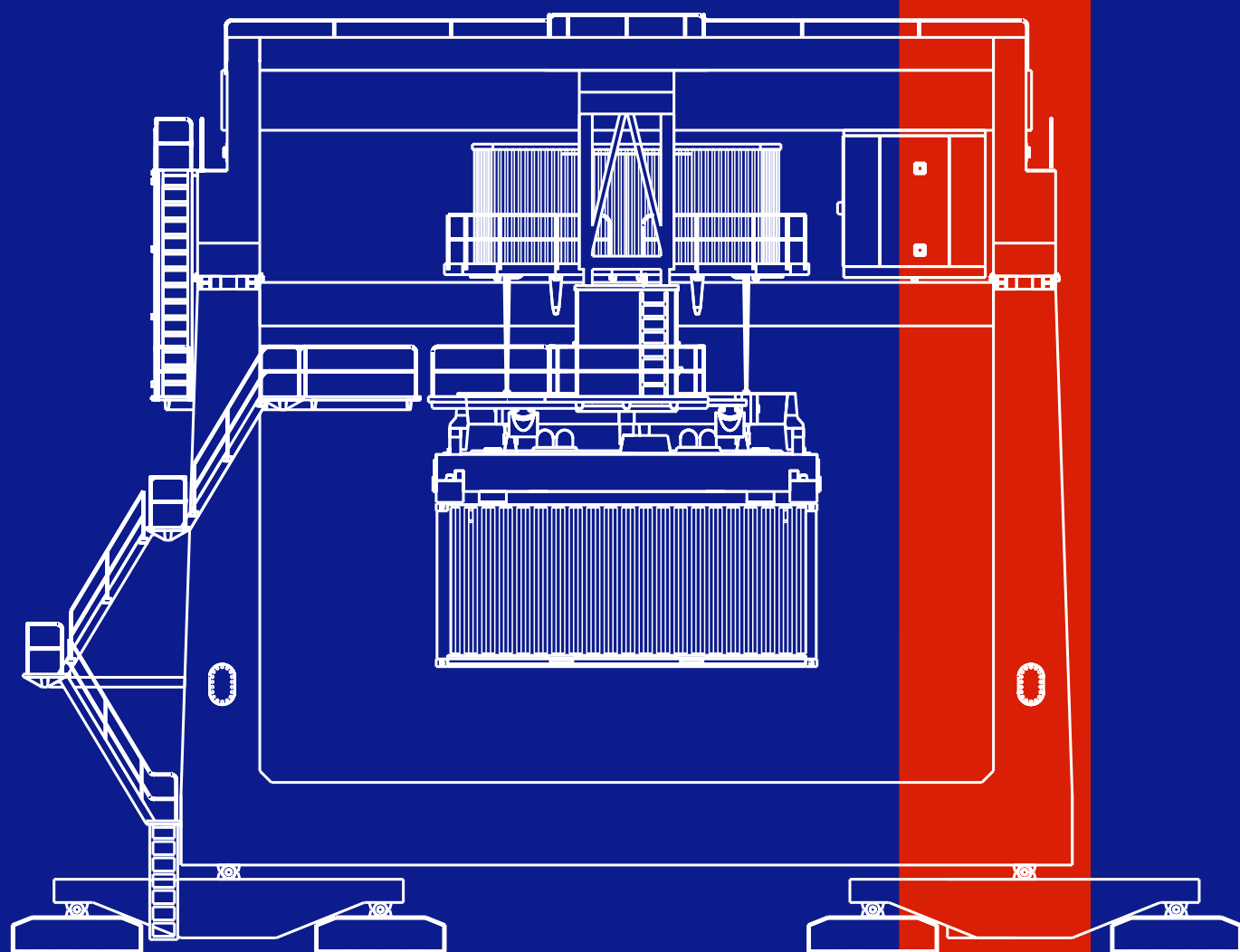


CONTAINER TERMINAL MANUAL



89001

IMPORTANT!

Please read this manual carefully before unpacking the crane and using it for the first time. You will see the crane has many features, but there are a few things you should be aware of in order to obtain correct operation of the crane and to avoid damage.

FOLLOWING THE INSTRUCTIONS WILL ENSURE YOU GET MAXIMUM ENJOYMENT FROM YOUR PURCHASE!

THE CONTAINER TERMINAL CONTAINS:

