV210 (ISO 15693)	X		
LEGIC ATC256-MV210 (ISO 15693)	X		
LEGIC ATC1024-MV110 (ISO 15693)	X		
ISO 14443A-Transponder (UID/CSN)	X	X	
ISO 15693-Transponder (UID/CSN)	X		
SONY FeliCa subset	X		
INSIDE Secure (UID/CSN)	X		
Classic 1k / 4k	X	X	
DESFire 4k	X	X	
DESFire EV1 / EV2, 2k / 4k / 8k	X	X	
Transparent, ISO14443A		X	
Transparent, ISO14443A Layer 3	X		
Transparent, ISO14443A/B Layer 4 subset	X		
Transparent, ISO15693 Layer 3	X		
Transparent, NFC Forum Type 2 Tag	X		
Transparent, NFC Forum Type 3 Tag	X		
hitag 1			X
hitag 2			X
hitag S			X
µem 4102 (read only)			X
µem V4150			X

Attention:

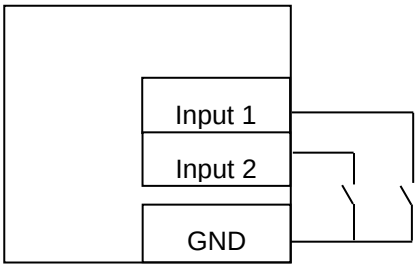
Recommendation by using of Smart Card chips for LEGIC “card in card“ solutions

Before use or planned application an aptitude test and functional test of the suitable medium should be carried out.

You receive detailed information about the approach on request.

Pin allocation / Terminal specification / Hardware wiring

ST1



General hardware wiring

<table>
<tr><td colspan="10">Connection Terminal ST1 (10 pin connection terminal) Power supply / Interface / Inputs / Outputs</td></tr>
<tr><td rowspan="2">PIN</td><td colspan="9">Interface version</td></tr>
<tr><td>No.</td><td colspan="2">RS485</td><td colspan="3">"Magstripe" Clock/Data</td><td colspan="3">"Wiegand" D0/D1</td></tr>
<tr><td>1</td><td colspan="2">+Ub (8 tpo 30 V / DC)</td><td colspan="3">+Ub (8 to 30 V / DC)</td><td colspan="3">+Ub (8 to 30 V / DC)</td></tr>
<tr><td>2</td><td colspan="2">GND</td><td colspan="3">GND</td><td colspan="3">GND</td></tr>
<tr><td>3</td><td colspan="2">Data "A"</td><td>Clock</td><td rowspan="3">Open Collector
"Active Low</td><td rowspan="3">max.
10mA</td><td>D0</td><td rowspan="2">Open Collector
"Active Low"</td><td rowspan="2">max.
10mA</td></tr>
<tr><td>4</td><td colspan="2">Data "B"</td><td>Data</td><td>D1</td></tr>
<tr><td>5</td><td colspan="2">Internally connected</td><td>CLS*</td><td colspan="3">Internally connected</td></tr>
<tr><td>6</td><td>SCL</td><td rowspan="2">I²C-Bus interface
"Master" Function depends on firmware</td><td>SCL</td><td colspan="2" rowspan="2">I²C-Bus interface
"Master" Function depends on firmware</td><td>SCL</td><td colspan="2" rowspan="2">I²C-Bus interface
"Master" Function depends on firmware</td></tr>
<tr><td>7</td><td>SDA</td><td>SDA</td><td>SDA</td></tr>
<tr><td>8</td><td colspan="2">Internally connected</td><td colspan="3">Internally connected</td><td colspan="3">Internally connected</td></tr>
<tr><td>9</td><td colspan="2">Input 2 (Active Low)</td><td colspan="3">Input 2 (Active Low)</td><td colspan="3">Input 2 (Active Low)</td></tr>
<tr><td>10</td><td colspan="2">Input 1 (Active Low)</td><td colspan="3">Input 1 (Active Low)</td><td colspan="3">Input 1 (Active Low)</td></tr>
<tr><td colspan="10"></td></tr>
<tr><td colspan="10">Terminal specification: Lift system / connection diameter 0.3 – 1.5 mm / stripping length 6 mm</td></tr>
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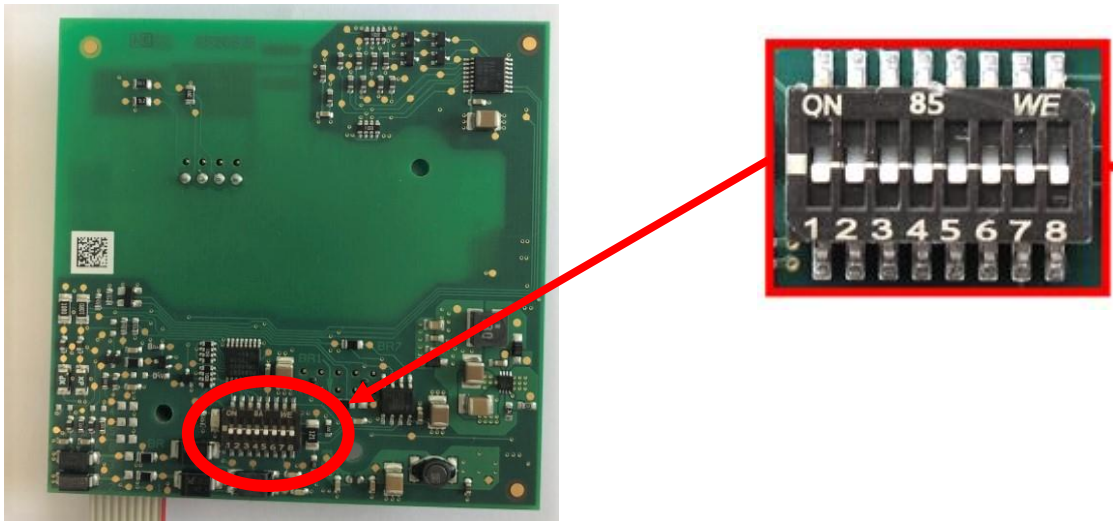
*not supported at LEGIC prime / advant readers

