

Installation instruction GatorSignal Plus

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1 Notes

- Please read these instructions carefully before operating the lock.

1.1 Liability notes

- The installation of this signal box has to be done according to these instructions
- The installation instruction is part of VdS certification and the certification of other testing institutes.
- Non-compliance leads to the loss of this certification.
- When operating beyond the specifications the warranty of the manufacturer will be void.
- Take care of not damaging the cables and all connected components.

2 Introduction

- The connection box "GatorSignal Plus" is a universal interface for exchanging signals of locks within the Gator series with external systems via potential-free contacts. This includes the function as blocking device and the signalization of a silent alarm.
- It offer the possibility of power supplying a lock system (containing of several locks and/or input units).
- Up to two locks or locking electronics can be connected to one box. Inside of redundant locks there are two independent electronics. They work as two separate locks.

3 Signals

- The following signals can be processed or generated independently from the configuration
- Concerning the adjustment of signals of pre-defined levels 10, 20, 30 we refer to the "General operating notes levels 10, 20, 30".

3.1 In-/outputs

- Every lock electronic has got 3 outputs and 2 inputs. The assignment is generally freely configurable and is done via PC software Gator Select. For the standard configurations (level 10, 20, 30) they are already configured.
- The signals on the input take effect on both connected locks/lock electronics. In that manner a boltwork switch can be processed by two electronics at the same time.
- With two connected lock electronics one output each is connected if at least one has the condition "disjunction".

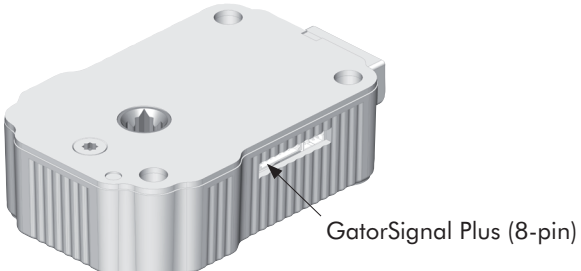
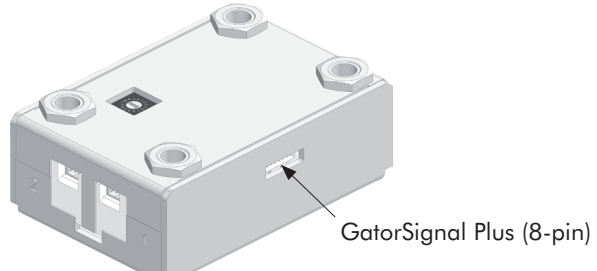
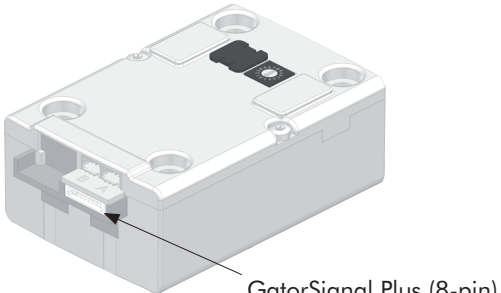
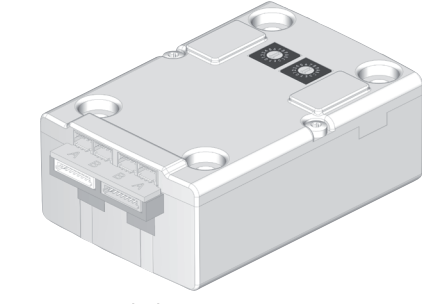
3.1.1 Inputs

Release contact [blocking device]	System will be blocked when the according controlling input has got control voltage.
Start delay time	When changing the signal level from the defined idle state, the delay time 1 is started.
Boltwork switch	Automatic closing is interrupted until the boltwork is in closed position. This ensures that the bolt of motor locks can go into closed position without taking damage.
Blocking signal	With an active signal the lock cannot be closed via the input unit. The automatic closing is not affected by it.