1 x Gantry with trolley and hoist

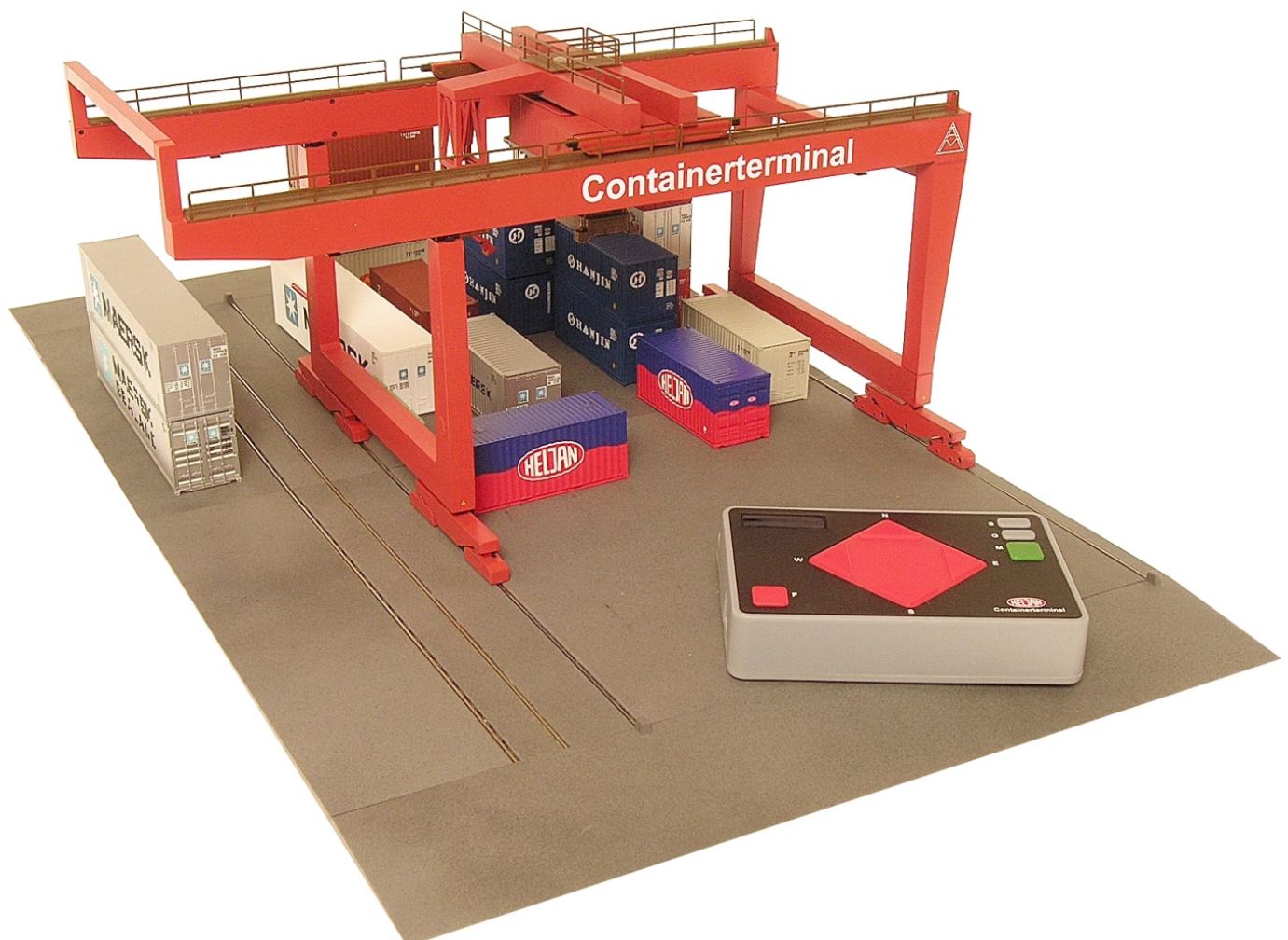
1 x Control unit

2 x Containers

1 x Base element (33 x 57 cm) with fitted crane rails

2 x OO scale tracks (22.6 cm)

8 x rail connectors, 16 screws for mounting the base element to a plate, 4 fittings



INTRODUCTION

Thank you for purchasing the HELJAN Container Terminal. The crane is digitally controlled, but don't be frightened as the operation is simple and no specific experience with digital systems is needed to achieve full enjoyment of the crane. The basic model consists of the complete crane, control unit and two containers. One control unit can control up to three cranes. The basic model measures 33 x 57 cm, but it can be extended with further base elements limited only by power loss and your space! Additional containers can be purchased separately.

BEFORE YOU START!

Please be careful when unpacking. Start with the base elements that are placed in the special packaging at the bottom of the box. Do not unpack the crane until you have assembled the base element and installed the tracks where you want to place them.

ASSEMBLING THE BASE ELEMENT

The base element consists of eight parts, 2 x 2 end sections and 2 x 2 central sections. The lower parts are assembled with the supplied fittings. Mount the base element on to your baseboard. Use a 1.5 mm drill to make the holes in your baseboard, the holes have been drilled in the lower parts and screws are supplied. This is shown on photo 1 where you can also see how to connect the railway track to your layout.

INSTALLING THE TRACKS

Two OO scale tracks are included but you can install up to five tracks, four beneath the crane and one next to it (additional tracks can be purchased as accessories). When you have decided where you wish to place the tracks offer them to the two central lower parts. Take the upper part to one of the lower parts where you want to install the track, and turn it over. On this side there are grooves that enable you to cut out the piece that fits the track (see Photo 2). Don't forget to connect the rails with the rail connectors as supplied, which can also be used to connect the tracks with lines to the power pack. Having done this the upper parts can be fitted to the lower parts of the base. You can also install wires for the FALLER Car-system, please refer to FALLER's instructions.

