WINK HAUS BS TI BlueSmart Reader Installation Guide

BS TI BlueSmart Reader Installation Guide

Contents

BS TI BlueSmart Reader

For a contactless read-out of blueSmart keys, blueSmart cards and HSH keys.
With the release of a relay contact, optionally closed-circuit operations or normal operations.
blueSmart Reader BS TI and BS TE (except BS TI / TE SR)

Technical data and pin configuration:

Supply voltage at V1 and V2:	7,5V to 25V DC or 10V to 18V AC 50 Hz Maximum power consumption at 12V DC 200 mA (Limited Power Source max. 8 A; max. 100VA)
Switch outputs:	Relay connection NO = normal open, operating side Relay connection COM = common, middle pin On release of the relay COM is switched to NO. Switching current max: 1.5A @ 20 °C Switching voltage max: 30V DC, 20V AC 50 Hz
Additional switch outputs for BS TE operation (Cont rol unit):	Relay connection NC = normal closed, non-operating side. If the relay is disabled, COM is switched to NC.
Protection class:	Reader unit: e.g. Siedle or Elcom IP54, Gira TX44 IP44 other designs IP20 acc. to DIN EN 60529
Temperature range BS TE:	Reader unit: -25 °C to +70 °C Control unit: 0 °C to +50 °C
Temperature range BS TI:	Control unit: 0 °C to +50 °C
Reading distance:	with blueSmart key: typically 10 mm with blueSmart card: typically 40 mm
Assembly:	preferably in standard flush mounted box (UP55) or surface-mounted box combined with a suitable switch design (e. g. Gira, Siedle, bticino)

Important: Connection of a higher voltage will cause the destruction of the reader. It is recommended to use a regulated power supply which provides an output volt- age of 12 V. The device is not suited for a voltage supply from IT networks.
The following note only applies to the BS TE control unit: In a voltage-free condition of the reader no contact exists between “NC” and “COM”!