Function DIP switch



Rear view of the reader module

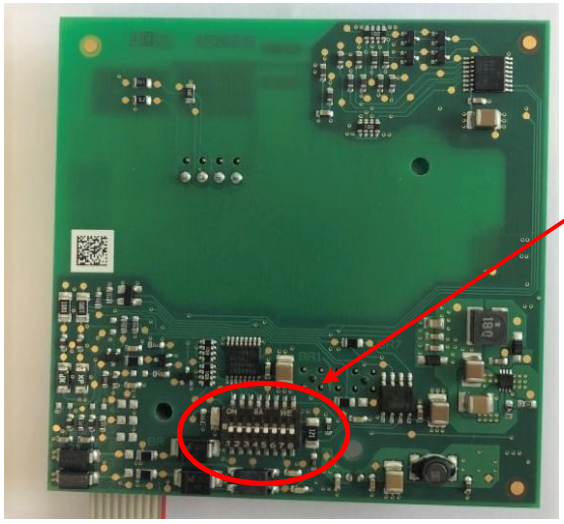
DIP-Switch (8 switches, S1 to S8) Device adress, mode				
		Function		
DIP-Switch		RS485	"Magstripe" Clock/Data	"Wiegand" D0/D1
S1		Depends on the firmware, e.g. setting of the reader address	Depends on the firmware, e.g. operating mode, LED functions	
S2				
S3				
S4				
S5				
S6	OFF	must be fixed set to OFF (internal function)		
S7	OFF	no bus terminating resistor	No function	
	ON	120 Ohm bus terminal resistor		
S8	OFF	must be fixed set to OFF (internal function)		

Installation

Preparatory actions

- Prepare the housing and connection into which the reader is then plugged and connected.
- Guide the reader connection through the housing.

