

TRANSYS 2000

**Electronical equipment
for a nonimpact switching**

**User
and installation guard**

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2 Many Thanks!

By your decision to purchase TRANSSYS 2000, you have acquired a modern system for the nonimpact operation of electrical consumers such as locks, garage door drives, lighting, alarm systems etc. which offers a high degree of safety and comfort.

TRANSSYS 2000 guarantees the flexibility and independence no mechanical system can provide.

You have acquired a system which has already been configured and will be ready for operation right after installation.

All four of the supplied electronic keys can be used immediately. When one of the keys is held close to the reading unit, the built-in relay will operate and switch an electric lock or an alarm system on or off.

Please follow the instructions carefully in order to become familiar with the functions and possibilities of TRANSSYS 2000.

You can safely experiment and try all setting possibilities. All settings can be cancelled without difficulty, see page 21.

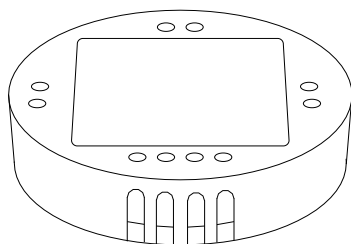
Never connect the TRANSSYS 2000 system to mains voltage 230 V!

The system can only be operated with safe low tension voltage (f.e. bell-ringing transformer bearing CE-sign), see also technical data.

The relay must be used exclusively for operating tensions and currents within the scope of its technical specifications, see also technical data.

Under no circumstances should direct connection to electrical mains be used.

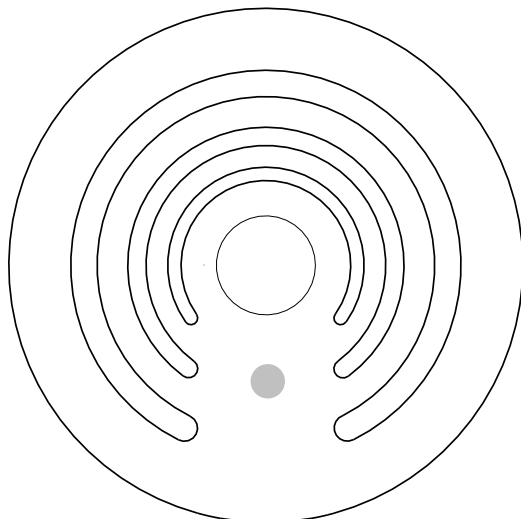
3 Scope of Delivery



Control unit

Transsys 2000

Control unit for installation f.e. in a commercially available plug socket (concealed wiring, Germany: UP plug socket)



Reading Unit

TRANSSYS 2000 reading unit with 2,5 m feed cable

(to shorten or lengthen see technical data – page 25)

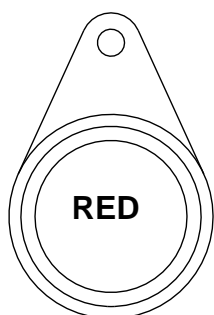
Fastening-parts kit

((no illustration provided), consisting of:

2 screws (brass)

2 washers (brass)

2 dowels 6 mm (synthetic material)



Electronic Master key

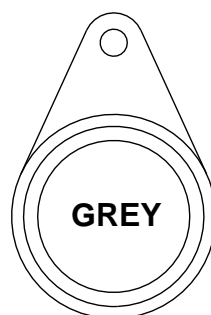
(black / red)

1 piece

No battery required!

- Assembly plan with mounting instructions
- Brief instructions
- These operating instructions

The above components represent the delivery unit of TRANSSYS 2000



Electronic key

(black / grey)

4 pieces

No battery required!

4 Description of System

TRANSSYS 2000 is a system for the nonimpact switching of electrical equipment

The pre-configured installation comprises:

- 1 Control unit
- 1 Reading unit
- 1 Electronic master Key (red)
- 4 Electronic keys (grey)

After its installation, the TRANSSYS 2000 system is ready for use and can be operated with the help of the four electronic keys.

Secondarily ordered keys have to be registered before use.

The serial number of a key is only meant as an optical mark to distinguish it from others, f.e. for administration purposes. It has not been registered or saved or in any way recorded by us. It is not identical with the internal code of the key either.

