



Installation & operating manual

Small bore - 50 m

OBA8

Operating manual also as download available

“Standard 5001 – 99“ model
(Art. No. 22.000.000)

www.eigenbrod-schiessanlagen.de

Email: info@eigenbrod-schiessanlagen.de

Phone: 06621-14 44 7

Fax: 06621-14 44 6

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Table of contents

Content	Page
➤ Table of contents	1
➤ Installation instructions	2 – 3
➤ Tools for installation and maintenance	4
➤ Operating instructions - functional description	5
➤ Maintenance – troubleshooting - finding faults	6 - 7
➤ Time settings for fast speed	8 – 11
➤ Range time schedule	12
➤ Operating the system with a ground fault circuit interrupter	13
➤ Small bore installation plan – system, with article numbers	14
➤ System-specific circuit diagram upon request	

Installation instructions

1. Installing the return station:

Attach the return station to the mounting tube and clamp it to the mounting tube using the two clamping screws. Align the return station.

Tighten the clamping screws. Drill a 10.5 mm hole through the middle of the mounting tube and secure with the nut using the M 10 x 80 screw supplied.

Firmly tighten the centre through bolt so that no rotation is possible.

2. Installing the drive unit:

Attach the drive unit to the mounting tube, continue as described in detail for the return station.

Electrical connection: 1 x 16 A per stand

Connection cable 3 x 1.5 mm²

A motor protection switch (if available on site) is not required since this is electronically monitored by the control system.

(Have a trained electrician connect the system).

Turning the system on: The target carrier must turn back from the shooter at a slow speed. When the start button is pressed, the direction of rotation for the motor changes, the motor runs at a fast speed, switches back to the slow speed after a set period, and continues to run at slow speed. When the button on the integrated indicator light is lit, the button can be pressed again for another start. Turn the system off.

3. Attaching and tightening the carrier cables:

One end of the carrier cables has a thimble, the other end is smooth.

The thimble is screwed onto the return station under the U cross beam with an M 12 x 30 fixing screw with nut and washer. Tighten the screw firmly, taking care to ensure that the cable is parallel to the winding angle while tightening. Roll out the carrier cable, take care to ensure that the cable does not get any kinks.

Plug the smooth end into the carrier cable tensioning device in the drive unit and pull through far enough that there is some tension in the cable.

Operate the tensioning device with a size 24 spanner and tension the cable.

Note: Please bear in mind tensioning is done to the **left** on one tensioning device - and to the **right** on the other. Now trim the protruding cable with bolt cutters. Repeat the process up to this point for the second cable. Tension both cables such that they are suspended clear of the floor.

3.1. Installing carrier cable retaining plates at the return station:

Place 2 half shells (V2A) around the cable at the return station and screw onto the two brackets of the return with M 8 x 16 hexagon screws. **(Only tighten the screws by hand).**

Precisely align the two half shells so that they match as well as possible.

Installation instructions

3.2 Putting on the carriage:

Loosen the bottom four castors on the carriage, place the carriage onto the carrier cables such that the towing cable tensioning device is pointing towards the return station. Push the bottom castors upwards into the slotted hole, adjust the carrier cable retaining plate precisely to match the distance between the castors and the carriage. Firmly tighten the fixing screws for the 50 m. The carriage must run slightly onto the retaining plate, up to the bump stops. **Put the carriage back to the drive unit.**

4. Putting the towing cable in:

The 2 mm thick towing cable, made from V 2 A steel, is smooth on both ends. Take one end and slowly move with it to the return station. The roll is held by a second person and unrolled.

At the drive unit, place the other end over the drive roller of the drive motor from below and likewise run it to the carriage.

Insert both ends through the opposite holes in the tensioning device on the carriage then into the clamping bolts, and tighten the towing cable. Cut off protruding cable ends.

5. Re-tensioning the carrier cables:

Put the carriage in the middle of the shooting range, tension the carrier cables so that the carriage sits straight on the cables and does not hang to one side.

6. Turning the system on:

The carriage runs at the slow speed (crawling speed) back to the drive unit. If the carriage does not move, then check the towing cable tension, might be too tight, loosen the cable a little.

While the carriage travels back to the drive unit, the button is locked.

