

# Instruction manual



## Cantilever Sliding Gates

version 13-5-6

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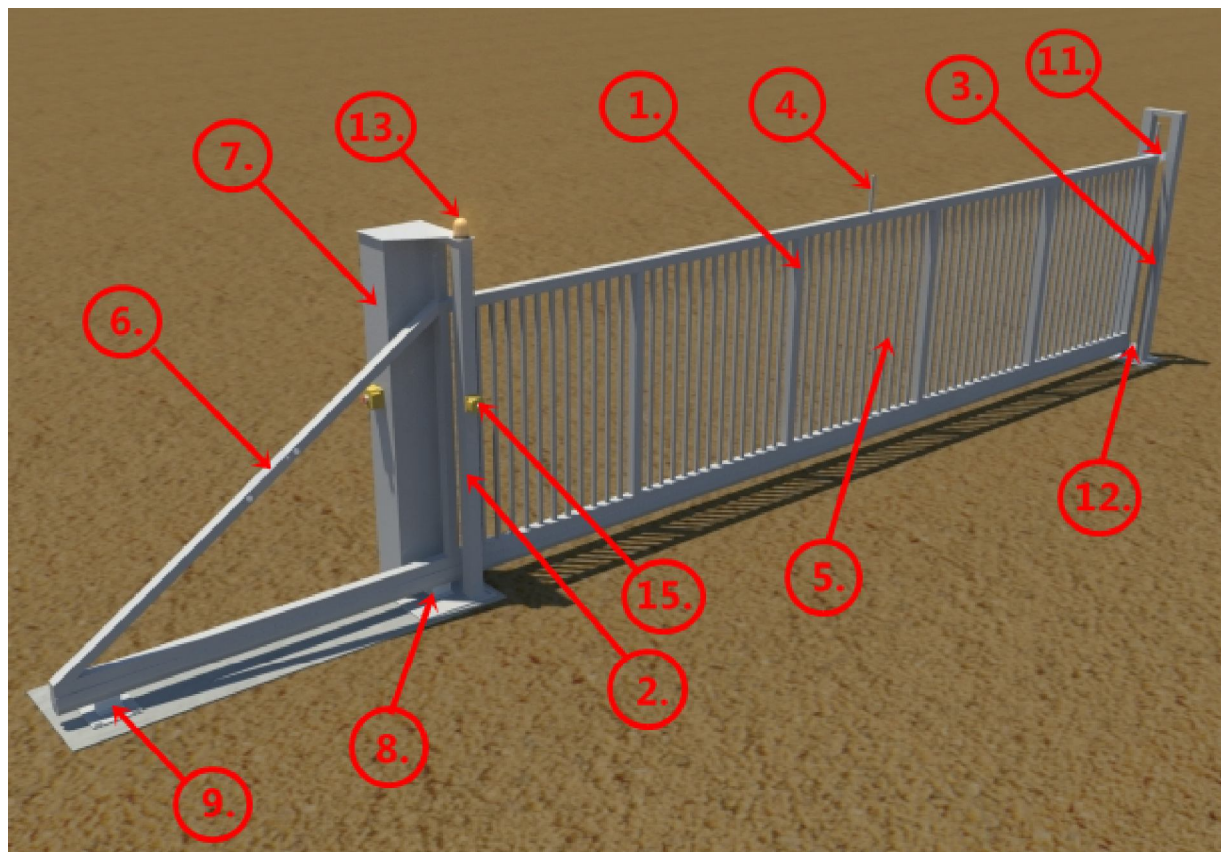
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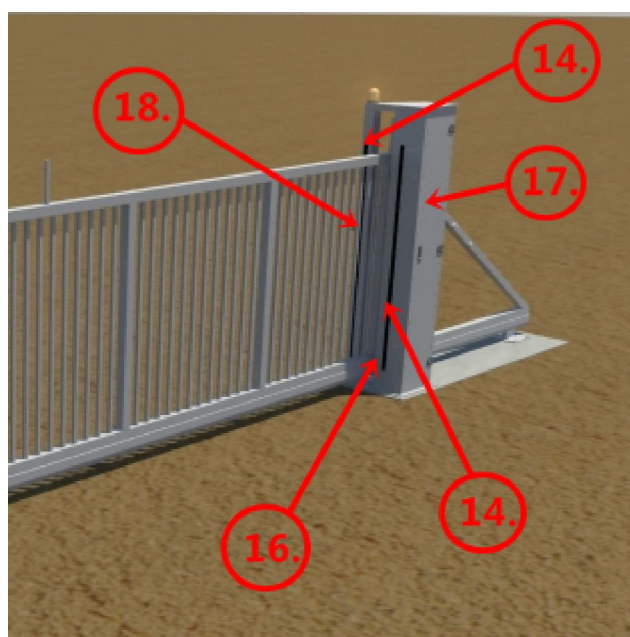