4.1 Characteristics

- Nonimpact electronic switching
- Maintenance-free electronic keys (no batteries required)
- The electronic keys cannot be read out or copied
- It is guaranteed that even a possible interception (tapping) of the data exchange between the key and the reading unit does not make any information available which could be misused and lead to an unauthorized opening or to a copying of the key.
- A separate installation of the control unit within the protected area (f.e. behind a door) guarantees a maximum degree of safety against external interference.
- A master key serves as an authority pass for the registration and deregistration of keys and also for the adjusting of the system.
- All parameters will be permanently saved and are not deleted by a possible electricity failure.
- If desired, a master key can control a number of TRANSSYS 2000 systems.
- Universally operable (potential-free relay contact as output)
- Operation with relay switch permanently ON or OFF is possible, f.e. to Switch a device or to activate an alarm system.

4.2 Functional Principle

If the electronic key is held in close position to the reading unit, a data interchange takes place.

As the key does not have a battery, the energy supply comes from a conductor and works on the principle of a transformer. This conductor represents the primary side, and the inductor in the key represents the secondary site.

Please be careful – should the reading unit be placed on a metal base or if it is installed near solid steel constructions, the attainable reading distance will be decreased!

When starting the operations, each electronic key is equipped with an individual code. This code is retained and can no longer be read out. The key cannot be copied.

The authorization for the key is checked by the control unit in the following way:

- A large random number is generated by the control unit;
- This random number is transmitted to the key;
- Independently of each other, the control unit and the key carry out an identical Crypto-coding procedure which encodes this random number by the internally retained code which is not accessible.
- Only the result – not the code itself! – is returned by the key to the control unit.

Provided the result of the Crypto-coding procedure is in agreement with the reply of the key, the key will be recognized as authorized. The relay operates and a door – par exemple – is opened.

4.3 System Security

The parts utilized are transponder components with a Krypto-algorithm. This means that the electronic keys cannot be copied. It is impossible to make an unauthorized copy of the key without the master key, since the individual code of the key cannot be read out.

Even in a case where the data exchange between the electronic key and the control unit should be tapped, which would require high technical effort and expenses, the code can still not be recovered from the information gained.

The keys supplied ex works are unique specimen, they have a definite serial number which is not repeated, and this number is an secondary part of the verification process.

One more point in favour of the high safety level is that the same transponder components

as used in this system (producer ATMEL-TEMIC in Heilbronn) were licenced by leading automobile producers for the use in their immobilisers.

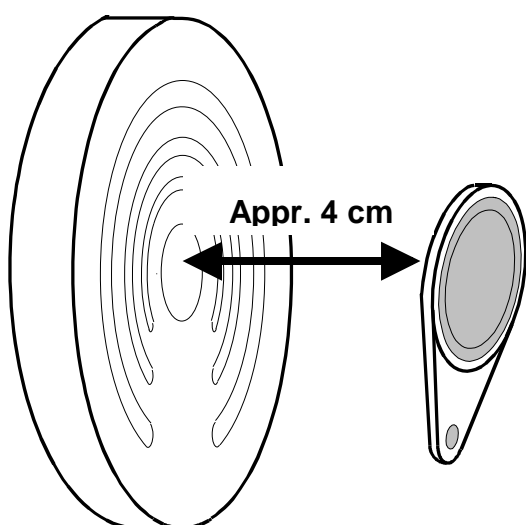
5 Terms used

In normal operations as well as with the configuration, the system is operated by the use of electronic keys.

For the configuration, the red key is used. The grey keys are used in normal operations.

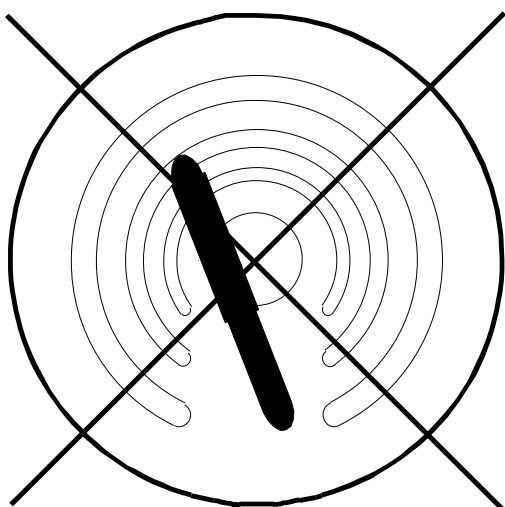
5.1 Holding the key to the Reading Unit

The keys (both master key and electronic key) have to be held steadily and in a parallel position to the reading unit and at a distance of about 4 – 7 cm.



For optimum data transmission, key should be held in a parallel position to the reading unit.