Once the carriage has reached the drive unit, the control is automatically deactivated. The control light on the push button now lights up. The start button is released and can be operated.

7. Putting the carriage retaining plate or frame on:

Loosen the two wing screws on the mounting for the carriage, insert the plate/frame, re-tighten the wing screws.

8. Maintenance information:

The bearings fitted have permanent lubrication and therefore do not need any particular maintenance. Application of **solvent-based lubricants** to the plastic insulation on the **carrier cables** should be strictly **avoided**, as this may result in damage. More information about maintenance of the system can be found on pages 4 and 6 – 7.

Tools for installation & maintenance

Number	Tool - Designation	Installation	Maintenance
2	M-13 spanner	✓ Mounting & configuring the carrier cable retaining plate	✓ Adjusting or replacing the carrier cable retaining plate
		✓ Checking the towing cable guide rollers for ease of operation.	✓ Checking the towing cable guide rollers for ease of operation or replacing them.
	M-13 spanner and Size 6 Allen key	✓ Configuring the castors on the carriage	✓ Adjusting or replacing the castors on the carriage
1	Drill + drill bit diameter = 10.5 mm	✓ Installing the return station and drive unit	
2	M-17 spanner	✓ Installing the return station and drive unit	
2	M-19 spanner	✓ Installing the return station, drive unit and overrun	
		✓ Attaching the carrier cables at the return station	✓ Replacing the carrier cables
		✓ Tightening and loosening the towing cable	✓ Adjusting and replacing the towing cable
		✓ Aligning the pulley for the towing cable	✓ Adjusting or replacing the pulley for the towing cable
1	M-24 spanner	✓ Tightening and loosening the carrier cables	✓ Adjusting and replacing the carrier cables
1	Bolt cutters	✓ Applying the carrier cables	✓ Replacing the carrier cables
		✓ Applying the towing cable	✓ Replacing the towing cable
1	Power tool	✓ Clamping the supply line onto the motor protection switch	To be done by trained electricians only!

Operating instructions

1. Turning the system on:

- After turning the system on for the first time, the carriage runs back to the shooter at the slow speed (crawling speed).
- During this time, the start button is locked and therefore does not react to being pressed. The green control light on the start button does not light during this time!
- Once the carriage has reached the parapet in front of the shooter, it automatically switches off. The control light on the push button now lights up. The start button thus is released and can be operated.

2. Starting the system in the direction of the target:

- Press the start button, the direction of rotation is reversed, the carriage immediately moves towards the target at high speed. Roughly 4 m before the target, the system switches back to crawling speed. The carriage moves to the end position at this speed.
- During this time, the start button is locked and therefore does not react to being pressed. The green control light on the start button does not light during this time!
- Once the end stop (rubber bumper) is reached at 50 m, the carriage is automatically switched off. The control light on the push button now lights up again. The start button is **released** and can be operated again.

3. Starting the system in the direction of the shooter:

- Press the start button again, the direction of rotation is reversed again, the carriage immediately moves towards the shooters at high speed. Roughly 4 m before the shooters, the system switches back to crawling speed. The carriage moves to the end position again at this speed. (Parapet)
- During this time, the start button is locked and therefore does not react to being pressed. The green control light on the start button does not light during this time!
- Once the carriage has reached the parapet in front of the shooter, the carriage is automatically switched off. The control light on the push button now lights up. The start button is released and can be operated.

Maintenance / troubleshooting / finding faults

Fault	Cause	Troubleshooting	Note
1) The carriage moves quickly to the end position in front of the stop (rubber bumper).	The carriage came to a stop at <u>crawling speed</u> a few metres before the stop (rubber bumper) on the last run in the reverse direction and has not reached the end position.	<ul style="list-style-type: none"> ✓ Towing cable too tight, loosen the towing cable ✓ Check all castors for ease of operation, replace if required ✓ The carriage was prevented from travelling further by a foreign body. (Broken twigs or similar) Visual inspection and remove foreign bodies where applicable. ✓ See point 7) in this table 	Page 3 Point 5. Page 3 Point 4.
2) <u>For new deliveries only</u> The carriage moves quickly in front of the stop (rubber bumper) <u>or</u> switches to crawling speed to early before the end position.	The factory settings for the high speed are not exactly right for the local conditions.	✓ The times for high speed must be adjusted. See: Time settings "SIEMENS LOGO"	Pages 8-12
3) The carriage does not leave the stopping point after the motor start, or only does so very slowly.	The towing cable is too loose, so cable slippage occurs.	✓ Tension the towing cable somewhat	Page 3 Point 5.
4) The carriage sags significantly	The two carrier cables are too loose.	✓ Re-tension the two carrier cables	Page 2 Point 3.
5) The carriage is at an angle on the carrier cables	The carrier cable on the side to which the carriage is tilting is too loose.	✓ The carrier cable on the side to which the carriage is tilting must be re-tensioned. To do this, position the carriage in the centre of the track	Page 2 Point 3.

