

Automatic sliding door record system 16 + 18 STA

Application notes **E**

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Information for installation and service personnel:

This document is intended to simplify use of the record system 16 + 18 STA. It will be continuously supplemented with practical tips for installation, servicing and repair. For this, however, we are dependent on your practical experience, suggestions and ideas. Please send us these tips, so that we can add them to this document. Many thanks for your valued assistance.

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AN 1 About what kind of record unit are this application notes made for?

⇒ **record 16 STA**

⇒ **record 16 STA FIRST-B**

please note absolutely:

From software version V2.0 on: - we use the **standart BDE-E (016.840.000)**.
- we need to use a double switch to select the operation mode "locked"

Configuration according to the survey of the 5 configuration-level in **AN 6**.

Special Testbox in **AN 3**.

The limited switch on the VRR **has to existence**.

⇒ **record 16 FTA**

please note absolutely:

Configuration ➔ folding door is <1500 mm or >1500 mm in **AN 5** (Conf.-level 5).

Special designation of the unit: **BAT 107 / ATE 107 / VRR 107**.

⇒ **record 16 FBO**

please note absolutely:

Configuration ➔ folding door is <1500 mm or >1500 mm in **AN 5** (Conf.-level 5).

If they are two VRR you have to do the configuration (Double locking) in **AN 5** (Conf.-level 4).

Special designation of the unit: **BAT 107 / ATE 107**.

⇒ **record 16 PST**

please note absolutely:

You have to do the configuration (Double locking) in **AN 5** (Conf.-level 4).

⇒ **record 16 RST**

You need to use a special software (**eprom "circular door" 016.500.200**)

⇒ **record 18 STA**

This sliding door operator is not based on the slide bar principle.

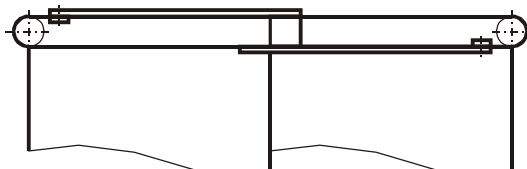
⇒ **record 18 STA FIRST-B**

See **above** under *record 16 STA FIRST-B*.

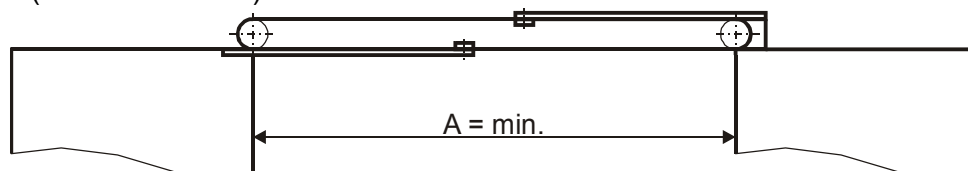
AN 2 General "New features of the record system 16 / 18 STA"

The sliding door operator record 16 STA is based on the **slide bar principle**. With this type of drive the power is transmitted to the door leaves via a slide bar. One end of the slide bar is attached to the gear belt and the other end to the door leaf. It is thus possible to achieve opening widths of up to 2,800 mm, using the standard module length of 1,920 mm. In doing so, the slide bars 'push' the door leaves past the guide pulley support and drive unit respectively. The following drawings illustrate this principle, both with a narrow door leaf (A min.) and a wide door leaf (A max.). Please note that the module is the same length for both versions.

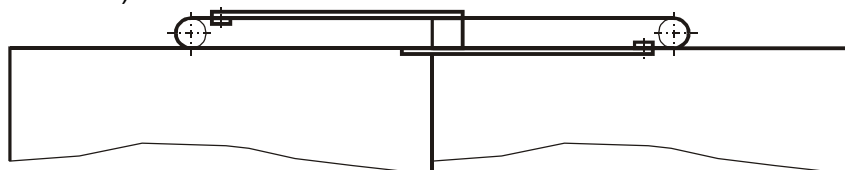
Door closed (narrow door leaf)



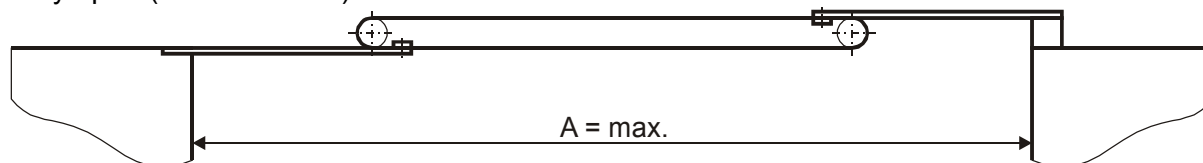
Door fully open (narrow door leaf)



Door closed (wide door leaf)



Door fully open (wide door leaf)



The record 18 STA **is not based on the slide bar principle**.

The sliding door operator record 18 STA is a **low door operator** with a netto-height of 88 mm.

In fact of his low construction height, does the 18 STA look very aesthetic. The above profile of the door leaf will be integrated in the cover. In fact of the low construction height, got the carriages no height adjustment, that does require, **the installation dimensions are done perfekt.**

The **height adjustment** will be done now at the bottom edges.

Thats the reason, we will use the new profil system of the **glazing system SVG 32.**

The control system is exactly the same like by the record system 16, and will guarantee the same easy operation.