Do not hold close enough to the reading unit for the key to touch its surface



If held in a vertical position to the reading unit instead of parallel, no correct reading will be possible!

5.2 Reading Unit

You will find an illustration of the reading unit on page 6. It is protected against weather influences outside the object, f.i. near the door (surface-mounted or upon a 70 mm UP outlet). It reads the information received from the key and transfers it to the reading unit.

Attention – should the reading unit be mounted on a metal part or near solid steel constructions, and then this will reduce the attainable reading distance!

5.3 Control Unit

Example: The control unit (illustration page 6) is mounted inside the object, max. length of cable to reading unit = 2,5 m. It comprises the electronics and the relay that activates the switch of the appliance to be controlled.

5.4 Master Key (red)

The master key is an electronic key for the configuration of the system. **The master key can not be used for switching, that is for instance opening a device or installation, it exclusively serves as an authorization.** The master keys are clearly recognizable by their black / red colour.

Attention: The holder of the master key can, amongst others, have keys made that can be used to open doors or switch on/off an appliance!

5.5 Electronic Key (grey)

The grey key is used for switching on/off or opening door locks.

5.6 Blank Key (grey)

A blank key is an electronic key that has been bought secondarily in a specialized shop, it is black or grey. It is not yet registered with any system.

5.7 Registration of a key by the installation

The registration with the TRANSSYS 2000 installation is done by using the red master key (the one with which the installation has been activated).

Only those keys that have been registered will be recognized as authorized by the installation.

6 Setting up Operation

You have acquired an installation which has already been configured. After its assembly, it is ready for use. No further setting is necessary.

The TRANSSYS 2000 installation can be operated with all four electronic keys that are part of the delivery. When one of the keys is held to the reading unit, the built-in relay activates the electric lock SECURITY AUTOMATIK.

With a pre-configured installation, the following steps have already been carried out:

- Activation with the help of the supplied master key (red)
- Registration of all four keys (grey)
- Blinking of the LED in the reading unit is in a switched-off position

By the registration, the keys (grey) have been inseparably assigned to the supplied master key (red), see also chapter „Utilisation of a master key in more than one installation“ (page 19).

Should blinking of the LED in the reading unit be desired, it can be switched on again any time, see chapter „Blinking of the LED, how to switch on and off“ (page 15)..

6.1 Recommendation

It is recommended to deactivate the TRANSSYS 2000 installation before starting the intended operations, see page 21.

This deactivation deletes the memory of the TRANSSYS 2000 installation completely. Any unauthorized keys which could have been made during the installation will definitely be deleted.

After deactivating it, the system has to be reactivated and the keys must be newly registered (page 14).

6.2 Konfiguration

The TRANSSYS 2000 installation is configured with the help of the red master key. An LED in the reading unit serves as the optical feedback. The master key is not used for switching (activating a lock, for instance) but only serves as an authorization for the configuration of the installation.

In order to disallow a configuration that has already been started, all you have to do is to wait for a few seconds. About ten seconds after the last move, TRANSSYS 2000 will return to its initial state.

The deactivation and a following re-activation may possibly return the unit to the initial state in which it was at delivery. (No keys are registered in this case, as they have been deleted from the memory).

6.3 Circuit Time of the Relay

If necessary, the circuit time of the relay can be changed. It is also possible to operate with relais circuit permanently ON or OFF for the switching of consumer loads and the steering of, for example, alarm systems (see page 16).

6.4 Mounting Example for Use as a Door Opener

The control unit is mounted in a 70mm concealed cable outlet inside the building (near the door) and connected to a doorbell transformer (12V/1A).

The relais contact of the control unit is then also wired up with the electric door-lock inside the building.

Opening the reading unit: insert the tip of a screwdriver into the cut-out at the lower edge and turn cautiously.

The reading unit is to be mounted near the door, so that it is easy to operate. It is suitable for surface-mounting or mounting in a 70 mm concealed cable outlet, as available in the trade. The nib in the baseplate must point downward.

Attention: Should the reading unit be mounted on a metal base or near solid steel construction parts, then the attainable reading distance will become less!

If required, the 2,5m four-core cord connected to the reading unit can be shortened. It is connected to the control unit.

Please do not shorten this cable to less than one meter and do not lengthen in addition to the supplied length, as the potential reading distance will then decrease.

In case the reading- and control unit are to be mounted close to each other, it will be better for the optimal reading distance if the cord is only shortened to about 1 – 1,5 m and rolled up loosely. A complete shortening (some ten cm or even less) will lead to a considerable reduction of the potential reading distance.