Maintenance / troubleshooting / finding faults

Fault	Cause	Troubleshooting	Note
6) The carriage springs off the carrier cables while travelling	a) The distance <u>between the castors in a pair of rollers</u> on the carriage is too big .	✓ Adjust the lower castors somewhat in the slotted hole so that the carrier cable can no longer spring out.	Page 3 Point 4.
	b) The castors on the carriage are heavily degraded through wear and tear.	✓ Replace worn-out castors on the carriage.	
7) The carriage remains stationary and blocked on the V2-A carrier cable retaining plates	a) The distance <u>between the castors in a pair of rollers</u> on the carriage is too small .	✓ Adjust the lower castors somewhat in the slotted hole so that the carriage can easily run over the carrier cable retaining plate.	Page 3 Point 4.
	b) The carriage is bend by mechanical stress (bullet impacts or similar).	✓ Straighten the carriage, or replace it if necessary.	
	c) The distance <u>between the two carrier cable retaining plates</u> is not set appropriately for the carriage.	✓ Adjust the carrier cable retaining plates in the slot such that the carriage can easily run over them.	
8) The system does not start when the green start button is pressed	a) The green light in the start button is not lit, the system is not switched on.	<ul style="list-style-type: none"> ✓ Switch the motor protection switch on where applicable ✓ Check the fuse in the main fuse box ✓ Check the electrical connection 	Page 2 Point 2.
	4. The green light in the start button is not lit, the system is in fault mode.	<ul style="list-style-type: none"> ✓ <u>Perform a system reset.</u> ➤ To do this: switch the system off (motor protection switch or fuse) and switch it back on after approx. 1 minute 	

Time settings for fast speed

Siemens LOGO

While setting the times, the system remains electrified. For this reason, only an experienced professional may make these adjustments!

1. Switch the system on and remove the cover from the control box.
 - 1.1. Determine which Siemens LOGO device type is being controlled.
 - 1.2. The type designation can be found on the right under the **OK** button on the SIEMENS LOGO.
(See Figure 1.) The last number, which is indicated in red here, shows what type you are dealing with.

Figure 1.

Type 0, 1 or 2



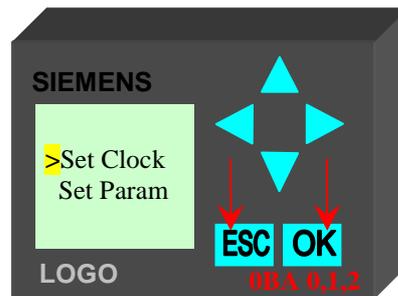
2. If you read **type 0, 1 or 2**, as can be seen in Figure 1. above, then **continue from Point 3.**

If you are not dealing with this type, then leave this point now and continue directly from Point 6.

If you read type 8 or higher, then continue from Point 19.

3. Switch the LOGO **type 0, 1 or 2** into the configuration operating mode by pressing the **ESC** and **OK** buttons **simultaneously** for a short time.

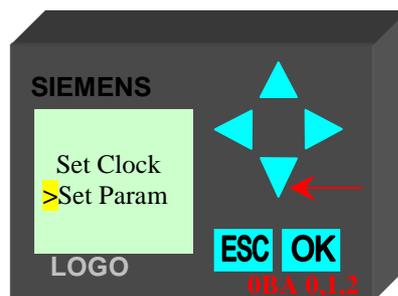
The following notification will appear:



Type 0, 1 or 2 only

4. Now press the **down arrow once**.
“Set Parameter” is now selected.

The following notification will appear:



Type 0, 1 or 2 only

5. **Now skip Point 6. and continue directly with Point 7.!**

Time settings for fast speed

Siemens LOGO

Figure 2.