## 1. Gate part definition.

Gates are build from main parts listed below. However depending on customer request, gates may vary, especially concerning electronic equipment. Below material shows where to find and how to call basic parts.



1. Wing
2. Main post
3. Lock post
4. Extension arms
5. Infill
6. Wing's geometry adjustment
7. Cabinet
8. Front trolley
9. Back trolley
10. Tail support roll



11. Upper wing catcher
12. Lower wing catcher
13. Warning light
14. Safety pressure strips
15. Emergency stop buttons
16. Motorization (inside cabinet)
17. Control unit (inside cabinet)
18. Photocells

## 2. Person definition.

During gate's life period there are several types of persons connected with gate usage:

1. **Producer** - Halsäng company. Produces whole range of fencing systems.
2. **Installer** - person or company that installs Halsäng gate. Each Halsäng authorized gate installer is properly qualified, what can be confirmed on request on adequate document.
3. **Technician** - person or company that service Halsäng gate. Each Halsäng authorized gate technician is properly qualified, what can be confirmed on request on adequate document.
4. **Owner** - person or company that owns Halsäng gate.
5. **User** - person to uses gate to pass

## 3. Gate safety features.

All Halsäng gates are pre-installed and checked at production site for proper functionality before allowing further distribution.

Nevertheless, after the gate is installed at owner or user place, the installer have to:

1. Confirm according to below table all gate's safety systems were checked and works OK.



Safety feature	OK	Not OK
Movement mechanical stops (inside underbeam)		
Stabilization rolls (on main post)		
Power supply connection		
Safety strips (3 pieces)		
Emergency stop buttons (2 pieces)		
Photocell (1 piece)		
Motor force adjustment		
Motor mechanical release		

2. Train owner how to operate the gate, with special attention put on explanations of:

Active safety pressure strips	2 pieces installed on main post, inside and outside of property, 1 piece installed on wing	Prevents gate to damage object or hurt person when moving. When pressure strip is activated by pressure on it's rubber part it stops the gate and reverse the wing by small distance.
Emergency stop buttons	2 pieces installed on main post, inside and outside of property.	When any push button is activated power supply for gate motorisation is disconnected. For reactivating the gate push button have to be rotated until it clicks.
Mechanical motor release	Installed within motor, inside the cabinet	When activated it allows to operate the gate manually in case of power failure or any other cause
Remote controller	Minumum 1 piece	Opens, stops, closes, stops the gate. When cycle is changed it also has to be explained.

Please be informed, that not all gates includes all below described systems.

#### 4. Gate service and maintenance.

Once gate is provided for standard usage, it has to be regularly maintained and serviced.

Maintenance can be done by Halsäng gate owner.

Service have to be done by Halsäng authorized technician or installer and noted on Halsäng Gate Passport.

Lack of services can lead to invalidate warranty.

Main activities and time periods are described Halsäng Gate Service Plan in below table.

Action	Responsibility	Time period between checks
Clear space needed for gate movement. When obstacles like snow, ground, stones or plants are present it has to be eliminated.	Owner / Technician	1 month
Clear from snow or dust housings of all electronic component, with special attention to photocells.	Owner / Technician	1 month
Check all screw and anchors if fit adequately to it's destination. When needed do proper adjustment.	Technician	6 months
Check if all rolls are free of dust and additional lubricant or grease. When needed do cleaning.	Technician	6 months
Check power supply connections. Measure if voltage is adequate to motorization. When needed correct.	Technician	6 months
Check if all external electronic parts like photocells, safety pressure strips and warning light work proper.	Technician	6 months
Check control unit parameters with special attention to gate movement force. Due to safety reasons it shall to be set up as low as possible for free wing movement.	Technician	6 months

