ELDAT

TRS 06

TRANSPONDER READER- AND CONTROL UNIT

(Door Access Control System)

Mounting Manual and Operating Manual

Table of Contents

1. Function and Description of the Device

The Transponder-System provides ideal access control to premises - for private as well as for office or industrial buildings and also to garages or multi-storey car parks up to 1000 users.

Two versions of the Transponder-System are available: TRS06-01 has a standard reader head whereas TRS06-02 provides a vandal proof reader head. To gain access a Transponder Card registered at the control unit or a Transponder Tag can simply be held to or passed by the reader head.

A high standard of security is offered by the 64-bit coding technology as it provides over a trillion coding alternatives.

Special Features

Auto frequency stabilization

Auto deactivation

Master Tag learning mode

Master Tag deleting mode

Individual Tag learning mode

Individual Tag deleting mode

Entire memory deleting

Last tag reading display

Sensor readerhead

Fire alarm input

Emergency exit

Programmable relay output time (150 ms – 9 s)

Double reader head capability

2.　　　Installation Instructions

2.1　　Installing the Reader Head

The reader head is pre-wired with a 2m cable. If the cable is to be replaced with a longer cable, please note the following restrictions:
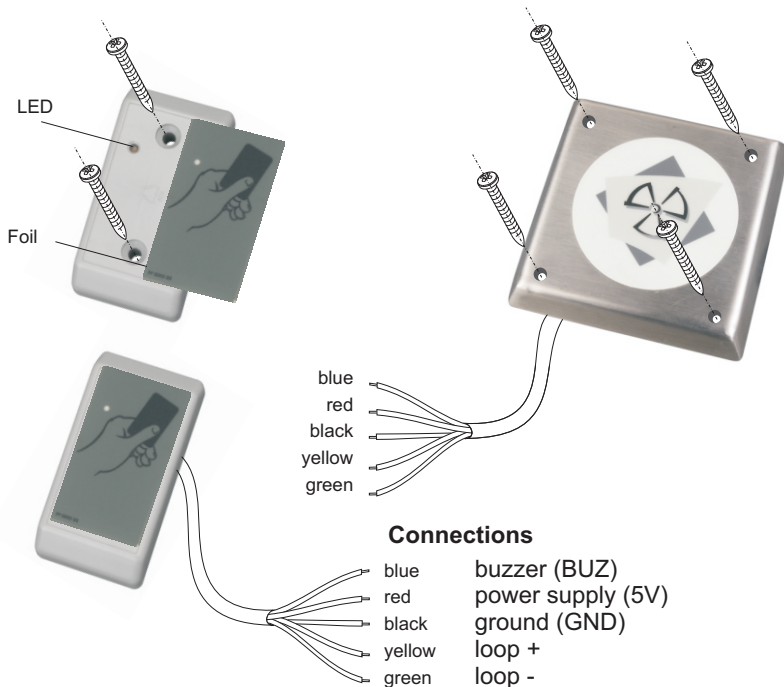
- unshielded cable:　　　max.　　5 m
- shielded cable　　　　max.　　15 m

The reader head can be installed as follows:

1. Mount the reader head. Make sure that the cable is not pinched off.
2. Only regarding the standard reader head: place the reader head sticker onto the reader head and align the reader head sticker LED hole with the LED of the reader head.
3. Connect the reader head with the control unit according to the wiring details (page 5).

Standard Reader Head　　　　　　　**Vandal Proof Reader Head**

blue
red
black
yellow
green

Connections

blue	buzzer (BUZ)
red	power supply (5V)
black	ground (GND)
yellow	loop +
green	loop -

2.2 Installing the Controller

1. Remove the cover. Insert the cables through the bottom of the cover from the backside. Secure the control unit in the preferred location using the screws and mollies.
2. Connect the reader heads (also see below) as well as the power supply and any auxiliary devices to the control unit according to the wiring details (page 5) and fasten the cover with screws.

2.3   Wiring Details Control Unit

Power	AC / DC	12 V AC / DC
	AC / DC	12 V AC / DC

Reader Head	+ 5V	red	from reader head
	- 0V	black	from reader head
	Buzzer	blue	from reader head
	Loop +	yellow	from reader head
	Loop -	green	from reader head

Aux	- 0V	bridge between RTE or Fire
	RTE	request to exit input
	Fire	fire alarm input (normally open)

| Relay	N/O	normally open relay contact
	Common	common relay contact
	N/C	normally closed relay contact

⚠ Failure to follow the wiring instructions may result in permanent damage to the controller!