Type 3 (or higher)

Type 3
(or higher)

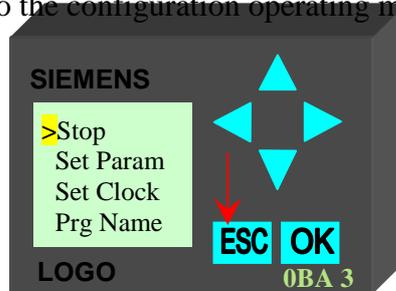


6. If you read *type 3 or higher*, as can be seen in Figure 2. above, then continue as per the following points.

6.1. Press the **down arrow** until the date display flashes!
(Setting the clock is not necessary for this system.)

6.2. Switch the LOGO into the configuration operating mode by pressing the **ESC** button.

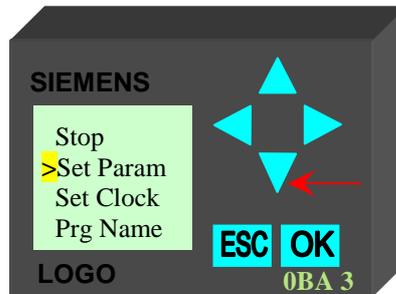
The following notification will appear:



Type 3 (or higher) only

6.3. Now press the **down arrow** once.
“Set Parameter” is now selected.

The following notification will appear:

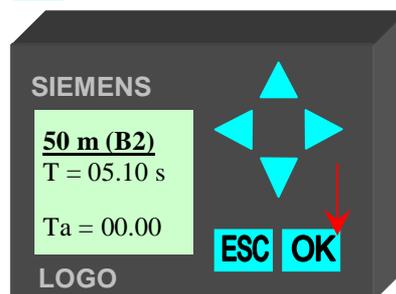


Type 3 (or higher) only

From Point 7. the settings once again apply for all LOGO types from OBA0-6!

7. Now confirm using the **OK** button.

The following notification will appear:



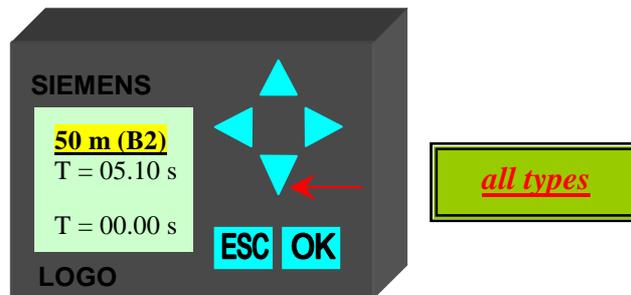
all types

Time settings for fast speed

Siemens LOGO

7. All timing elements can now be shown one after another using the [down arrow](#). (Only **B02** can be adjusted on a small bore 50 m system)
- 8.

The following notification will appear:

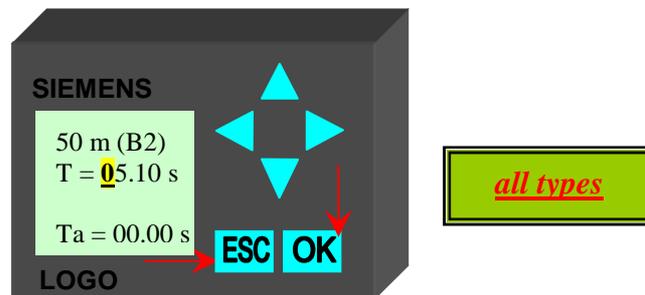


9. **Please see the range time schedule in order to determine which timing element should be adjusted for which travel distance!**

Select the timing element which you want to adjust.
Once you have selected the appropriate timing element in the window, you can adjust it as follows. Here, for example, B 02.