There are more innovative changes and advantages compared with the models STA 13 / 14 / 15 such as:

- The track and door leaves can be previously installed, so that the "hole in the wall" can be closed without having to install the drive module. This signifies **installation conforming with the building progress**, i.e. the drive module is only installed when the automatic door operator is required, shortly before commissioning and not during building work.
- The **drive module is assembled and tested at the factory**. This firstly increases the quality and reliability, while secondly reducing installation time on the spot.
- At the same time the connecting sections for the **side pieces** have also been revised, so that side pieces made at the factory are used. This further reduces erection time at the place of installation.
- The standard drive can be extended (also retro-actively) with respect to weight (use of **DUO 16**) and **functions**.
- The record system 16 / 18 STA now no longer requires **switch supports with limit switches**, if the optional locking (VRR) is not used. This simplifies handling, since the VRR can now be offered as a genuine option and no longer either as VRR or switch support.
Exceptional: *The unit 16 STA FIRST-B / 18 STA FIRST-B will always need the limited switch !*
- The **locking VRR 16 / 18** can be unlocked manually in the event of a power failure. Refer also to the operating instructions for the record system 16 / 18 STA sliding door operator. If manual unlocking is performed after a power failure, the operator also remains locked when the power is restored.
- The **electronic BDE-E** is now provided as a standard control unit, with which various programming and configurations can be made. At the same time the fault code is displayed on the BDE-E for a fault. Refer in this respect to the relevant data in the manual or operating instructions. 2 BDE-E units can be connected simultaneously. The two BDE-E must not then, however, have the same address (see application information **AN 7**), otherwise the key read-in is not reliable.
As an inexpensive option a **mechanical BDE-M** without programming, configuration or fault indication possibilities can be used instead of the electronic BDE-E. It is therefore recommended when using a mechanical BDE-M for the fitter to connect an electronic BDE-E briefly for commissioning and in the event of a fault to take advantage of these special functions. Instead of the BDE-E the fitter can also use the optional **Testbox** 016.860.000.
- It should be noted that for the record system 16 / 18 STA the **radar connections have been adapted to international standards**. This means that ***for the radar 255 / 256 no longer the yellow (NPN) but the grey (PNP) wire must be used*** for signal transmission. The 0 V is no longer switched, but the 24 V. This also applies to the connection of other peripheral devices. For this reason too, older radar units with only an NPN output cannot be connected to the STG 16 / 18. Older radar units with relay output, however, can be connected without difficulty.
- The new **ELS 260 or ELS 261 (round cell)** light barrier is used for the record system 16 / 18 STA. The ELS 260 / 261 has the same construction as the ELS 245, but is self-calibrating (optimum range setting) and has a plastic case. This self-calibration is performed automatically with clear parameter memory or following resetting of the factory settings (8th light pulse to STG 16 / 18), and by initiating the "ELS learn" function (2nd light pulse to STG 16 / 18).

The **BAT 16 / 18 / 107** consists of two lead-acid batteries (Application notes **AN 4** also refers). During a power cut the door functions perfectly up to several hours (depending on the weight of the door leaves and the number of opening cycles). Afterwards it moves to the preselected end position as required from case to case (open, closed or closed and locked). It is possible also in this state to open the door by means of a key-contact **SSK** (**press the SSK-contact until the door will start with the opening cycle**) should the power continue to be interrupted. The status of the door (open, closed or locked) is exactly the same again after this BAT-SSK cycle as before actuating the BAT-SSK.

- The **SSK key-operated contact connection** is made to both terminals SSK-A and SSK.
- The **bell or fault output contact** can be loaded with maximum 1 A / 30 V.
- With the time switch contacts, the **SUR-V** (locked) is active when the contact is open and the **SUR-A** (output) when the contact is closed.
- For the input contacts of the mechanical **BDE-M**, 1 = contact closed and 0 = contact open.
- For "simple" applications the record system 16 / 18 STA can also be operated without BDE. **(not possible on 16 STA FIRST-B / 18 STA FIRST-B).**
- With the record system 16 / 18 STA the manually actuated **learning cycle (calibration run)** must be started by an opening pulse. 3 to 4 opening cycles are necessary to read-in the door parameters, such as door leaf weight, opening width, friction, etc.

AN 3 Tool kit and auxiliary aids

In the development of the record system 16 it was ensured that only a few tools are required for installation. In addition to a general tool kit, we recommend the following commercially available tools for correct and simple installation:

- Double adjustable wrench 10 / 13
 - Socket wrench 2 mm
 - Socket wrench 5 mm
 - Screwdriver 0
 - Screwdriver 1
 - Ratchet
 - Blade 13 for ratchet
 - Extension 150 mm for ratchet
 - Socket-head spanner 5 mm long with ball head for ratchet
-
- **18 STA additional:** adjustable wrench 22

Testbox (016.860.000)

Testbox 16 FIRST-B (016.861.000)

A testbox is available for test purposes during installation and servicing. This testbox is connected to the STG 16 instead of the peripheral devices (AKI, AKA, SSK, ELS, etc.). It comprises an electronic BDE-E and various switches, keys and LEDs for simulating the various peripheral devices. This enables wiring and product errors in the peripheral devices to be detected quickly and efficiently.

Programming and configurations can also be performed with this Testbox, if a mechanical BDE-M is fitted to the drive. In addition, the Testbox can also be used for easy checking of the configuration settings, e.g. bell control, time switch inputs, NSK, SÖK, etc.

Simple test to control the right function of the drive

There are many situation, in case of commissioning or fault clearance, where it will be much more easy to cut all peripheral devices from the STG, to check if the operator does work by himself.