1.) Connect the combination terminal strip according to the circuit diagram.
2.) Set the DIP switches 1 to 8 according to the respective interface and firmware function.

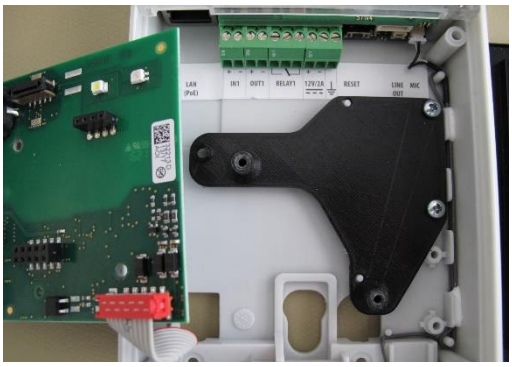


the appropriate connection plan is included with each reader and also includes the DIP switch settings

3.) Plug the connection cable of the reading module onto the combination terminal strip.

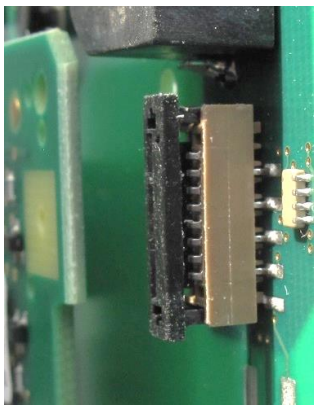
Assembly

1.) Place the plastic support on the spot in the housing where the reader is to be installed and fasten it with 2 screws.

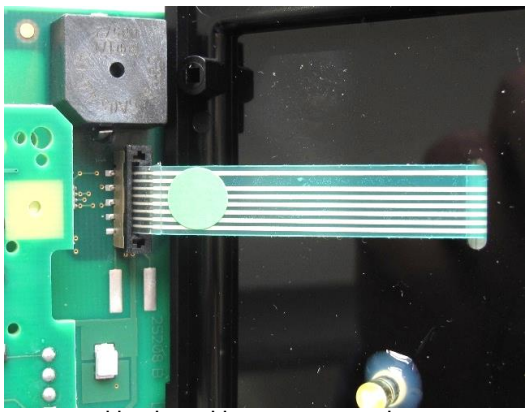


2.) Screw the inferface board onto the plastic carrier with 2 screws.

3.) Plug in the keyboard on the front: To do this, lift the rock insert the conductor firmly into the device and close the lock again.



open header



connected keyboard in connector strip

4.) Plug the controller board onto the interface board.

5.) Screw the housing to the circuit board, plastic carrier and front part.

General informations

Influences (reduction) of the reading distance

An influence of the reading distance can have more reasons.
This is a list of facts that reduce the reading distance:

- Shielding the data carrier by metal materials, e.g. EC card in the wallet, key tag on a bunch of keys
- No optimum coupling, i.e. the antenna surface of the data carrier is vertical (90°) to the reader's antenna surface
- Data carrier itself
  - key tag (small active antenna surface)
  - poor resonance of the data carrier (IC card / key tag)
  - combined ID card (e.g. LEGIC® / inductive, mifare/inductive, etc.)
- Metal in the "active" surface of the HF field. The transmitting energy is reduced. This point is mainly relevant, when the reader components are integrated in metal cover plates (including metal pillars etc.).

Conformity statement

This product complies to the common legal requirements if used according to regulations. We provide you the EU declaration of conformity on demand.

Care and cleaning instruction

The use of hard or sharp objects (rings, fingernails etc.) can cause scratches and damage the device.
Wipe the device with a soft lint-free cloth, or one that has been lightly dampened with water.
The use of caustic liquids such as benzene, thinners, alcohol, solvents, or any kind of abrasive cleaners will lead to surface deterioration and damage.

Waste Disposal

This product **must not** be disposed in normal household waste!