10. Press the **OK** button. The first number is now flashing in the window.

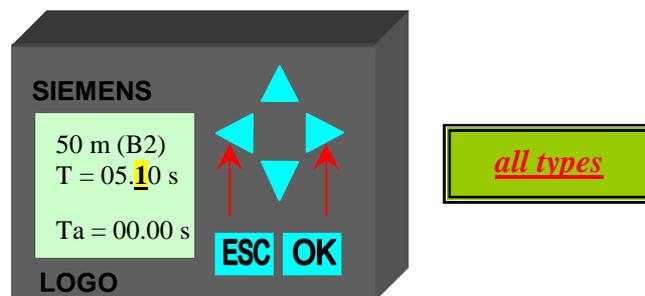
The following notification will appear:



11. You can undo a step which has been performed by pressing the **ESC** button, in which case the values entered will **not be saved!**
The factory default values can be found in the **range time schedule!**

12. Press the [right arrow](#) or the [left arrow](#) and select the value which should be changed.

The following notification will appear:



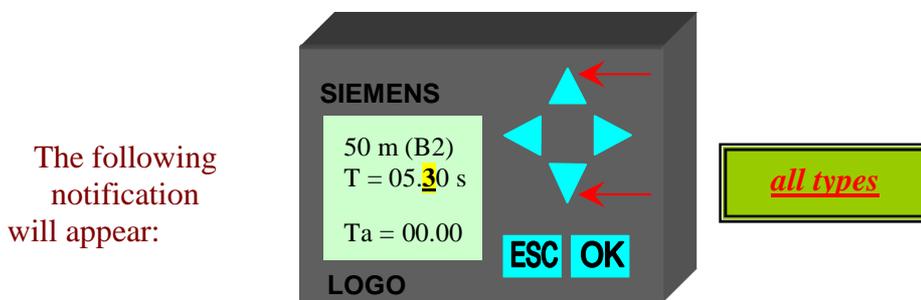
Time settings for fast speed

Siemens LOGO

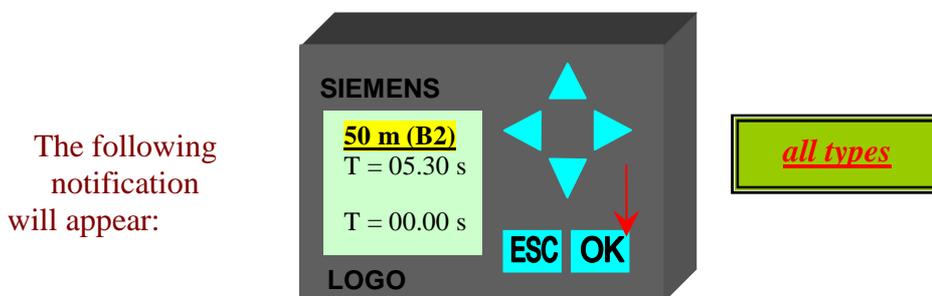
13. You can now change the value by pressing the **up** or **down arrows**.

- 13.1 If a travel time is significantly too high, proceed as follows:
If the value should be reduced, we recommend initially reducing the time by a full second and then increasing it again step by step so that the travel time is gradually adjusted.

It is recommended, when increasing the value, to only ever increase it by a few (2-3) tenths of a second!



11. Save the amended value by pressing the **OK** button.
The number now stops flashing! **The amended value is saved!**



12. Check whether the time now set was correctly adjusted by performing a test run on the system.

The LOGO is not changed here!

13. If the newly adjusted value is still not perfect, repeat steps 7 to 12 until the system is optimally adjusted.
14. If the system is optimally adjusted, then you leave the > Set Parameter < mode by pressing the **ESC** button twice.
15. Now close the housing cover again!

The system is once again fully operational and ready to run!

Time settings for fast speed

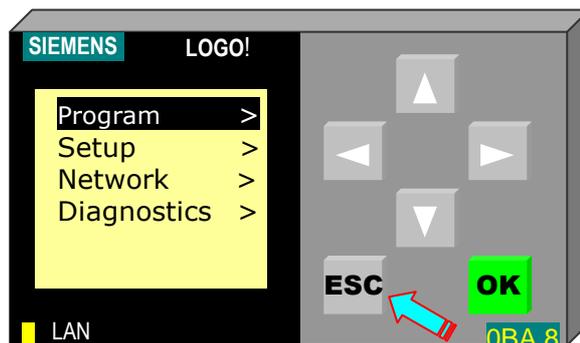
Siemens LOGO

Figure 3.	From serial number: 502200106	
<i>Type 8 (or higher)</i>	<i>Type 8 or higher</i>	