## 5. Warranty conditions.

1. Warranty period for Halsäng gates is 24 month, starting from date customer received the gate. For specific installations longer warranty period can be guaranteed on special document and under specific agreements.
2. Addition equipment or fence connection installation have to be done in way that ensures lack of corrosion and does not integrate in gate functionality.
3. Warranty does not cover gate's mechanical damages caused due to improper transport, installation, storage or usage not according to gate's destination.
4. Halsäng gates have to be serviced regular according to Halsäng Gate Service Plan. Otherwise warranty can be invalidated.
5. Warranty rules not mentioned above are according to European Community Warranty laws.

## 6. Gates specifications.

Halsäng gates can be identified with it's serial number written in two places:

- in Halsäng Gate Passport originally stored inside cabinet
- on aluminium sticker inside cabinet or on gate's wing.



For proper communication between owner and installer, technician or producer, “Artikel nr” and “Typ nr” should be provided for any discussion, report or claim.



Halsäng gates are divided into following models.

Model name	Suggested application sector	Free passage	Material	Main rollersets	Automatics
Thor	Industrial	4-11 meters	Bright steel EN10025, hot dip galvanized ISO1461, optionally polyester powder coated	2 separate roller sets with plastic wheels equipped in bearings	ELKA EST 1204 K motor voltage 230V opening speed 0,2m/s duty cycle 75%, control unit MO44-2
Magnus	Industrial	11-18 meters	Bright steel EN10025, hot dip galvanized ISO1461, optionally polyester powder coated	2 separate roller sets with metal wheels equipped in bearings	ELKA EST 2004 K motor voltage 230V opening speed 0,2m/s duty cycle 75%, control unit MO44-2
Sprint	Private	4-12 meters	Aluminium EN12020, optionally polyester powder coated	2 separate roller sets with plastic wheels equipped in bearings	ELKA EST 824 motor voltage 24V opening speed 0,5m/s duty cycle 40%, control unit MO46
Mobile	Industrial	6-8 meters	Bright steel EN10025, hot dip galvanized ISO1461, optionally polyester powder coated	2 separate roller sets with plastic wheels equipped in bearings	ELKA ORBIT motor voltage 24V opening speed 0,2m/s duty cycle 50%, control unit MO46

More detailed specifications are available on request via email [service@halsang.com](mailto:service@halsang.com) or from gate installer.



## 7. Gate failures.

In case wing is not moving for further actions it's essential to find failure reason.

First steps to identify failure are:

1. Check power supply and fuse. In case of fuse damage exchange the fuse.
2. Check if control unit display error. Below you can find error tables with main problems:
  - control unit MO 44-2 - Thor and Magnus gates

DIAG 2 flashes	Both proximity switches are activated. Check the switches and wiring.
DIAG 3 flashes	Photocell test unsuccessful. Check photocells and wiring.
DIAG 4 flashes	Safety pressure strips - gate opening - test unsuccessful. Check safety pressure strips and wiring.
DIAG 5 flashes	Safety pressure strips - gate closing - test unsuccessful. Check safety pressure strips and wiring.
DIAG 6 flashes	Running time error message. Check proximity switches or repeat running time learning.
DIAG 7 flashes	Power supply limit for external devices 12V is reached. Disconnect some external devices.
DIAG 8 flashes	Power supply limit for external devices 24V is reached. Disconnect some external devices.
DIAG 9 flashes	Control unit memory was lost. Repeat learning procedure.
DIAG 10 flashes	Control unit is faulty. Exchange controller.

- control unit MO 46 with display - Sprint and Mobile gates

E1	Photocell test unsuccessful. Check photocells and wiring.
E2	Safety pressure strips - gate opening - test unsuccessful. Check safety pressure strips and wiring.
E3	Safety pressure strips - gate closing - test unsuccessful. Check safety pressure strips and wiring.
E4	Running time error message. Check proximity switches or repeat running time learning.
E5	Power supply limit for external devices 12V is reached. Disconnect some external devices.

E6	Power supply limit for external devices 24V is reached. Disconnect some external devices.
E8	Control unit memory was lost. Repeat learning procedure.
E9	The motor is blocked. Check for mechanical problems
EA	Control unit is faulty. Exchange controller.