3.1.2 Ouptuts	
Bolt position	For signalling the lock's bolt position. The contact is active when the bolt reaches or leaves the closed position. Note: If the bolt position should change while the lock is in standby mode, i.e. with latch bolt locks, the switching status changes only when the lock is active again. Silent alarm – By entering the alarm code (last code number freely adjustable) an alarm signal is triggered and sent to the burglar alarm system. The lock opens with the alarm code.
Opening delay active	When the opening delay is started the according output is triggered. The signal can be used for signal lights for example.
Release window active	If an opening delay is activated, the according output is switched. The signal can then be used for i.e. signal lights.
Opening window active	The lock can be opened after the opening delay has ended. This is signaled by the according output.

4 Plug position

All locks within the Gator series are equipped with an 8-pin plug to connect to the "GatorSignal Plus" box.

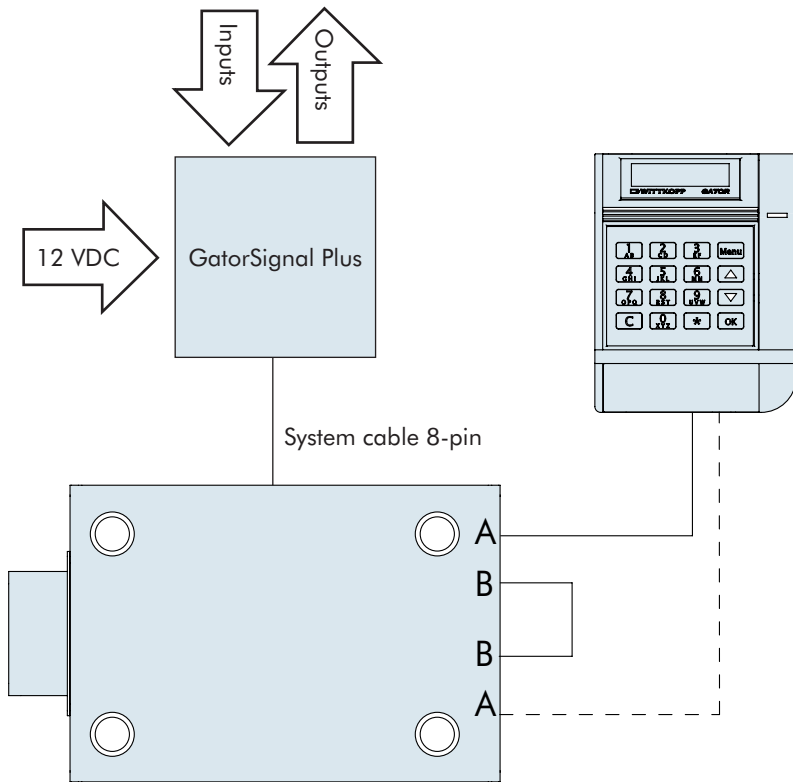
<p>4.1 Gator 2000</p>  <p>GatorSignal Plus (8-pin)</p>	<p>4.2 Gator 3000/3010</p>  <p>GatorSignal Plus (8-pin)</p>
<p>4.3 Gator 5000</p>  <p>GatorSignal Plus (8-pin)</p>	<p>4.4 Gator 6000/8000/9000</p>  <p>GatorSignal Plus (8-pin)</p>

Connect the cable to the according plug for the "Gator Signal Plus" box.

5 System

The connection is created by a cord set system cable. This cable is available in various lengths.