19. Press the **down arrow** until the date display flashes!
(Setting the clock is not necessary for this system.)

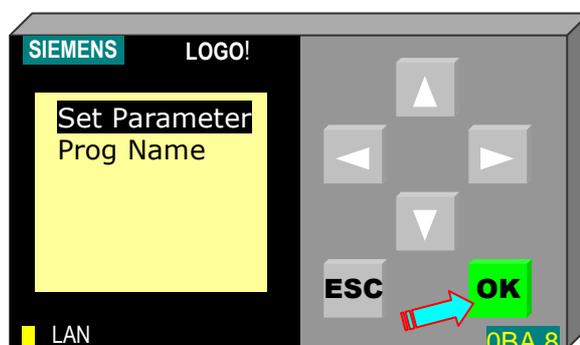
20. Open the menu interface by pressing the **ESC** button.

The following notification will appear



From OBA8

21. Now confirm using the **OK** button



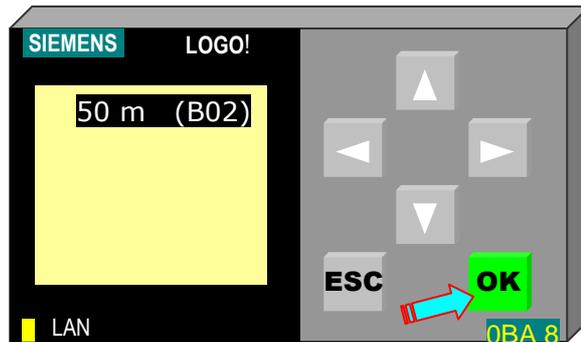
From OBA8

Time settings for fast speed

Siemens LOGO

22. Confirm again with the **OK** button, the individual timing elements will be shown:

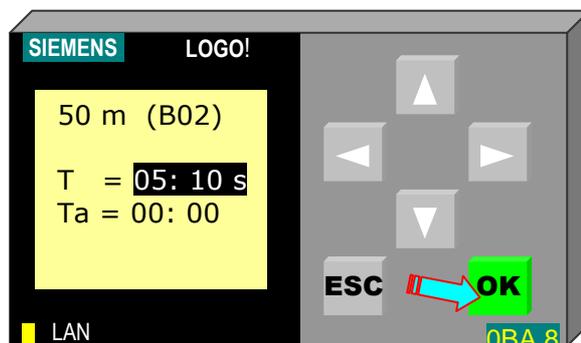
The following notification will appear



From OBA8

24. Confirm the selected parameter using the **OK** button.

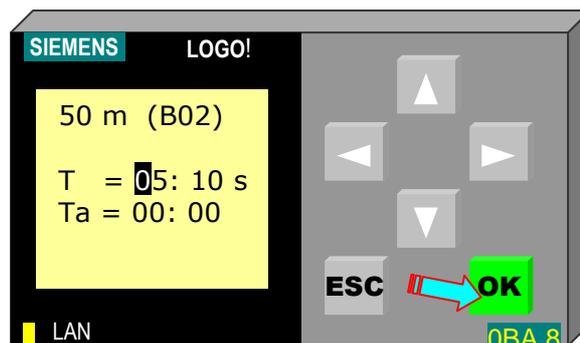
The following notification will appear



From OBA8

25. Press the **OK** button. The first number of the time value is now flashing in the window.

The following notification will appear



From OBA8

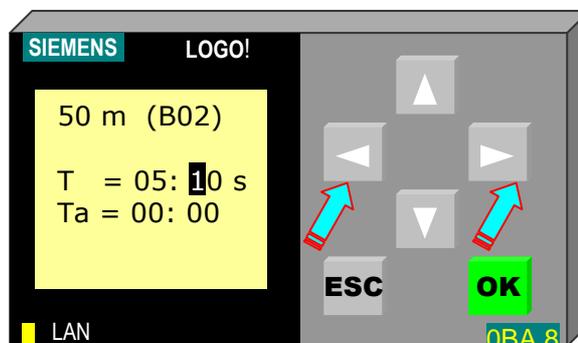
Time settings for fast speed

Siemens LOGO

You can undo a step which has been performed by pressing the **ESC** button, in which case the values entered will **not be saved!**
The factory default values can be found in the **range time schedule!**