3. Check if Emergency stop buttons are released. In case it's on, check if gate surrounding is clear and release it.
4. Check if there are no obstacles between photocells. If there are remove them.  
Important: Sometimes plants moved by wind can be obstacles. Ensure no leaves or branches are present in photocell line.
5. Check if Safety pressure strips are not in contact with obstacles or are mechanically damaged. If there are obstacles remove them. If there are mechanical damages contact technician or installer.
6. Release motorisation with mechanical motor release and try to move wing manually. Be aware that bigger wing is, more force is needed. If still no movement can be done contact technician or installer.

All failures can be also reported to installer or directly to producer via email

[service@halsang.com](mailto:service@halsang.com)

This email address can also be used in case of questions or any other problems concerning gates.

## 8. Gate installation recommendations.

All Halsäng installers have proper knowledge how the gate have to be installed.

However depending on installation place, gate type and customer request, there are many ways to install the gate properly.

Below some installation recommendations for our installers can be found.

### 1. Preparing foundation.

- Before foundation dig-outs are done, ground under the gate have to be levelled.  
Installations on slopes are not allowed without written authorization of producer.



All foundations (main, end post and optional supporting) have to be on same level which have to be marked.

- Wing moving axis have to be set up and marked for proper dig-outs preparation.
- Default dig-out sizes are specified in unique drawing for every gate type. Drawing is supplied by producer with other gate documentation.
- Both for automatic and manual gates it's suggested to prepare plastic cable ducts, diameter 50mm for:
  - power supply with 3x2,5mm<sup>2</sup> cable inside, from switching station to main foundation,
  - signal from end post photocell with 4x0,6mm<sup>2</sup> cable inside, from end post foundation to main foundation. For specific executions this cable can be eliminated. For details please contact producer via email [service@halsang.com](mailto:service@halsang.com) or installer.
- Concrete shall be completely dried before gate is installed.

## 2. Gate lifting and unloading.

- For lifting the gate soft holders like lines or belts with sufficient strength have to be used.
- It's essential to put the gate on the ground during unloading as soft as possible. Otherwise rollersets can be damaged.

## 3. Gate fixation on foundation

Gate can be fixed to concrete in 3 ways:

- before concrete is poured into dig out - with foundation basket delivered by Halsäng. Foundation baskets are dedicated to gate type and it's free passage.
- after concrete is poured into dig out but is still wet - with mechanical anchors and steel template delivered by Halsäng
- after to foundation is ready - with chemical anchors M16x200
  - 6 pieces for main post,
  - 4 pieces for end post,
  - 4 pieces for tail supporting roll (if gate is equipped).

In any case it is suggested to place top of the anchors at least 10cm above foundation.

## 4. Tail supporting roll fixation.

When the gate is equipped in tail supporting roll, it shall be mounted in specific way to free



wing's friction when the gate is opened.

- Mount tail supporting roll to supporting foundation. Note the roll should rotate exactly in opening direction of the gate.
- Open gate's wing and leave about 1m free passage closed. Adjust tail supporting roll height to touch bottom part of underbeam.

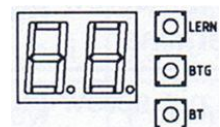
## 9. Gate control units.

Halsäng gates can be equipped with two type of control units:

- control unit MO 44-2 - Thor and Magnus gates
- control unit MO 46 with display - Sprint and Mobile gates

Every Halsäng gate is pre-assembled and tested with all ordered electronics. By this installer after connecting power supply and end post photocell should:

- adjust exact free passage of the gate after installation using learning system.
- check if motor force is set up as low as possible for current installation
  - MO44-2: use DIP A switch placed on control unit:
    - DIP A1 OFF & DIP A2 OFF = 100% motor force
    - DIP A1 OFF & DIP A2 ON = 80% motor force
    - DIP A1 ON & DIP A2 OFF = 70% motor force
    - DIP A1 ON & DIP A2 ON = 60% motor force
  - MO46: use electronic display and push buttons BT, BTG and LERN
    - push BT to display "P2"
    - push LERN to enter force program
    - "F1" is displayed, push LERN to enter opening force adjustment
    - "08" is displayed, push BT for force increase (max 13) or BTG for force decrease (min 1). Accept with LERN
    - push BT to display "F2", push LERN to enter closing force adjustment. Follow previous points.