5.1 System diagram



5.2 Power supply

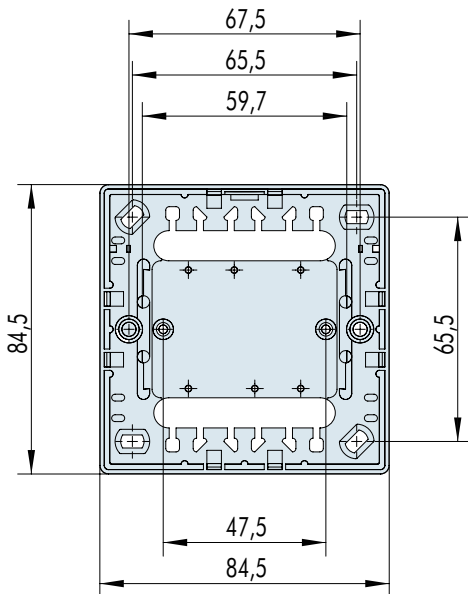
- The power distribution within the Gator system is done by bus cables.
- The supply voltage for operating the motors and a controlled supply of the electronic (logic voltage) is secured.
- When using batteries the power supply is done by the input unit. For the additional energy supply when using more than one lock within a system, the "GatorSignal Plus" is equipped with a double input control (motor voltage) and a powerful control (logic voltage).
- When using the signal box it is strongly recommended to power supply the system by it. The required holding power of the relay greatly reduces the life span of the battery. The use of batteries is only reasonable as emergency power supply.

6 Technical data

Technical data	
Input voltage	12VDC, controlled
Current consumption	<p>< 4 mA*</p> <p>< 105 mA**</p> <p>add. bolt load depending current consumption of locks, display lighting etc.</p> <p>The supply of all other components from the signal box is achieved indirectly by bus cables.</p>
Reference for the following operating modes (Gator 2000/RO):	
* No relay of the outputs power supplied, power supply exclusively via mains adapter, only one lock and input unit.	
** All output relays activated, both inputs power supplied (consumption via power supply of the system), only one lock and input unit.	
Power supply lock system	<p>max. 2 x 2A (ca. 10 VDC)</p> <p>max. 1 x 2A (3,3 VDC)</p>
Measurements	85 x 85 x 25 mm
Weight	90 g
Input	<p>2 x optocoupler input</p> <p>max. 12 VDC, ca. 10mA</p>
Outputs	<p>3 x relay output</p> <p>Changeover contact, rated switching capacity 2 A, 30 V (ohmic load)</p>
Screw terminals clamping strip	<p>AWG 28 -16</p> <p>Skinning length 5 mm</p>
Switching capacity release contact	2 A, 30 V (ohmic load)
Operating temperature	0 bis +50° C
Humidity tolerance	up to 75 % relative humidity
Protection	IP 30
Environmental class	II by VdS
VdS security level	C

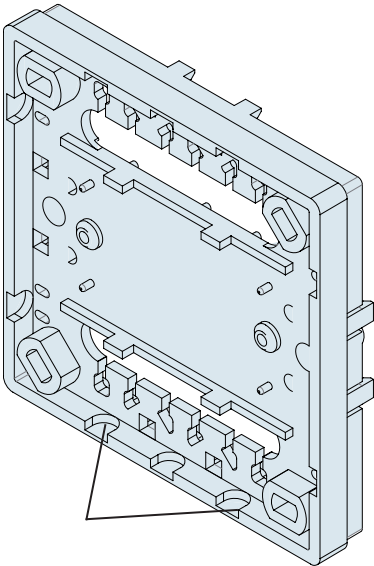
7 Mounting

7.1 Case



- Take off the cover for mounting/dismounting.
- Fix the case onto the safe door with at least two screws.
- The case can be sealed with the enclosed adhesive seal after finishing the mounting process in order to visibly prove manipulation of the system.

7.2 Break-out for wiring

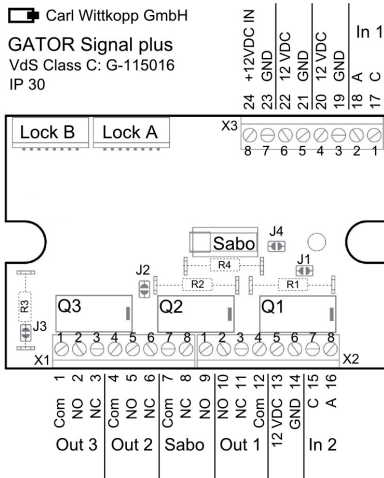


- Lead the cables through the break-outs from below.
- Create break-outs at the according places.
- Fix the cables with cable ties onto the case (strain-relief).
- If flexible parts of cables are placed onto clamping strip, it is recommended to protect them with wire-end ferrules or tin coat them.