Follow the instructions down below :

- Cut off power and battery.
- Cut off all 4 terminal strip, at the STG 16 / 18, where all the peripheral devices are connected.
- Connect 3 terminal strip just assembled with the following bridges ⇒ simulation of **automatic mode** :

terminal strip J3 (1-12)	bridge	5 – 6
terminal strip J4 (13-24)	bridge	13 – 16
terminal strip J2 (30-37)	bridge	31 – 32 und 35 – 36

- Switch on power supply and battery
- Test the drive:
 - The two green LED on the STG have to light.
 - Start a opening-cycle with the “learn” key.

Attention : During the test, there will be no security of light barrier (ELS) or even radar (AKI,AKA).

Large BDE-E for training and presentation purposes (016.870.000)

A serviceable, outsize electronic BDE-E (approx. 220 x 220 mm) is available for training and presentation purposes. This large BDE-E can be operated at the same time as a normal BDE-E, observing application instruction AN 4 with regard to addressing of the BDE-E.

By the 16 STA FIRST-B / 18 STA FIRST-B can this BDE not be used !

AN 4 BAT 16 / 18 / 107: Handling of the batteries / battery operation

When storing lead-acid batteries, such as those used in the BAT 16 / 18 / 107, some important points must be noted. This applies in particular to the proper storing of the BAT 16 / 18 / 107 in the local parts stores.

Lead-acid batteries run down during storage. Moreover, an excessive discharge permanently reduces the charge acceptance. **In order to avoid this, these lead-acid batteries must be recharged at least every eight months!**
Put the storage batteries for recharging in an upright position to prevent leakage.

Before leaving our works at Fehrltorf the BAT 16 / 18 / 107 is fully charged. The date when the charge was completed is shown on the adhesive label on the BAT 16 / 18 / 107. If the BAT 16 / 18 / 107 is not installed in a record system 16 / 18 STA within eight months from this date, it will have to be recharged. Please make sure to add the date of the recharge to the adhesive label.

There is **no** need to recharge the BAT 16 / 18 / 107 as long as it is installed in the record system 16 / 18 STA.

Suitable battery chargers can be procured locally or ordered from record Fehrltorf.

Battery operation

Functional characteristics:

- **Power failure**

Battery operation (if battery is present) otherwise the drive will immediately switch off.

- **Battery capacity will be all right**

The door functions get maintain, but the acceleration will be slower.
The duration of battery operation depends on the weight of the door leaves and the number of opening cycles.

- **Battery capacity is going to the end**

The door will carry out the preselected emergency reaction (according to the 1th configuration level) and switch off.
But it is possible to open the door by means of SSK (press the SSK until the control unit will start up). After each opening cycle the drive will switch off.

- **Battery capacity is too low**

The door can not carry out the preselected emergency reaction and will immediately switch off.

AN 5 Configuration of STG 16 / 18 with BDE-E

Valid for record system 16 (STA, FTA, FBO, PST + RST) und 18 STA

Configurations of the record system 16 / 18 STA can only be made with the electronic BDE-E or the optional Servicebox. If a mechanical BDE-M is connected, a BDE-E or Testbox must be connected briefly for the configuration.

Important: All modifications to the configuration with respect to the standard values (factory settings) must be marked in the relevant box of the configuration review sheet (found in the operator).






The factory settings (Def) for the 5 configuration levels (Conf. level) 1 to 5 are entered in the configuration review sheet. Significance of symbols:

- * = corresponding control LED lights
- = corresponding control LED does not light


All configuration modifications must be marked as follows in the relevant box:

- x = corresponding control LED lights
- = corresponding control LED does not light


Please always leave the configuration review sheet in the drive even when the STG is replaced!


















Conf. Level ↓										
	Def.	Modification	Def.	Modification	Def.	Modification	Def.	Modification	Def.	Modification
1	*		*		-		-		-	
2	-		-		-		-		-	
3	*		-		-		-		*	
4	-		-		-		-		-	
5	-		-		-		-		-	

1st configuration level

Entry to the configuration levels can only be made with the push-button on the STG. The button must be pressed until the 4th light pulse on the large control LED. The BDE-E is then in the first configuration level. The  LED on the BDE-E flashes in mode 1 as acknowledgement, i.e. the LED lights periodically for approx. 0.15 s with an interval of approx. 2 s (light pattern ● ● ● ●).

The **change** between configuration levels is made by pressing the  or  key.

Exit from the configuration levels is made by pressing the  key briefly or if no operation takes place for 3 minutes (timeout).



Symbol	Function	Factory setting (Default)	Default LED
 	Door unlocks and opens *		on / off
 	Door closes and locks *		off / on
 	door opens, if not locked *	factory setting	on / on
 	Door closes, but doesn't lock *		off / off
	Bell control ** / fault output	fault output	off
 	No locking *** (if VRR present, however, it is automatically recognised and setting changed)	factory setting	off / off
 	Locking present ***		off / on
 	Locking present and "One-way" locked ***		on / off
 	Locking present and always locked ***		on / on








* Coded functions, performed after completion of battery operation

** When activated, the bell is operated at most every 10 secs., even if the ELS is continuously interrupted.
The fault output relay is then omitted in this configuration. If the fault output relay is nevertheless required, an FEM (function extension module) must be used.

*** Coded functions for locking device

2nd configuration level

The change from 1st to 2nd configuration level is made with the  key. The  LED flashes in mode 2 as acknowledgement on the BDE-E, i.e. the LED lights periodically twice with an interval of approx. 2 s (light pattern ● ● ● ● ● ● ● ●).