The lead is only suited for laying in a fixed (immovable) position.

The mounting of the control unit inside the building (behind the door) guarantees protection against manipulating of the electronics or the lead between the relay and the electric door lock. An unprotected access to the control unit and the connection to the relay could lead to an unauthorized unlocking of the door.

External manipulation of the reading unit or its lead will in no case lead to a switching of the relay. The exclusive function of the reading unit is that of an antenna. It passes the data on to the control unit (which is best mounted in a protected area). Only this control unit decides if the relay is switched or not.

7 To register or cancel a Key

The keys supplied with the pre-configured installation TRANSSYS 2000 are already registered. This registration can be cancelled by a deactivation of the installation.

The procedure is the same for registration and cancellation. Keys that were registered are cancelled and vice versa.

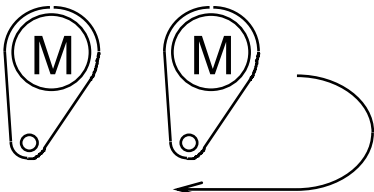
If, in the case of the key concerned, a registration or cancellation took place can be determined as described under point 4 (see further down).

- When registering, the LED is blinking in slow rhythm
- When cancelling, the LED is blinking rapidly.

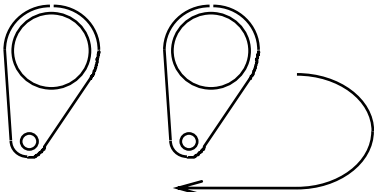
1. - - - Short blinking, system is active.

OR

1. no light if switched off before

2.  Hold the red master key briefly to the reading unit, then remove again

3.  Permanent light starts

4.  Hold the grey key*) to the reading unit until the LED starts blinking, then remove. The LED will go out briefly, and then start lighting up again for about 10 sec. During this time interval, further grey keys can be registered or cancelled.

After point 4, you can either wait (max. 10 sec.) until the LED starts blinking again (see point 1), or the operation can be ended by using the red master key..

*) The procedure described here also applies when secondary masters are to be registered. For a detailed description see page 19.

8 Blinking of the LED, how to switch on or off


The activated system can be configured in such a way that the LED blinks shortly at an interval of 1,8 seconds. This serves as an operation display and also for facilitating the finding of the reading unit in the dark. Should this regular blinking be undesired (it could perhaps attract vandals), it can be switched off (= delivery status). But the recognition of a key is always confirmed by a light signal.

TRANSSYS 2000 must be active and in normal operating status, with no key being near the reading unit. The relay must be switched off

1. - - - Short blinking. System is active.

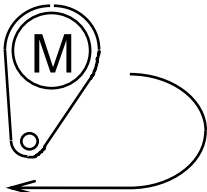
OR

1. No light, if switched off beforehand

2.  Hold the red master key to the reading unit

3.  Permanent light, duration abt. 10 sec

4.  Slow blinking begins

5.  Remove master key.

After removing the master key, the LED will stop blinking if switched on beforehand, or if switched off beforehand, it will start blinking.






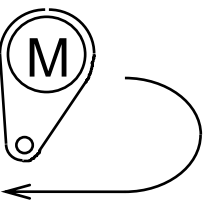
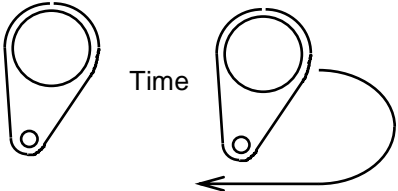
9 Changing the Circuit Time

In some cases it will be necessary to adapt the circuit time of the relay to the requirements. This can be done within the scope of 1 – 25 seconds. It is also possible to select the mode „permanently ON/OFF“.

TRANSSYS 2000 must be active and in normal operating status without a key being near the reading unit. The relay must be switched off (LED blinks at 1,8 sec. intervals).

9.1 Mode of time limit relay

Time limit relay means that the relay switches on for a certain determined duration (1 – 25 seconds) and then switches off again.

1.  Blinking at short intervals. System active
- OR
1.  No light if switched off beforehand
2.  Hold red master key to reading unit
3.  Permanent light, duration abt. 10 sec
4.  Slow blinking, duration abt. 10 sec
5.  No light, now remove red master key within 7 seconds and
6.  ...hold a registered grey key (not master) to reading unit (relay switches) until the envisaged time interval (1 – 25 sec.) has been reached. The relay time has been accepted and memorized


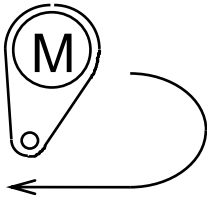
10 Activating the System

A TRANSSYS 2000 system that has been deactivated can be activated by the registration of a master.