Attention :

- After taking out the pc board the plastic washer has to be used when re-mounting (to avoid shorts/damage).

7.3 Terminal assignment



7.3.1 Terminal assignment description

Description

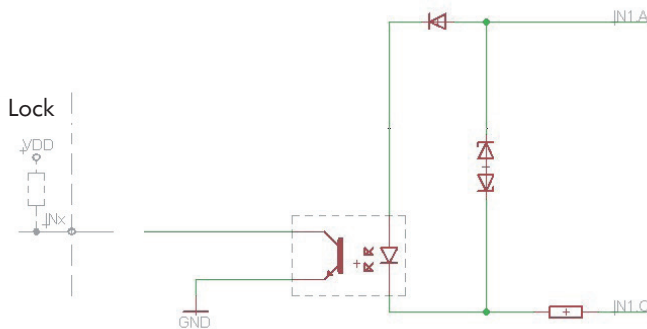
Connection plug lock A (8 pol.)	connection lock electronic A
Connection plug lock B (8 pol.)	connection lock electronic B

7.3.2 Clamping strip

1	COM output relay Q3
2	NO output relay Q3
3	NC output relay Q3
4	COM output relay Q2
5	NO output relay Q2
6	NC output relay Q2
7	COM sabotage switch/release switch
8	NC sabotage switch/release switch
9	NO sabotage switch/release switch
10	NO output relay Q1
11	NC output relay Q1
12	COM output relay Q1
13	10 VDC regulator output voltage
14	GND - ground
15	C IN 2 - cathode optocoupler input 2
16	A IN 2 - cathode optocoupler input 2
17	C IN 1 - cathode optocoupler input 1
18	A IN 1 - cathode optocoupler input 1
19	GND - ground
20	10 VDC regulator output voltage
21	GND - ground
22	12 VDC supply voltage (customer based)
23	GND - ground
24	12 VDC supply voltage (customer based)

7.4 Internal assignment input

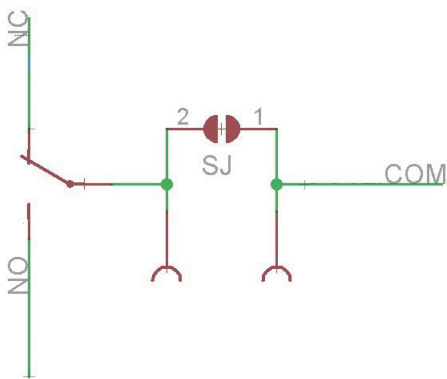
- Both inputs are made as diode lines for optocouplers.
- To simplify the assignment of potential-free contacts the supply voltage was bridged to additional.



- max. input voltage 12 VDC
- medium current consumption ca. 10mA

7.4.1 Internal assignment output

- When operating in mixed mode with batteries, they are “divided” electronically by mixing diodes as soon as the motor voltage is higher than the open-circuit voltage of the battery (9V) – unnecessary discharging is avoided.
- All outputs are made as changeover contacts of a relay.
- The base contact (com) leads to a solder contact for a row resistor i.e. for a direct evaluation within an alarm circle by a burglar alarm system.
- When using the changer as switch, either solder a jumper at this place or use the assigned solder jumper.



- The marking of the solder jumpers are numbered like the corresponding output relays:
 - J1 and R1 correspond to relay Q1
 - J2 and R2 correspond to relay Q2
 - J3 and R3 correspond to relay Q3
 - J4 and R4 correspond to relay release switch (sabotage)

7.5 Activate/deactivate I/Os

- The in-/output functions have to be activated in the software GatorSelect or the input unit with the according access rights before using them.

Abbreviated dialling

* 3 0 *

Activate I/O

* 3 1 *

Deactivate I/O