Symbol	Function	Factory setting (Default)	Default LED
	Activation mechanical BDE-M or time switch inputs *	not activated	off
	Activation SÖK **	not activated	off
	Activation NSK **	not activated	off
	No external safety activated ***	factory setting	off / off
	Activation external safety (ELS) ***	not activated	on / off
	Activation external safety (collision safety) ***	not activated	off / on
	Activation of CO48 safety (special application) ***	not activated	on / on






* If no BDE-E is present, the BDE-M is activated automatically.
In this case, however, without BDE-M a jumper J3/5-J3/6 is required.

** SÖK and NSK cannot be activated simultaneously. The function activated last is effective.

*** Coded external safety functions actuated by input SHE-EXT.
With the safety on opening the door stops. The remaining process is the same as with a collision.
The CO48 safety automatically becomes active if „CO48-Ventouse“ is programmed on level 5.

5th configuration level


The change from 4th to 5th configuration level is made with the  key. The  LED flashes in mode 5 as acknowledgement on the BDE-E, i.e. the LED lights periodically five times with an interval of approx. 2 s (light pattern ●●●●● ●●●●● ●●●●● ●●●●●●).

					Function (coded 5 bits)	Factory setting (Default)	Default LED (1=on)
0	0	0	0	0	STA 16 / 18-Basis	activated	0 0 0 0 0
0	0	0	0	1	CO48-Ventouse + VRR mono	not activated	(V 2.1) **
0	0	0	1	0	CO48-Ventouse	not activated	(V 1.10) **
0	0	0	1	1	TOS / FEM *	not activated	(V 1.10) **
0	0	1	0	0			
0	0	1	0	1	Fermod	not activated	(V 1.30) **
0	0	1	1	0	BAT-RED *	not activated	(V 1.30) **
0	0	1	1	1			
0	1	0	0	0			
0	1	0	0	1	STA16-24V	not activated	(V 1.31) **
0	1	0	1	0	CO48-24V	not activated	(V 1.32) **
0	1	0	1	1	Emergency stop without new-start by the KTA with night-closing	not activated	(V 1.40) **
0	1	1	0	0	FLIP FLOW	not activated	(V 1.41) **
0	1	1	0	1	STA 16 UL	not activated	(V 2.2) **
0	1	1	1	0			
0	1	1	1	1			
1	0	0	0	0	Folding door < 1500mm	not activated	(V 1.30) **
1	0	0	0	1	Folding door > 1500mm	not activated	(V 1.30) **
1	0	0	1	0	Folding door Australia	not activated	(V 2.1) **
1	0	0	1	1			
1	0	1	0	0			


* If a **module RED 16** or a **FEM 16** is fitted, this is identified automatically and the information stored.












** Software-version

1st configuration level

Entry to the configuration levels can only be made with the push-button on the STG. The button must be pressed until the 4th light pulse on the large control LED. The BDE-E is then in the first configuration level. The  LED on the BDE-E flashes in mode 1 as acknowledgement, i.e. the LED lights periodically for approx. 0.15 s with an interval of approx. 2 s (light pattern ● ● ● ●).

The **change** between configuration levels is made by pressing the  or  key.

Exit from the configuration levels is made by pressing the  key briefly or if no operation takes place for 3 minutes (timeout).



Symbol	Function	Factory setting (Default)	Default LED
 	Door unlocks and opens *		on / off
 	door opens, if not locked *	factory setting	on / on
	Bell control ** / fault output	fault output	off
  	No locking *** (if VRR present, however, it is automatically recognised and setting changed)	factory setting	off / off
  	Locking present ***		off / on






* Coded functions, performed after completion of battery operation

** When activated, the bell is operated at most every 10 secs., even if the ELS is continuously interrupted.
The fault output relay is then omitted in this configuration. If the fault output relay is nevertheless required, an FEM (function extension module) must be used.

*** Coded functions for locking device

2nd configuration level



The change from 1st to 2nd configuration level is made with the  key. The  LED flashes in mode 2 as acknowledgement on the BDE-E, i.e. the LED lights periodically twice with an interval of approx. 2 s (light pattern ● ● ● ● ● ● ● ●).




Symbol	Function	Factory setting (Default)	Default LED
	Service FIRST-B (Manual operation) *	not activated	off
	Activation SÖK	not activated	off
	No external safety activated **	factory setting	off / off
	Activation external safety (ELS) **	not activated	on / off
	Activation external safety (collision safety) **	not activated	off / on

* Manual operation will be cleared lately after 24 h.

** Coded external safety functions actuated by input SHE-EXT.
With the safety on opening the door stops. The remaining process is the same as with a collision.

3rd configuration level



The change from 2nd to 3rd configuration level is made with the  key. The  LED flashes in mode 3 as acknowledgement on the BDE-E, i.e. the LED lights periodically three times with an interval of approx. 2 s (light pattern ● ● ● ● ● ● ● ● ● ● ● ●).


Symbol	Function	Factory setting (Default)	Default LED
	Automatic reverse fine / coarse	fine	on
	TOWA * (winter)	not activated	off
	TOWA two-way traffic **	not activated	off

* If the door remains open for longer than 20 secs. in winter operation, it is driven to the summer opening position. If the winter opening is not reached, the winter opening width is again applicable.