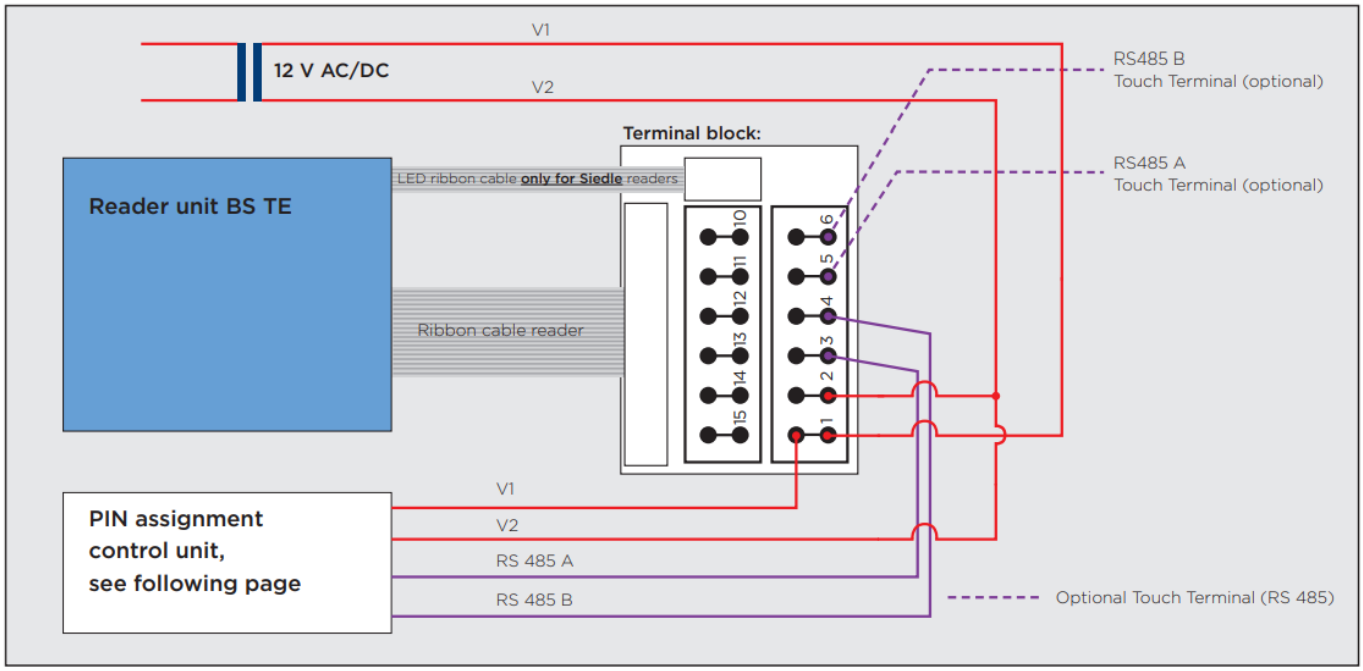
Cabling

Max. cable length between reader and control unit: 100 m.
Max. cable length between control unit and intrusion detection system: 30 m.
The reader and control units communicate via an RS 485 interface.
The RS 485 data lines of the reader unit and the inputs of the control unit
must be equipped with a shielded cable. As regards cable lengths of more than 3 m, the bus should be terminated with a resistance between A and B near the endpoints of the line. Suitable values are between 470 and 220 ohm (>= 1/8 W).
The shield must be connected to ground potential at one point. If the control unit is installed in a distribution / flush-mounted box, the voltage should be smaller than 40V.
The reader can be configured for various operating modes:

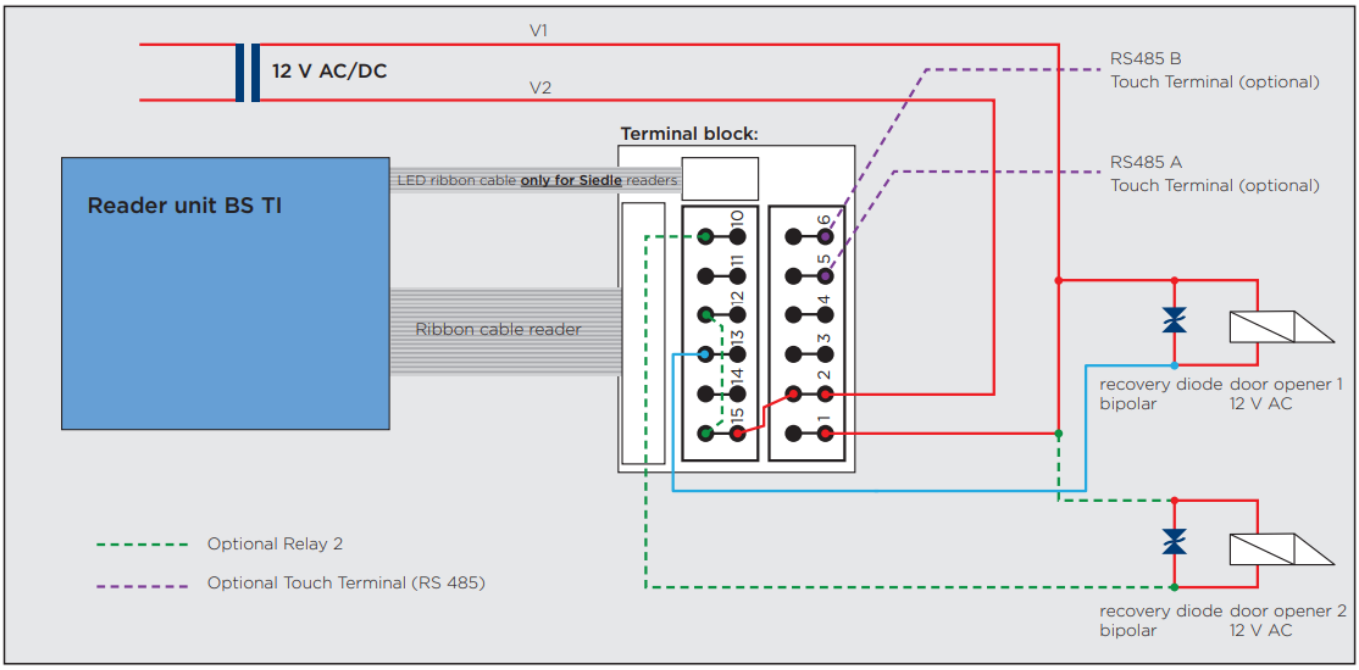
Standard:
Only relay 1 is released on presentation of an authorised identification medium.
Presence authorisation:
On short presentation (standard: shorter 3 seconds) of an authorised identification medium relay 1 is released. If an authorised identification medium is presented for a time longer than 3 seconds, relay 2 is also released.
Additional authorisation:
It is possible for an identification medium to possess the basic authorisation and the additional authorisation. On presentation of an identification medium having a basic authorisation relay 1 is released. On presentation of an identification medium that possesses also the additional authorisation, both relays are released.
Authorisation of intrusion detection systems:
It is also possible to control (arming and disarming) intrusion detection systems by means of a relay.
This requires a long presentation of an identification medium with a system authorisation. Installation instructions:

- Mounting, programming and disassembly may only be performed by specialised staff according to IEC 62368-1.
- It is recommended to provide a turn-off device for the power supply.
- If several readers are being installed, a minimum distance of at least 20 cm must be maintained between the readers.
- If inductive loads are switched, the attached extinguishing diode (free wheeling diode) must be installed parallel to the load for protecting the contacts.

Wiring of the blueSmart BS TI reader:



Wiring of the blueSmart BS TE reader:

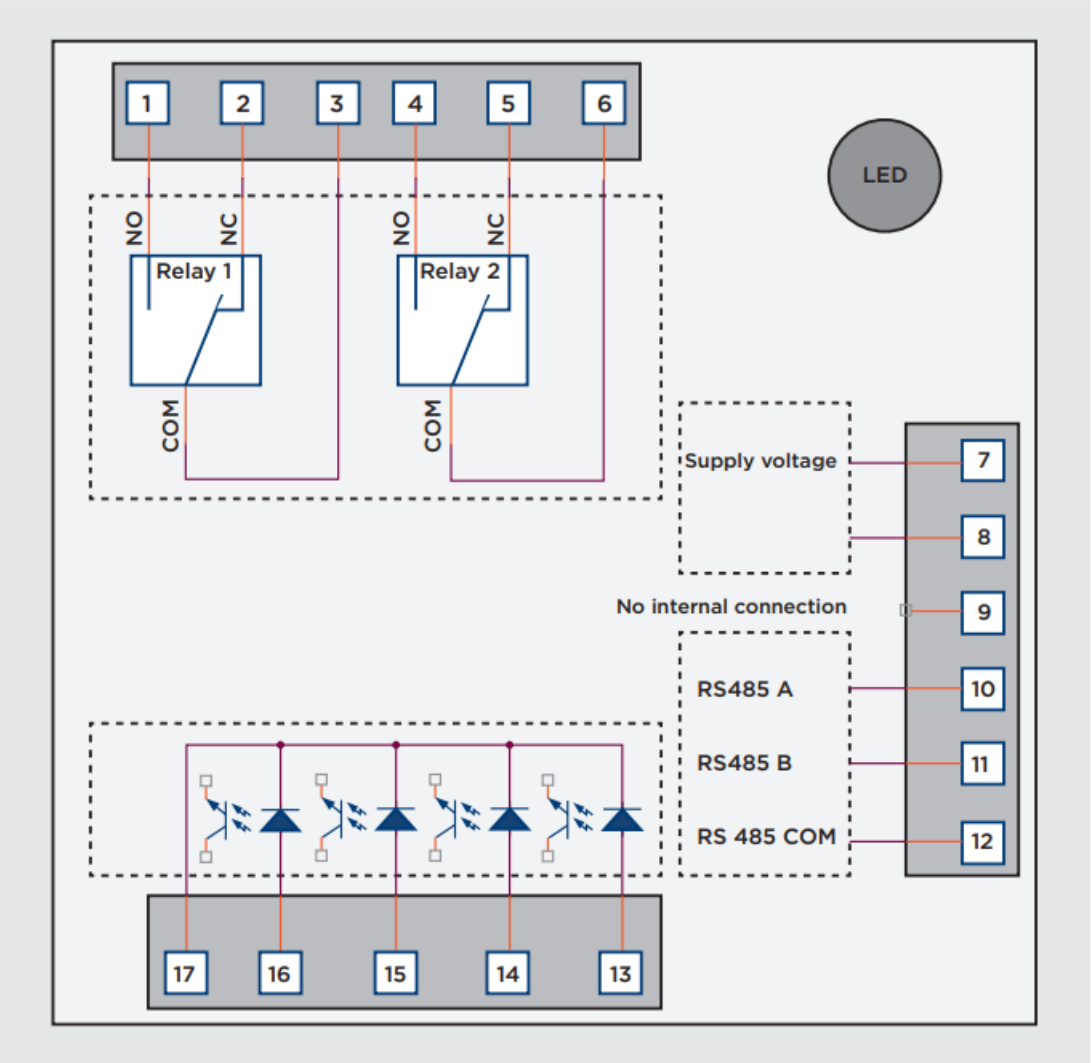


Terminal block: PIN assignment

1 Supply voltage VIN 1	Supply voltage VIN 1
2 Supply voltage VIN 2	Supply voltage VIN 2
3 RS 485 A (M)	RS 485 A (M)
4 RS 485 B (M)	RS 485 B (M)
5 RS 485 A (IO)	RS 485 A (IO)
6 RS 485 B (IO)	RS 485 B (IO)
10 COM Relay 2	–
11 not occupied	–
12 NO Relay 2	–
13 COM Relay 1	–
14 not occupied	–
15 NO Relay 1	–

Pin assignment on control unit (only for BS TE):
Terminal

1	Relay 1 NO
2	Relay 1 NC
3	Relay 1 COM
4	Relay 2 NO
5	Relay 2 NC
6	Relay 2 COM
7	V1
8	V2
9	Ground
10	RS 485 A
11	RS 485 B
12	RS 485 COM
13	Input 1
14	Input 2
15	Input 3
16	Input 4
17	Input COM



Display of system status

Normal state, continuous release inactive		○
Normal state, continuous release active	●	

Behaviour of the blueSmart reader, in the event of a normal state entry

Authorised key	Release time		200 ms
Unauthorised key			750 ms
Authorised key (continuous release active)		 Timeout	12 ms
Unauthorised key (continuous release active)			12 ms
Activation of continuous release			2 x 200 ms
Deactivation of continuous release (Red LED blinks along with a buzzer signal, after that yellow LED blinks)			2 x 750 ms

Display of an error condition

This condition leads to the deactivation of the continuous release		
Error clock time, continuous release inactive		
Error time, continuous release active		

Behaviour of the blueSmart reader, in the event of a transaction during an error state

Error No transaction is possible in this state		
Error time Alternating with the signalling of a normal transaction		10 x 50 ms

Behaviour on the blueSmart reader during a programming procedure

3 ms yellow LED signal after each received data frame		750 ms

Operating information for controlling an intrusion detection system:

Inputs of control unit:
The BS TE control unit has four inputs. These inputs analyse the status of the connected intrusion detection system.