26. Press the [right arrow](#) or the [left arrow](#) and select the value which should be changed.

The following notification will appear



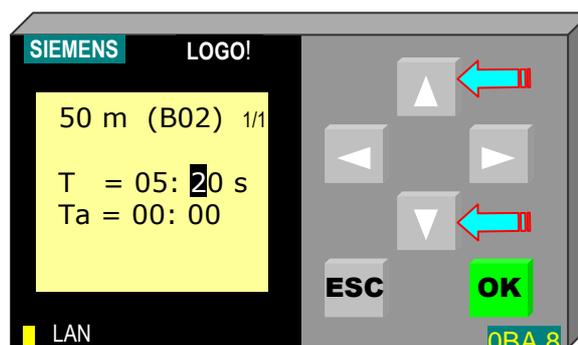
From OBA8

If a travel time is significantly too high, proceed as follows:
First reduce the time by a full second, and then increase it again in one tenth of a second steps so that the travel time is gradually adjusted upwards.

27. You can now change the value by pressing the [up](#) or [down arrows](#).

When increasing the value, only ever increase it by 1 - 2 tenths of a second!

The following notification will appear



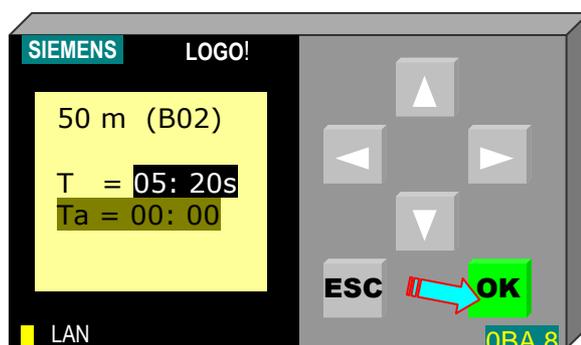
From OBA8

Time settings for fast speed

Siemens LOGO

28. Save the amended value by pressing the **OK** button.
The number now stops flashing! The amended value is saved!

The following notification will appear

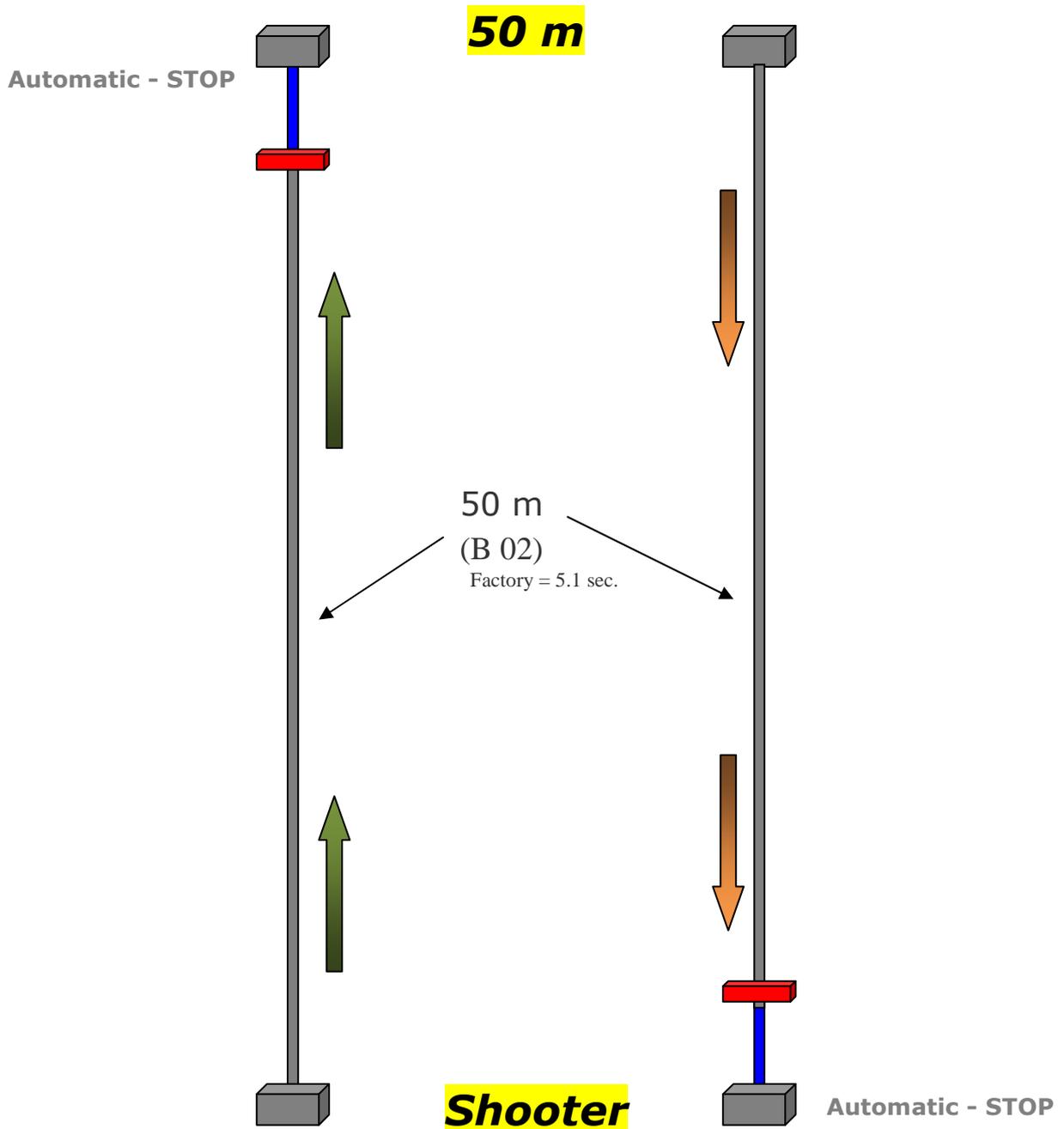


From OBA 8

29. Check whether the time now set was correctly adjusted by performing a test run on the system. **Do not change the LOGO here!**
(The passing time is shown in the “**Ta =**” line here)
If the newly adjusted value is still not perfect, repeat steps 21 to 25 until the system is optimally adjusted.
30. You get back to the list of timing elements to be set by pressing the **ESC** button once. There, you can select more timing intervals to be adjusted, where applicable, in order to configure them. Then continue as from Point 22.