** TOWA two-way traffic nevertheless opens the door completely in "winter operation" with two-way traffic (as in "automatic mode")

4th configuration level



The change from 3rd to 4th configuration level is made with the  key. The  LED flashes in mode 4 as acknowledgement on the BDE-E, i.e. the LED lights periodically four times with an interval of approx. 2 s (light pattern ●●●● ●●●● ●●●● ●●●●).






Symbol	Function	Factory setting (Default)	Default LED
	MPV-locking device (several point) *	not activated	off



- * **below** Software version **V 2.0** (Neutralizing automatic „child-proof lock“)
- * **on** Software version **V 2.0** not used
- * **from** Software version **V 2.1** on (MPV-locking device), if a MPV is fitted, this is identified automatically and the information stored.

5th configuration level

The change from 4th to 5th configuration level is made with the  key. The  LED flashes in mode 5 as acknowledgement on the BDE-E, i.e. the LED lights periodically five times with an interval of approx. 2 s (light pattern ●●●●● ●●●●● ●●●●● ●●●●● ●●●●●).

					Function (coded 5 bits)	Factory setting (Default)	Default LED (1=on)
0	0	0	0	0	STA 16 / 18-Basis	activated	0 0 0 0
0	0	1	1	0	BAT-RED *	not activated	(V 1.30) **

* If a module RED 16 is fitted, this is identified automatically and the information stored.

** Software-version

- ***On software version V2.0 changed only something in the STA 16 / 18 FIRST-B application !!***



If you use the software version V2.0 in the control unit STG 16 you have to insert the software version V2.0 in the control unit RED-B 16 too !

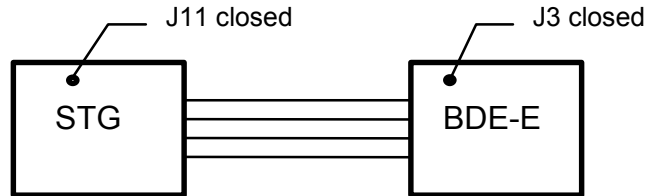
AN 7 Description of jumpers on STG 16 and BDE-E

Jumper J11 (on STG 16) and J3 (on BDE-E):

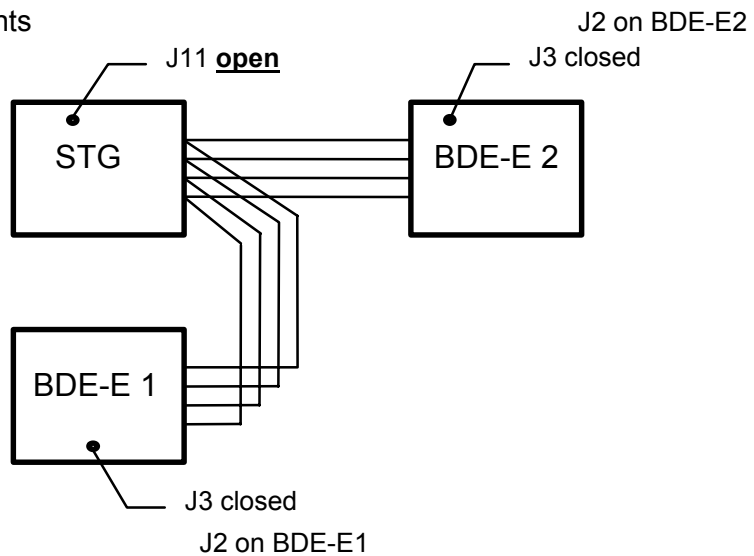
- CAN bus terminating resistance of line

- The following cases can be distinguished:

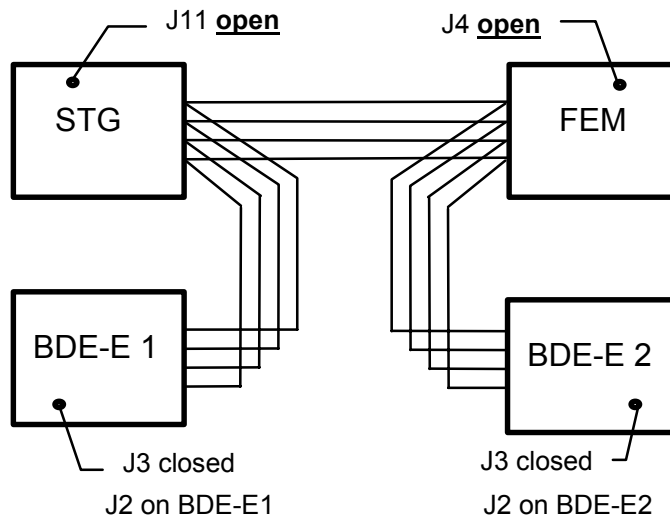
2 CAN-Bus participants (**factory setting**)



3 CAN-Bus participants



4 CAN-Bus participants



Jumper J12 (on STG 16 / 18):

Direction of rotation:

Jumper at position 1 - 2 ==> D-STA / E-STA-R (**factory setting**)

Jumper at position 2 - 3 ==> E-STA-L



That the control unit recognizes and stores a changing of the direction of rotation done by the Jumper, a "RESET" must be released !

Jumper J13 (on STG 16 / 18):

Battery monitoring:

Jumper at position 1 - 2 ==> BAT 16 present (**factory setting**)

Jumper at position 2 - 3 ==> system without BAT 16

Jumper J2 (on BDE-E):

BDE-E addressing:

Jumper BDE-E 1 ==> address BDE-E 1 active (**factory setting**)

Jumper BDE-E 2 ==> address BDE-E 2 active

If two BDE-Es are installed one BDE-E must have address 1 and the second BDE-E address 2.