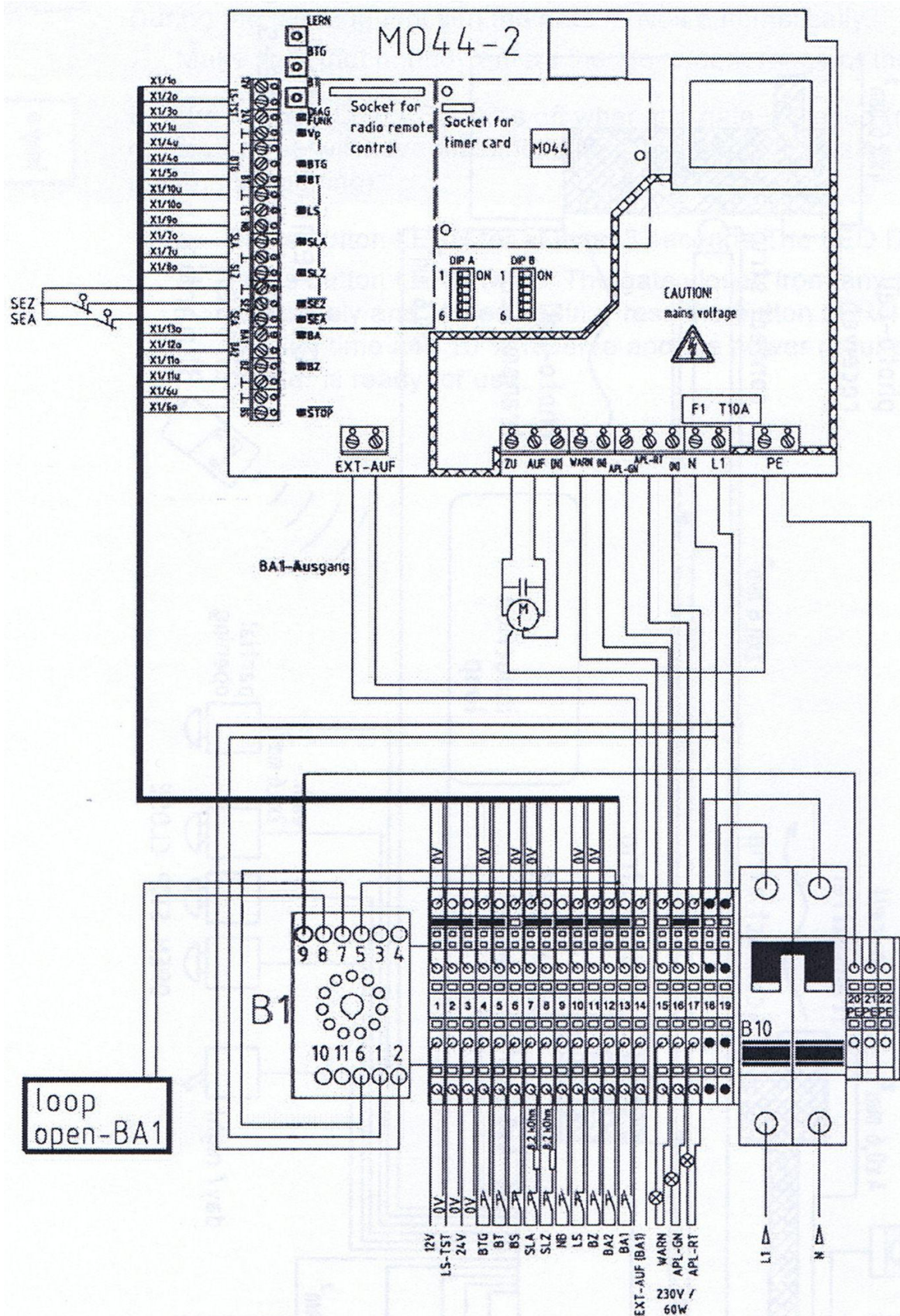
For more details concerning controller adjustments please refer to control unit operating instructions provided within gate cabinet.

Below default wiring diagrams are shown:





# control unit MO 44-2 - Thor and Magnus gates





## control unit MO 46 with display - Sprint and Mobile gates