31. If the system is optimally adjusted, then you leave the >Set Parameter< mode by pressing the **ESC** three more times.
32. Now close the housing cover again!

The system is now fully operational and ready to run again!

Range time schedule Small bore 50 m SIEMENS LOGO



Settings for ground fault circuit interrupter

The system is delivered ex factory for electricity networks with no ground fault circuit interrupter!

If the connection of multiple systems to an electricity network with ground fault circuit interrupter causes tripping of the ground fault circuit interrupter, then you should set the jumper to **position 2**.

In this position, the system is compatible with a ground fault circuit interrupter.

The jumper can be found on the bottom left, next to the motor connection!

(see illustration below)

Jumper ,B' Motorausgang

Dieser Jumper macht das Gerät tauglich für IT-Netze bzw. reduziert den Ableitstrom des Frequenzumrichters gegen PE. Dies kann erforderlich sein, wenn mehrere Frequenzumrichter über einen FI-Schutzschalter betrieben werden.

Dabei ist zu beachten, dass sich der angegebene Funkentstörgrad verändert. Details entnehmen Sie bitte dem Kapitel 8.3 EMV.



= Betrieb am IT-Netz = Position 0



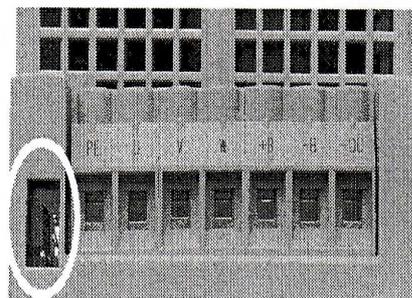
= normale Position = Position 1



= reduzierter Ableitstrom = Position 2

(Die eingestellte Pulsfrequenz (P504) hat nur einen geringen Einfluss auf den Ableitstrom.)

Geräte- Unterseite



Small bore installation plan – system, with article numbers