A logical zero (low signal) is detected in case the voltage is smaller than 3V.
A logical one (high signal) is detected in case the voltage is higher than 3V.
The input voltage must not exceed 24V. In this case the signal current is 4mA. The COM input must be connected to ground.
The control unit inputs are configurated as follows:
Input 1 – status of intrusion detection system:
A logical one (high signal) is interpreted as “armed system”.
A logical zero (low signal) is interpreted as “disarmed system”.
Input 2 – alarm:
A logical one (high signal) is interpreted as “system gives no alarm“.
A logical zero (low signal) is interpreted as “system gives alarm”.
Input 3 – readiness to be armed:
A logical one (high signal) is interpreted as “system not ready to be armed”.
In this state activation of the intrusion detection system is not possible, not even with an authorised identification medium!
A logicial zero (low signal) is interpreted as “system ready to be armed”.
Only then the intrusion detection system is ready to be activated with an authorised identification medium.
Input 4 is without function in this configuration.
In the mode “system authorisation” the BS TE reader is configurated with a pulse period of 500 ms in the pulse mode. This means a long presentation
(more than 3 seconds) of an authorised identification medium will give a switch-over pulse to relay 1 of the system. Relay 2 switches from the normal state (NC) to the NO state for 500 ms and after that returns to the normal state (NC).
A short presentation (less than 3 seconds) of an authorised identification medium will cause relay 1 to be released for a parameterisable time (standard: 2 seconds).
Before the relay is released the status of the intrusion detection system (input 1) is retrieved.
Release of the relay requires the state “disarmed”.

Signalling of intrusion detection system:
System is armed
4 seconds: LED 2 red, buzzer on
System is disarmed
4 seconds: LED 2 green, buzzer on
Alarm signalling in idle state
If the intrusion detection system indicates triggering of an alarm, this is signalled by the reader unit as follows: 400 ms: LED 1 red, LED 2 red, buzzer off 400 ms: LED 1 off, LED 2 off, buzzer off Alarm signalling in case of a locking event
If the intrusion detection system indicates an alarm during a locking event, this is signalled to the user acoustically and visually.
The following signalling is repeated for 2 seconds:
200 ms: LED 1 red, LED 2 red, buzzer on
50 ms: LED 1 off, LED 2 off, buzzer off

Signalling of errors:

No access due to armed intrusion detection system
During each aufhorised locking event, the state of the system is controlled.
If the system is armed, opening is not possible.
LED 1 is switched to “permanent red”.
The following signalling is repeated 3 times
100 ms: LED 2 red, buzzer on
10 ms: LED 2 off, buzzer off
Intrusion detection system not ready to be armed / no switch-over
The following signalling is repeated for 8 seconds:
200 ms: LED 2 red, buzzer on
50 ms: LED 2 off, buzzer off
Error during access to control unit
The control unit cannot be reached for authorisation check.

The following signalling is repeated 10 times:
100 ms: LED 2 red, buzzer on
10 ms: LED 2 off, buzzer off
Invalid time
LED 1 blinks red

Environmental damage caused by electronic components that are improperly disposed of!

- It is forbidden to dispose of the product with household waste, the disposal must be performed according to the regulations. Therefore, dispose of the product in accordance with European Directive 2012/19/ EU at a municipal collection point for electrical waste or have it disposed of by a specialist company.
- The product can alternatively be returned to Aug.
  Winkhaus GmbH & Co. KG, Entsorgung/Verschrottung, Hessenweg 9, 48157 Münster, Germany.

CE Aug. Winkhaus GmbH & Co. KG herewith declares that the device is compliant with the basic requirements and the relevant rules of the directive 2014/53/EU. The complete version of the EU declaration of conformity is available at: **www.winkhaus.com/konformitaetserklaerungen**

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Documents / Resources

	WINK HAUS BS TI BlueSmart Reader [pdf] Installation Guide BS TI BlueSmart Reader, BS TI, BlueSmart Reader, Reader

References

- Technische Downloads | Winkhaus