Wiring Reader Heads

In case two reader heads are to be installed the Jumper LOOP SELECT must be CLOSED and the second reader head must be wired in parallel to the controller.

Please note, that this is a **single door system** and there is only one output relay. The two heads will therefore be fitted to the ENTRY and EXIT points on a **single** door.

Wiring Details
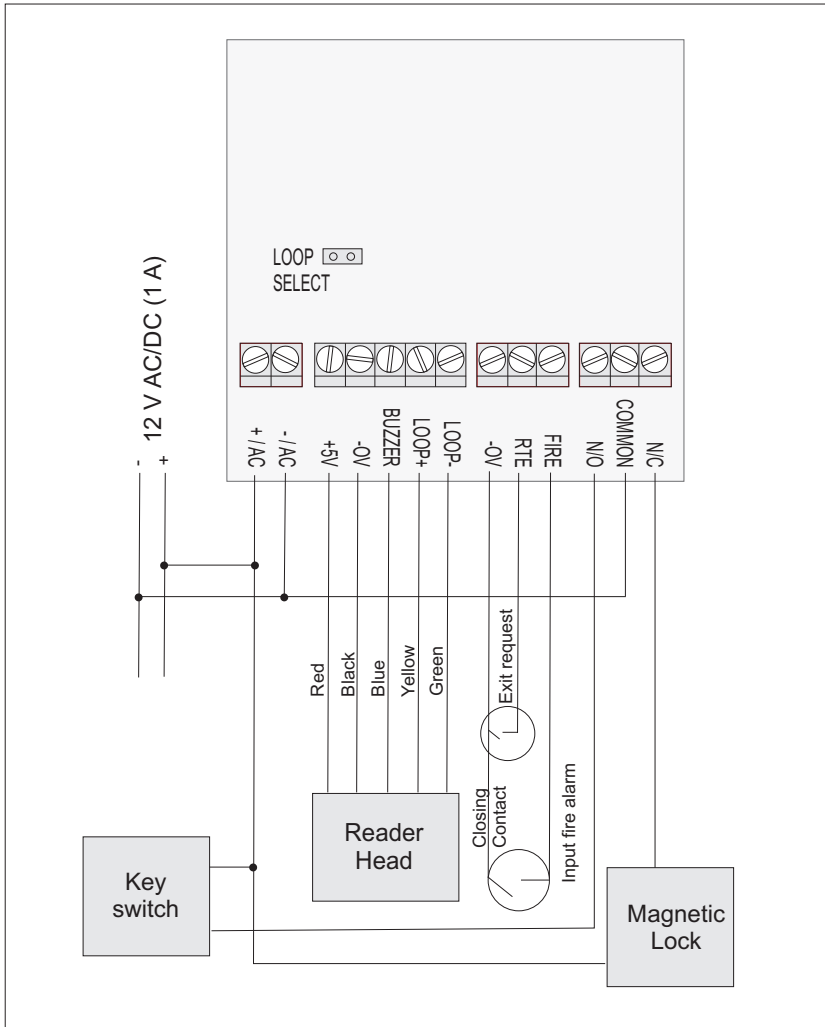
The fire alarm input is a facility whereby a fire alarm device such as an emergency glass break switch or fire alarm panel can close the circuit to open all doors immediately. Please note the fire alarm input is non latching, and fail safe locks should be used with this function.

3.   Programming Instructions

The Transponder TRS06 employs AUTO EXITING software for security reasons. In any of the programming modes, the controller will automatically revert back to standard operating mode if the user takes no action within 30 seconds.

There are three different operating modes, as indicated by the display dot position:

Standard Operating Mode		Position 1
User Tag Learning Mode		Position 2
Deleting Mode		Position 3
Master tag learn mode		Position 4

It is recommended that the user reads the user actions and controller responses carefully before attempting to program the controller.

The column user action indicates the steps the user must take to accomplish a certain programming function.

The column controller response indicates the response that the controller will give to a user action.

3.1   Master Tag Programming Instructions

Only one transponder card can be used as master card. Only this card enables programming and deleting tags.

⚠️ **Please keep your master tag in a safe place!**
On presenting a new master tag the entire memory will be deleted and all user tags will have to be reprogrammed!

Programming Function	User Action	Controller Response
Teaching the controller a new master tag	1. Press & hold button S1 (the top button).	The controller display changes to the last card read while pressing this button in standard mode.
	2. While still holding button S1 press button S2 (the bottom button)	The controller will respond with three beeps immediately. After releasing buttons S1 and S2 the controller display will light up displaying: `8.8.8.` This indicates that the controller is in master tag learning mode and that the first tag to be presented to the reader will be the new mastertag.
	3. Present the new tag to the reader (this will become the new master tag)	The controller will respond with 3 beeps. This indicates that it has learned the new master tag and exited master tag learning mode. The controller is now ready for standard operation.