In this way, a definite assignment of the control unit to the actual master key is made.

Without the activation, the TRANSSYS 2000 system is not functional. Only from the point of time of activation must the master be stored safely and with special care.

The system is not active if the LED, without a key being near the reading unit, blinks rapidly

1. Rapid blinking, system is not active
2.  Hold red master key to the reading unit
3. - - - - - Slow blinking, duration about 10 sec
4. _____ Permanent lighting starts
5.  Remove master key
6. - - - - - Blinking at short intervals, the system has been activated

Remark:

This master becomes the central master key of the activated control unit and so it serves as a proof of authority when configuring this specific unit. In the following sub-chapter, the difference between a master key and an secondary master will be explained. This differentiation is essential only when and if more than one system will be used.

10.1 Utilisation of a master key with more than one installation

A master key can simultaneously be used as a master key for an optional number of TRANSSYS 2000 systems. This is an advantage in a system with more than one control unit, as it guarantees a clear arrangement and simplicity in a system in which only one master key is used.

Systems supplied according to standard with a set of one master key and four keys are normally activated at delivery (all four keys already registered) in order for the system to be ready for operation. By the registration, the key is inseparably allocated to the respective master key. They are then „its own“ allocated keys.

In case it is envisaged to use one common master key for more than one system, the systems have to first be deactivated with their „own“ master key (which is part of the delivery). A unit can only be deactivated with the particular key with which it was activated. Otherwise it would be possible to misuse it.

When this has been done, all systems are activated with the **one common** master key. To differentiate, this master key which was used to activate the systems could be named „central master“.

Those keys that were allocated to other master keys at delivery have also to be registered. To do this, „their“ master keys have to be registered as „secondary masters“ (that is, not belonging to original delivery). These secondary masters are registered and cancelled in the same way as the ordinary grey keys, see also chapter „register and cancel keys“ (page 14).

Through this registration, the secondary master keys will be recognized by the system, but do not have the function of an authority pass. This function is solely allocated to the „central master“ that was used to activate the unity. Subsequently, all keys (that belonged to the secondary masters) can be registered.

When completely new keys (blank keys) are registered, this has to be done with the „central master“ that activated the whole system. They are then „its own“ keys.

In case a number of systems with many keys is to be used which are all to be controlled by **one** master key, it will be advisable to order a system explicitly designed for this purpose.

10.2 Loss of the master key


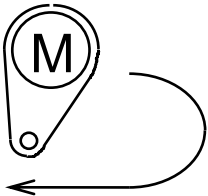
With the help of the master key, anybody could practically control the relevant TRANSSYS 2000 system, and register wrongfully a number of blank keys as available in shops.

In case of a loss of the master key, the system must be deactivated at once by the complete disconnection and dismounting of the control unit. The device must be replaced; the memory must be fully exchanged by the producer of the system

11 Deactivation (Reset)

The deactivation will delete the access authorization of all of the keys registered on the TRANSSYS 2000 system.

The parameters (relay circuit, blinking of the LED) will be restored to delivery status.

1. - - - Blinking at short intervals, system active
2.  Hold red master key to the reading unit
3. ————— uninterrupted light, duration: about 10s
4. - - - - - Slow blinking, duration: abt. 10 sec
5. No blinking, duration abt. 10 sec
6. Rapid blinking. System is deactivated
7.  Remove master key

If necessary, the deactivated installation can be newly activated with another master key, which will then be the new master key or „central master key“, see chapter „Utilisation of master key with more than one system“ (page 19).

11.1 Loss of a key

In case of loss of the master key, the system should be deactivated. After the re-activation, the existing keys should be newly registered. The system will then be unable to „recognize“ the lost key

12 Suggestions

Please read this instruction manual very carefully. No warranty claim will be accepted in case of damages resulting from a disregard of the instruction manual. No liability is taken for consequential damages.

There will be no liability on our part either if the casing of the control unit or reading units are opened.

Both the control unit of the TRANSSYS 2000 system and the lead to the door lock must be installed inside the building. Only then can a possible external misuse be prevented. However, the door lock cannot be opened by a manipulation of the reading unit or its lead from outside.

The lead between the reading unit and the control unit must not be lengthened, as in this case, a functioning of the system can not be guaranteed.