AN 8 Modes of operation with connection of a BDE-M or PLC and BDE-E

If **no** BDE-E is present, the BDE-M or time switch inputs are activated automatically.

It is **not** recommended to operate a BDE-E together with a BDE-M!

If a BDE-E is present and the inputs for the BDE-M or time switch inputs are to be used, these inputs must first be activated (configured) with the BDE-E.

The priority and the code shown in the following table apply to the operating mode, whereby BDE2 (S2) and BDE1 (S1) represent the two STG input terminals:
(L = interruption or 0 V, H = +24 V)

BDE2 (S2)	BDE1 (S1)	Function	Priority (1 = highest)
L	L	locked	1
H	H	one-way traffic	2
L	H	continuously open	3
		winter operation	4
H	L	automatic operation	5

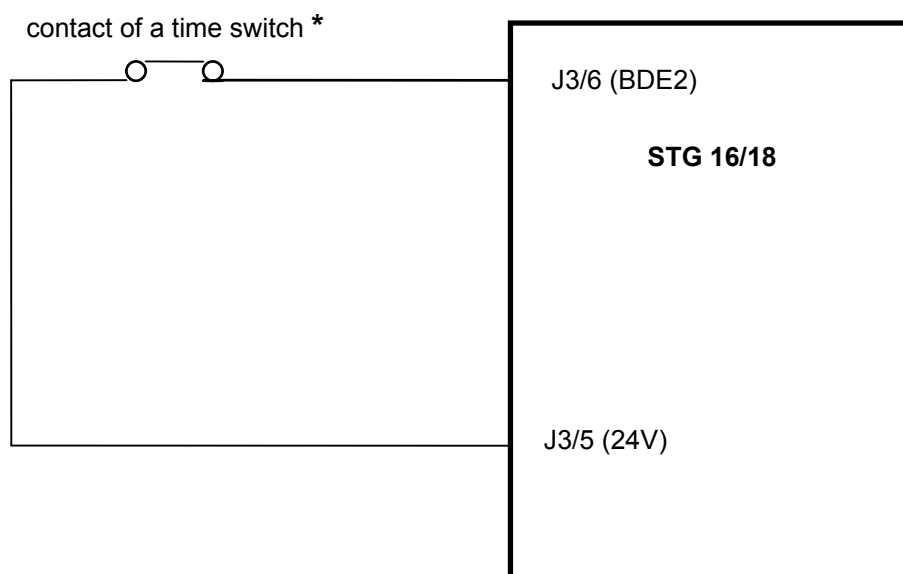
Example: If the BDE-M is on "automatic mode" (i.e. lowest priority), any operating mode can be set with the BDE-E.

The BDE-E indicates the current operating mode.

If an operating mode is set on the BDE-E, which has no current priority, the status message 62 is displayed.

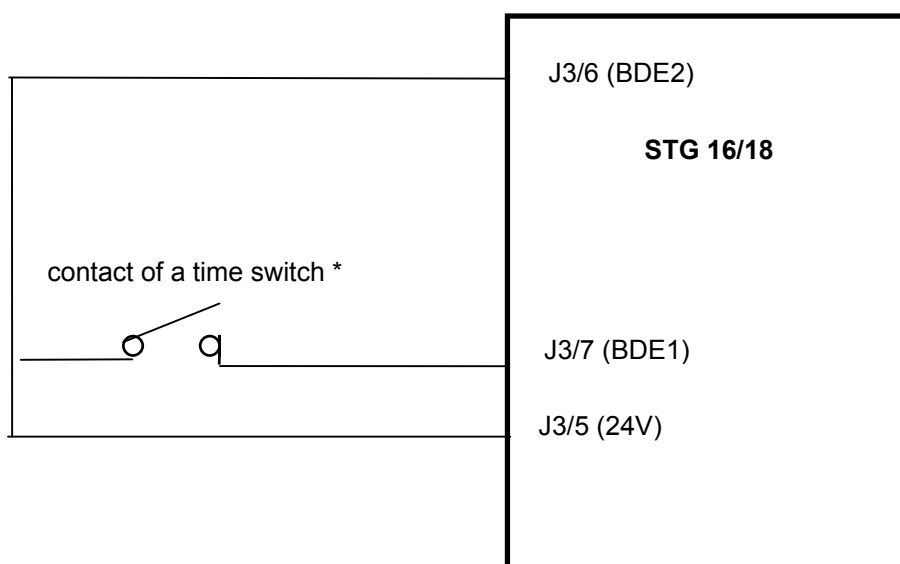
With two BDE-Es, the last operating mode selected is effective.