3.2   User Tag Programming Instructions

Programming function	User Action	Controller Response
Teaching the controller a new user tag	1. Present the master tag to the reader for approx. 5 seconds.	The controller responds with a single beep. After a few seconds the controller responds with an additional 3 beeps indicating that it has entered the user tag learning mode: **8.8.8.**
	2. Remove the master tag and present the new user tag(s) to be learned one at a time to the reader. Wait for response of the controller.	1 second after presenting a new user tag, the controller will respond with a single beep. This indicates that the controller has learned the new user tag. **Note: Should the controller respond with 3 beeps instead, it is indicating that the 1000 user limit has been exceeded and that the controller has exited user tag learning mode.**

Programming Function	User Action	Controller Response
	3. After teaching the controller the new user tag(s) present the master tag to the reader again to exit user tag learning mode.	The controller responds with 3 beeps indicating that it has left user tag learning mode: **8.8.8.** **Note: In case the user forgets to exit user tag learning mode, the unit will automatically exit this mode after 30 seconds.**

Note: Deleting user tags can only be done if the number is known. After completing user tag programming present each tag to the reader again (see chapter "Read Last User Tag"). Note down the number displayed e.g. together with the name of the owner.

New user tags can be programmed any time. New user tags will be saved to the next free memory space. This can also be the space of a previously deleted number.

3.3   User Tag Voiding Instructions

Programming function	User Action	Controller Response
User tag voiding	1. Present the master tag to the reader and keep in the reader field.	The controller responds with a single beep. After a few seconds, the controller responds with an additional 3 beeps indicating that it has entered user tag learn mode. `8.8.8.`
	2. Press button S2	The controller responds with 3 beeps and after S2 is released `0.0. 1` is displayed. This indicates that the controller has antered user tag voiding mode.
	3. Press button S2 to scroll to the user tag number that has to be voided from the system. Note: By holding button S2 in the scrolling speeed will increase.	User tag that has to be voided is displayed e.g.3:: `0.0. 3`

Programming Function	User Action	Controller Response
	4. To delete a user tag from the system press S1 button.	The controller responds with a single beep and the display changes to:: The user tag has been deleted.
	5. To exit user tag deleting mode do not make any input into the controller for 30 seconds.	Unit responds with 3 beeps and enteres the standard mode.

3.4   Relay Output Time Programming Instruction

Programming Function	User Action	Controller Response
Adjust the door lock mechanism **Relay Output Time**. This function is used to set the time, for which the relay will provide an output to the door latch, in the event of a card/tag being introduced or fire exit (RTE) push button. The default setting is **t1** (1 second). Note: When resetting the relay output time the door alarm settings will need to be reset at the same time.	1. Press S2 and release.	Unit responds with 3 beeps and shows: **t.1** t = 1 second
	2. Continue pressing S2 to increment the timer until the required time setting is achieve.	The display shows: **t2** t = 2 seconds, up to **t9** t = 9 seconds **t-** or t = - (this is a special setting for a 150ms Pulse Output)
	3. Do not make any input into the unit for 30 seconds to exit this mode or press S1.	Unit responds with 3 beeps and enteres standard mode..

3.5 Last Tag Read Instructions

Programming Function	User Action	Controller Response
Looking for the last tag read	1. In standard mode press and hold S2	The number of the last tag read will be displayed.
	2. Release button S2.	

4. Technical Specifications

Hardware

Operating voltage:	12 V AC/DC
Average current consumption:	33 mA (1 reader head)
Maximum current consumption:	55 mA (12 V)
Relay output rating:	24 V / 5 A
Operating frequency:	125 kHz (50 Hz - 4 kHz modulation)
Read Range:	6 cm – 10 cm (dependant on tag type)
Reader heads:	1 or 2
Reader head cable length:	2 m standard, max. 5 m unshielded max. 15 m shielded
Cable:	5-core
Degree of protection:	reader head: IP54 controller: IP00
Dimensions (L x W x D):	reader head: 75 mm x 39 mm x 15 mm controller: 104 mm x 94 mm x 25 mm
Weight:	reader head: 60 g controller: 70 g
Operating temperature:	-10 °C to +60 °C
Indications:	visual: bi-color-LED, acoustic: Buzzer

Software

Programming:	with master tag
User tags:	max. 1000
Code size:	64 bit
Read time:	< 2 seconds