The red master key must by all means be kept in a safe place! Anybody can manipulate your TRANSSYS 2000 installation with the help of your master key and have duplicate keys made.

The TRANSSYS 2000 installation must not be connected to electricity mains 230 V!

The installation must only be operated with a safe low tension (f.e. bell transformer with CE sign), also see technical data on page 25.

The relay must only switch tensions and currents which are within its technical specification, see technical data. In no case must direct mains voltage be used!

In case of power failure TRANSSYS 2000 does not function. The door lock must then be opened and shut with a mechanical key.

The electronic keys are not watertight.

12.1 Error Correction

12.1.1 Short reading Distance, long Reaction Time

In practise, a reading distance of about 10 cm is obtained and the electronic key should be recognized immediately.

The cause for a short reading distance (less than 3 – 5 cm) and a repeated prolonging of the input signal delay is usually a low voltage in the supply to the control unit.

If the installation is mounted on a metal base, this will also shorten the reading distance considerably. Steel parts near the reading unit will deflect the magnetic field of the reading unit, and the reading distance is reduced considerably.

In case the reading unit and the control unit are to be mounted close together, for an optimal reading distance it is recommended to shorten the feed cable to abt. 1 – 1,5 meters and roll it up loosely. However, if the feed cable is shortened to some 10 cm or even less, this will reduce the reading distance considerably. A lengthening of the feed cable also decreases the optimal reading distance.

If the key can, in exceptional cases, momentarily not be registered (f.e. through background interference) then it is advisable to hold it further away for a few seconds, (more than 50 cm), then to wait a few seconds before holding the key to the reading unit again, since the Krypto-electronics in the key needs time before it is completely switched off in order to start afresh.

It has to be guaranteed both by the power supply and the cross section of the feed cable (f.e. bell transformer) that when the built-in relay is switched and the connected load is therefore activated, the tension at the terminals of the control unit cannot go down below 9V. If in doubt, it should be measured!

In some cases the load can cause a strong break-down in the feeding voltage because of the high power consumption (mostly certain electromagnetic E-openers). In this case, we recommend using two separate circuits for the feeding of the TRANSSYS 2000 control unit and the load. This can be f.e. two bell transformers, one for the control unit, one for the load.

The bell transformers, through their design, often have an instable voltage. This means that their off-load is relatively high (f.e. 1,5-fold to double of the nominal voltage), but this breaks down under load. It is therefore recommended to use a bell transformer with a wire voltage of at least 1 A. The average current of the TRANSSYS 2000 ELECTRONICS lies at a modest 50 mA (depending on the input; only about 100 mA when the relay switches). However, the unit requires short current peaks in the region of 300 mA, when data exchange with the key takes place. The tension of a transformer with an unstable voltage could possibly break down.

12.1.2 Error in Reading Unit

In case of an interruption of the current to the reading unit or its feed cable (screw terminals 2 and 3) the LED in the reading unit will blink repeatedly in the following way: 8x rapidly (100 ms ON / 100 ms OFF) with a longer interval inbetween (1400 ms).

The LED cannot light up if the leads to the terminals 1 and 4 are interrupted, exchanged (mixed up) or short-circuited.

12.2 Use with E-Opener

It is very important to read the advice under paragraph 12.1.1 about the power requirements.

Not all electric-openers (electric locks) available on the market are suitable for the use with TRANSSYS 2000. Some of the designs need a relatively high current which is decidedly above the specifications of TRANSSYS 2000. Building centers sometimes offer electric openers for a nominal voltage of 5 – 8 V. They draw more than 3 A current when connected to a 12 V bell transformer. However, this leads to an increased wearout of the contacts. The high voltage also causes a breakdown of the feeding voltage for the control unit. This can lead to malfunctioning.

Electric openers for 12 V in „low power“ (current max. 1 A) are preferable.

12.3 Maintenance and Care

The TRANSSYS 2000 equipment is maintenance-free. Wipe the reading unit and the electronic keys occasionally with a moist cloth (a mild household cleaner can be used). Do not use any solvents. The electronic keys are not watertight.

12.4 Service, Customer Service

Please see address of specialist dealer (rubber stamp) on the back of these operating instructions.

12.5 Liability

Neither the producer nor any selling agencies are liable for costs or damages arising either through the user or third parties by the operation of TRANSSYS 2000, especially in case of improper use, misuse, disruptions or supposed or evident malfunctioning of the installation.