AN 9 Connection of a time switch for SUR-V ("locked") with BDE-E



- * contact closed = operating mode according the setting on the BDE-E
- contact open = operating mode "locked"

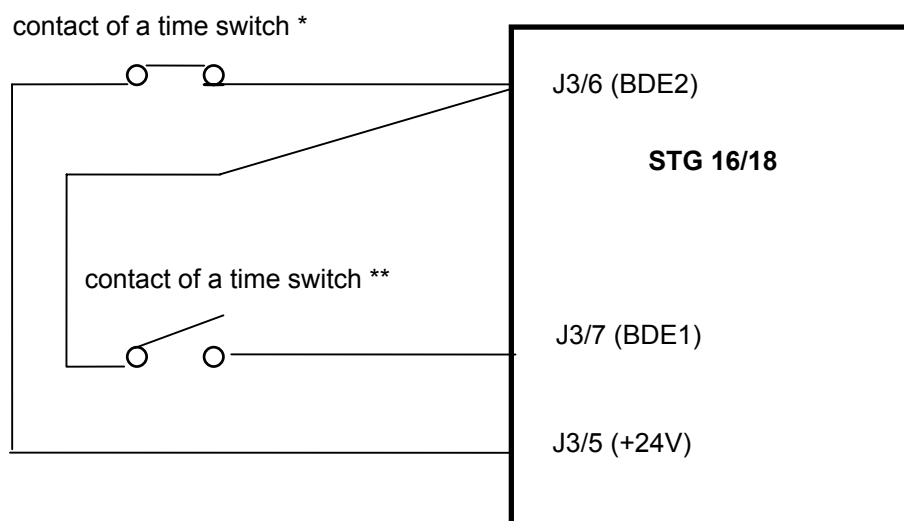
AN 10 Connection of a time switch for SUR-A ("one-way") with BDE-E



- * contact closed = operating mode "one-way"
- contact open = operating mode according the setting on the BDE-E

AN 11 Connection of 2 time switches for SUR-V and SUR-A with BDE-E

Warning: The same truth table is effective as for connection of a BDE-M.



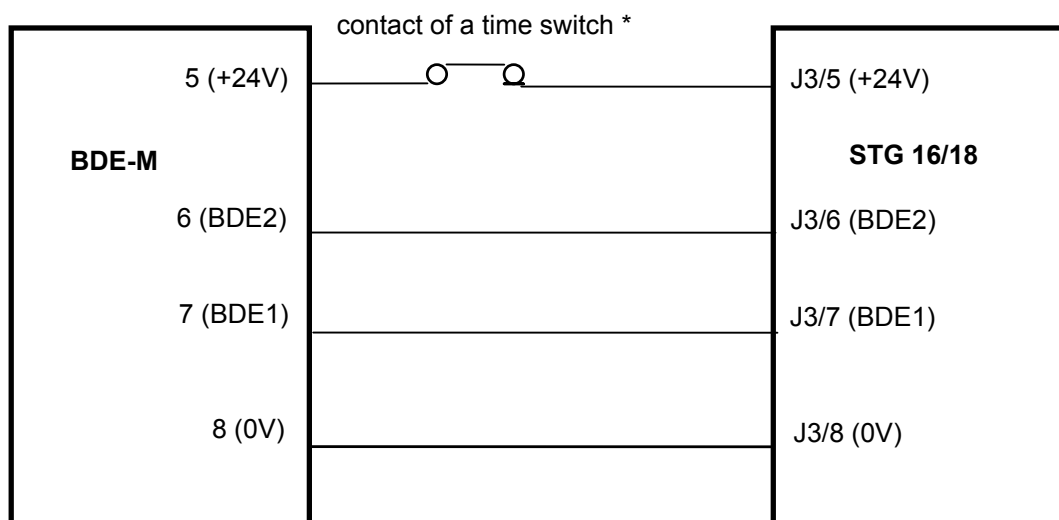
* contact closed = operating mode according the setting on the BDE-E
contact open = operating mode "locked"

** contact closed = operating mode "one-way"
contact open = operating mode according the setting on the BDE-E

AN 12 Connection of a time switch for SUR-V ("locked") with BDE-M

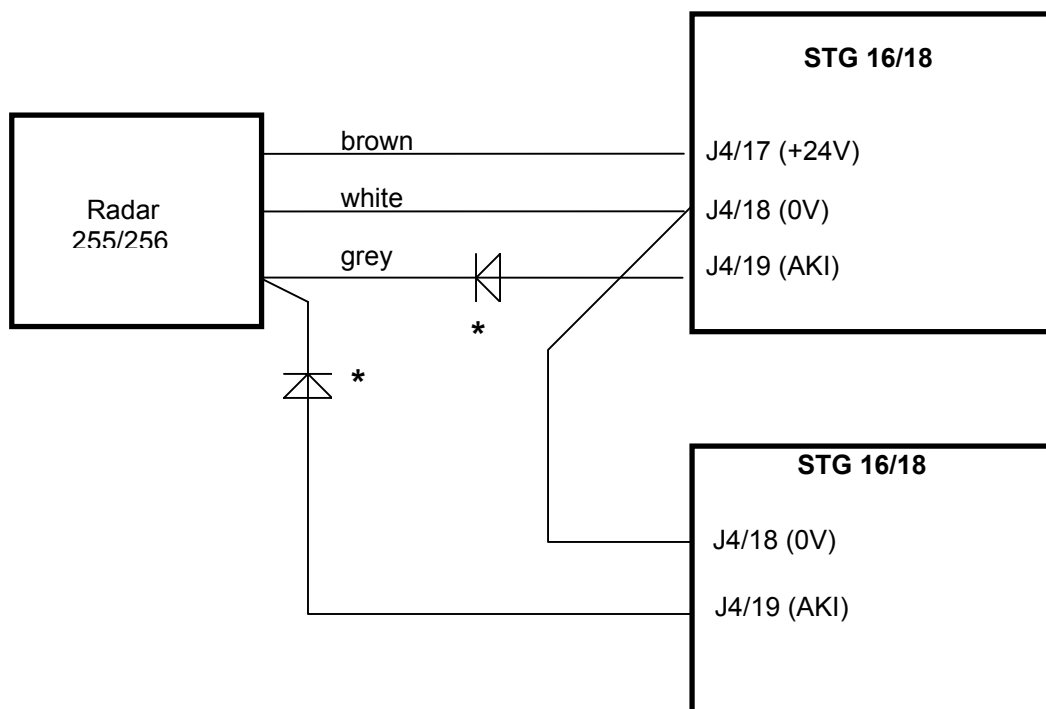
Warning: The same truth table is effective as for connection of a BDE-M.

Warning: Connection of SUR-A ("one-way traffic") with a BDE-M is not possible.



* contact closed = operating mode according the setting on the BDE-E
contact open = operating mode "locked"

AN 13 Connection of a common sensor (radar) to 2 STG 16 / 18



* diode zener (article. no.: 18.507)

AN 14 Safety inputs SHE-EXT, SÖK, NSK

If input SHE-EXT, SÖK or NSK are required, they must first be activated by BDE-E. (conf.-level 2 in AN 5 + 6).

Activating NSK is not possible on 16 STA FIRST-B / 18 STA FIRST-B !

Also when using a BDE-M these inputs must be activated by temporarily connecting a BDE-E.

These contact inputs must be **closed in the rest position, i.e. normally open contact.**

AN 15 Status and fault signals

Status level (display only)

In the event of irregularity change is made automatically from the operating mode level to the status level. Change is then made approx every 5 seconds between status and operating mode level. No status display is given in the remaining levels. Characteristic of the status level are 2 or more rapidly flashing LED's of total 6 LED's. This permits a maximum of 58 different status numbers to be output. A status with „W“ is a warning, which is not followed by switching of the fault output relay. The status is deleted in various ways according to the detailed description (resetting), as you can see in the manual.

LEDs on BDE-E:

1	2	3	4	5	6	LED No.	Remarks:
				x	x	03	AKI - sensor active longer than 60s
			x			04 W	Manual operation
			x		x	05	AKA - sensor active longer than 60s
			x	x		06	Unlocking error
			x	x	x	07	BDE-E defectiv
		x			x	09	Battery fuse blown
		x		x		10	Locking error, door not closed
		x		x	x	11 *	Difference in AKI
		x	x			12	Battery defective (voltage too low)
		x	x		x	13 * W	Redundancy-test
		x	x	x		14	Locking n/o contact defective
		x	x	x	x	15 *	EMERGENCY OPEN signal on RED is interrupted
	x				x	17 *	Pass over door opening time
	x			x		18	VAK-contact closed in automatic-mode
	x			x	x	19 *	Difference in mode of operation
	x		x			20	Door leaf interception error
	x		x		x	21 *	Door open - switch (minimum opening) does not open
	x		x	x		22 *	Door open - switch (minimum opening) does not close
	x		x	x	x	23 *	RED - modul defective
	x	x				24 *	Door is closing in hold - open mode
	x	x			x	25 *	RED - connection interrupted
	x	x		x		26	Overload at FEM output
	x	x		x	x	27 *	Failure on RED - locking test
	x	x	x			28 *	RED – modul relais contact sticks
	x	x	x		x	29	TOS is not locked in the „locking“ mode
	x	x	x	x		30	TOS is locked in the „automatic“ mode
	x	x	x	x	x	31	EMERGENCY STOP button operated
x					x	33	Error ELS 1

Status level (continued)

LEDs on BDE-E:

1	2	3	4	5	6	LED No.	Remarks:
x				x		34	Error ELS 2
x				x	x	35	End-switch on VRR does not close
x			x			36	End-switch on VRR does not open / VOK on MPV interrupted
x			x		x	37	Wrong motor current / VOK on MPV interrupted
x			x	x		38	Excess temperature motor 1
x			x	x	x	39	Overload on +24 V supply
x		x				40	Excess temperature motor 2
x		x			x	41	Motor 1 - thermal sensor defective
x		x		x		42	Motor 2 - thermal sensor defective
x		x		x	x	43	Incremental generator defective
x		x	x			44 W	Motor current time product high
x		x	x		x	45	Motor current time product too high
x		x	x	x		46	Control unit defective
x		x	x	x	x	47	Ext. Safety active longer than 60 s
x	x					48	NSK or SÖK active
x	x				x	49	Alarm CO48 Ventouse
x	x			x		50	Control unit CPU2 is faulty
x	x			x	x	51 *	Door total open switch does not close / VOK 2 on MPV interrupted
x	x		x			52 * W	Door total open switch does not open
x	x		x		x	53	Interruption Motor 1
x	x		x	x		54 W	Calibration run
x	x		x	x	x	55	Power failure
x	x	x				56 *	Connecting rod get jammed
x	x	x			x	57	Interruption Motor 2
x	x	x		x		58	FEM - connection interrupted
x	x	x		x	x	59	ELS - sensor active longer than 60 s
x	x	x	x			60	Parameter memory defective (EEPROM)
x	x	x	x		x	61	SSK - sensor active longer than 60 s
x	x	x	x	x		62 W	BDE has no priority (by RED not)
x	x	x	x	x	x	63 W	Collision (only 24V-Version)



all LED's will shine constantly:

x	x	x	x	x	x		Wiring fault or interruption in the CAN line connection (BDE-E cable)
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* These status numbers only exist in redundancy-systems

• **A status number with a "W" is a warning !!**