12.6 Correct disposal

According to the **Electrical and Electronic Equipment Act (elektroG)**, the disposal of the installation via the municipal household waste collection is prohibited. If you wish to dispose of it, please use the nearest municipal collection point for electric/electronic waste. The address is to be obtained from your administrative (municipal) authorities.

13 Technical Data

Identification carrier	located in keyring pendant KRYPTO System
Operating frequency	125 kHz
Attainable Reading distance	at least 3 cm, in practice appr. 10 cm
Power supply:	12 V 0,3 A alternating voltage (AC) f.e. bell transformer 12 V / 1 A or 9 – 15 V direct current voltage
Power consumption	peak current 300 mA, average 30 – 100 mA, depending on feeding voltage and also if relay has been switched on.
Relay contact	30 V / 1 A (Closing)
Circuit time	1 – 25 sec. or continuously ON / OFF, programmable, delivery status 3 sec.
Number of keys	maximum of 90
Number of secondary master keys	maximum of 6
Measurements of control unit	diameter 60 mm, height 22 mm
Measurements of reading unit	diameter 83 mm, height 15 mm
Length of feed cable to reading unit	2,5 m Please do not lengthen this lead or shorten it by < 1 m as the attainable reading distance will be reduced. The feed cable can only be used for laying in a fixed position (immovable).
Protection rating of reading unit	IP 44 (ready assembled)
Protection rate control unit	IP 20
Surroundings of reading unit	-30°C to 60°C
Surroundings of control unit	0° C to 40°C, dry interiors
CD sign	

In addition to the existing equipment, the following executions are available:

TRANSSYS 2000	technique for normal security
TRANSSYS 2000 KRYPTO	technique for high security
TRANSSYS 2000 PLUS	for up to 1,800 keys
TRANSSYS 2000 PLUS KRYPTO	for up to 1,800 keys – high security

14 Connections of the Control Unit

14.1 Reading Unit

The reading unit which is part of the delivery is connected to the terminals 1 - 4 to the control unit with its four-core cable:

- | | |
|---|---------------|
| 1 | yellow (+LED) |
| 2 | white (coil) |
| 3 | red (coil) |
| 4 | bluu (-LED) |

For the functioning it is absolutely necessary that the various wires are assigned precisely to their terminals according to the colour indicated.

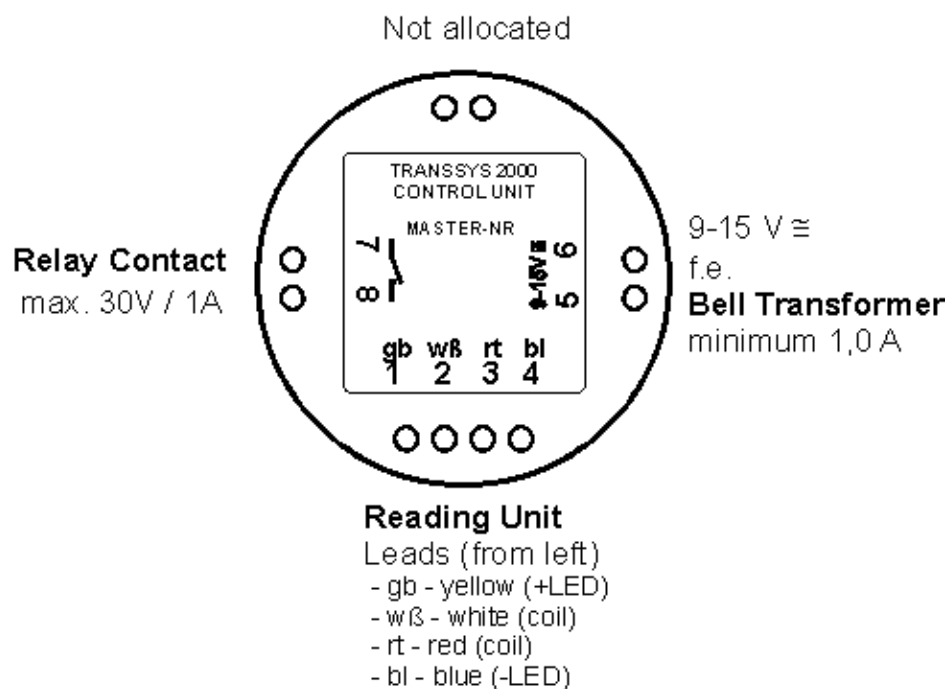
14.2 Relay Kontakt

Terminals nos 7, 8 (potential-free)

14.3 Voltage Supply

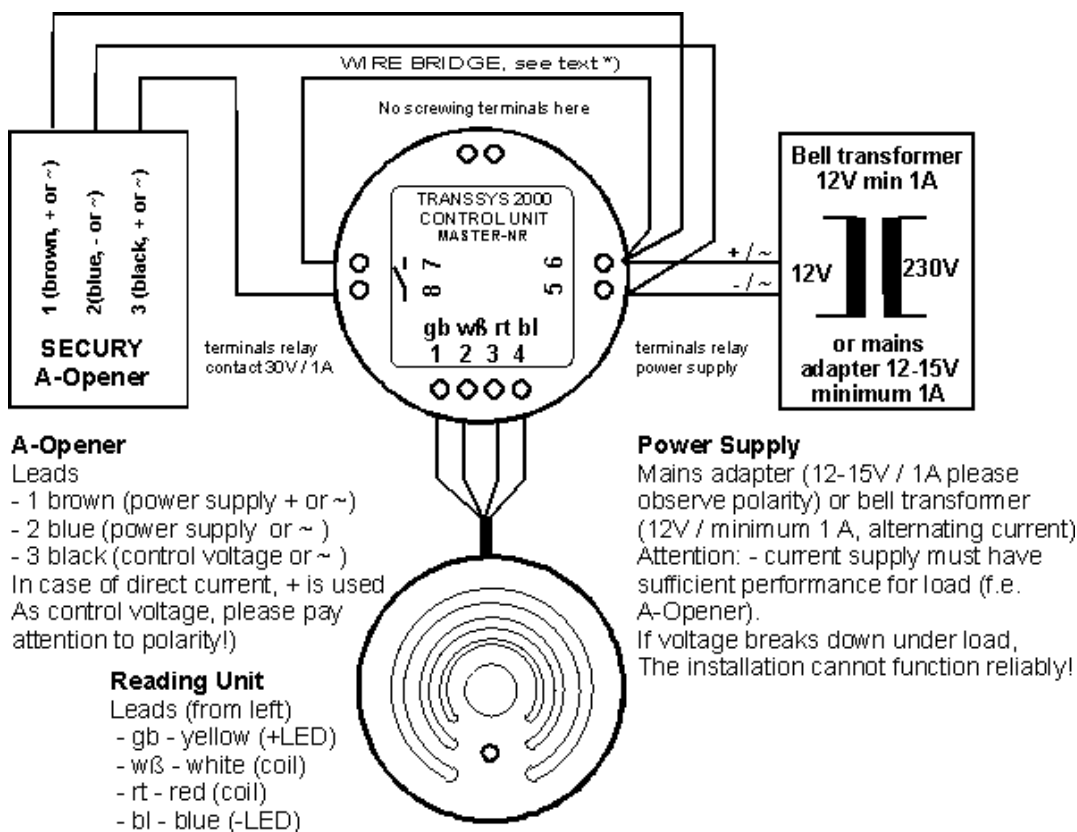
Terminals nos 5, 6 (polarity-independant)

14.4 Control Unit, view from above



15 Diagram of Installation Plan

Do not install power supply voltage (230 V / 50 Hz), TRANSSYS 2000 is exclusively operated with low tension!



*) This connection is located already as a wire jumper inside the casing, so it does not have to be laid on the outside. If the output should be needed as a potential-free contact only, then this screwing terminal which is easily visible can be removed with a side-cutter after the casing has been opened.

All wiring operations to be carried out with dead voltage only!

The screws in the terminals should be fastened with great care, if too much force is used the terminals can easily be torn off.

The four-core inductor cable is firmly connected to the reading unit at delivery. It must not be lengthened, because the attainable reading distance would otherwise be considerably reduced. It may be shortened if necessary in special cases (but not to less than 1 meter), see section „6.4 Mounting example for use as a door opener“. The lead is exclusively suited for laying in a fixed position (not movable).

In case the TRANSSYS 2000 is to be used at an entrance door, the control unit and the input lead to the door lock should be mounted or laid respectively inside the building. Only in this way will it be tamper-proof, and safety against manipulation from outside which could lead to an unlocking of the door can be guaranteed. External influence at the reading unit or its lead will in no case activate a switching of the relay.

Should, with the built-in relay, a rating of more than 30V / 1A be switched, it is absolutely necessary to use an auxiliary relay. The small relay built in to the control unit is in no way suited to switch the mains voltage of 230 V / 50 Hz directly!

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