FITTING THE GANTRY AND TROLLEY

Carefully remove the trolley and the gantry from the packaging. Place the gantry on its base rails and the trolley on the gantry rails. All that remains prior to commencing container terminal operation is to connect it to the control unit and the power supply.



Photo 1

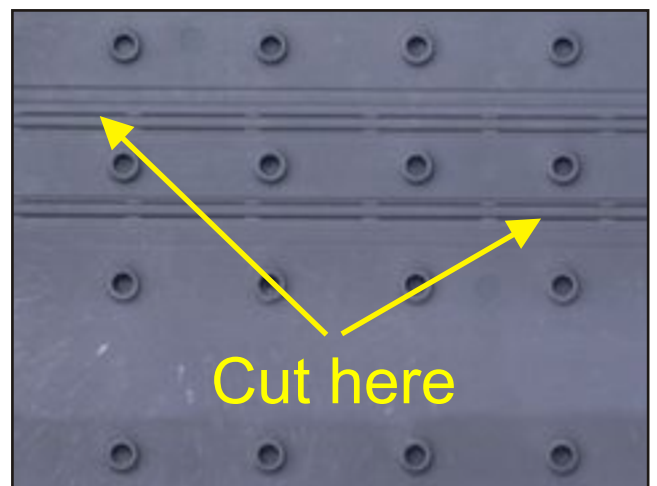
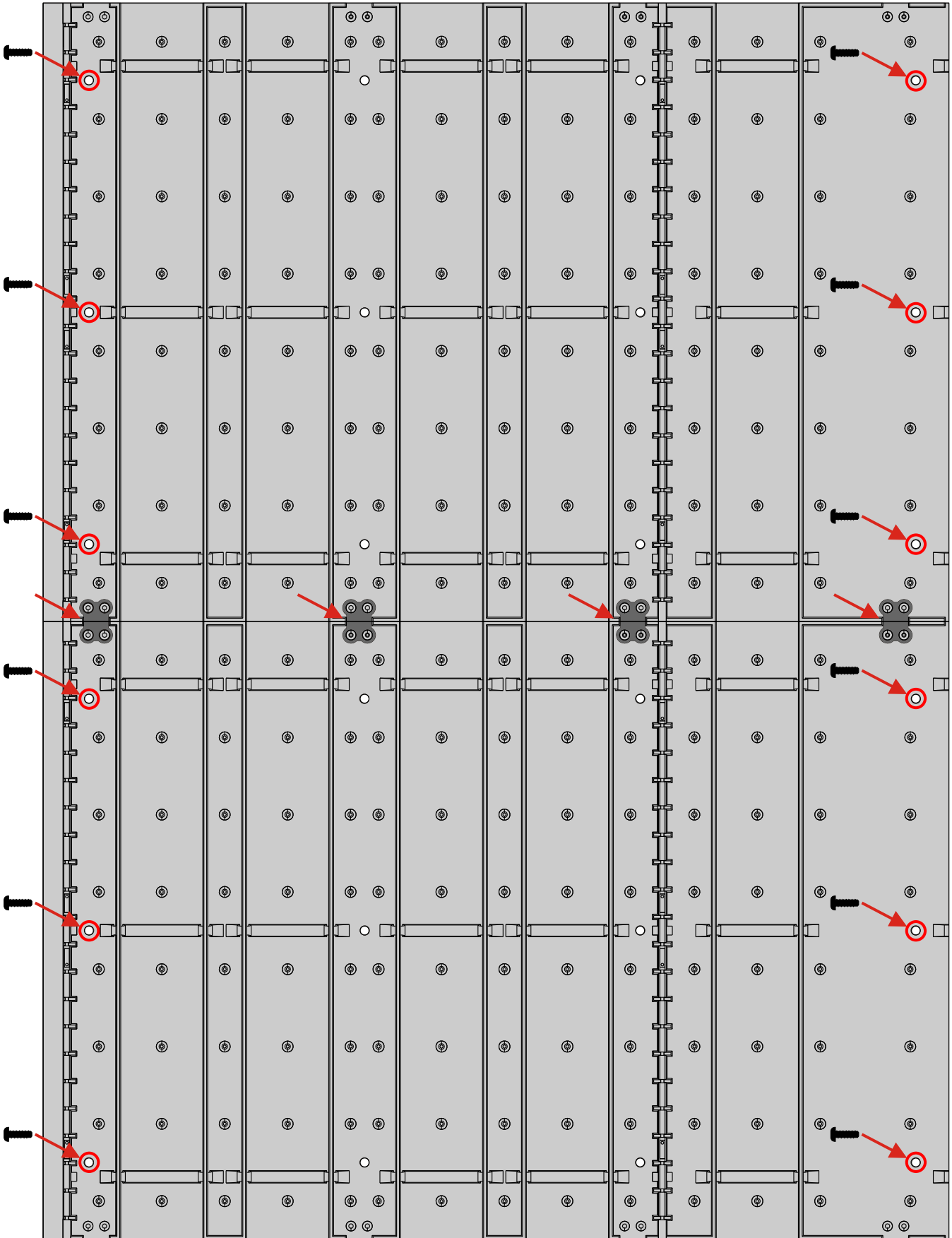
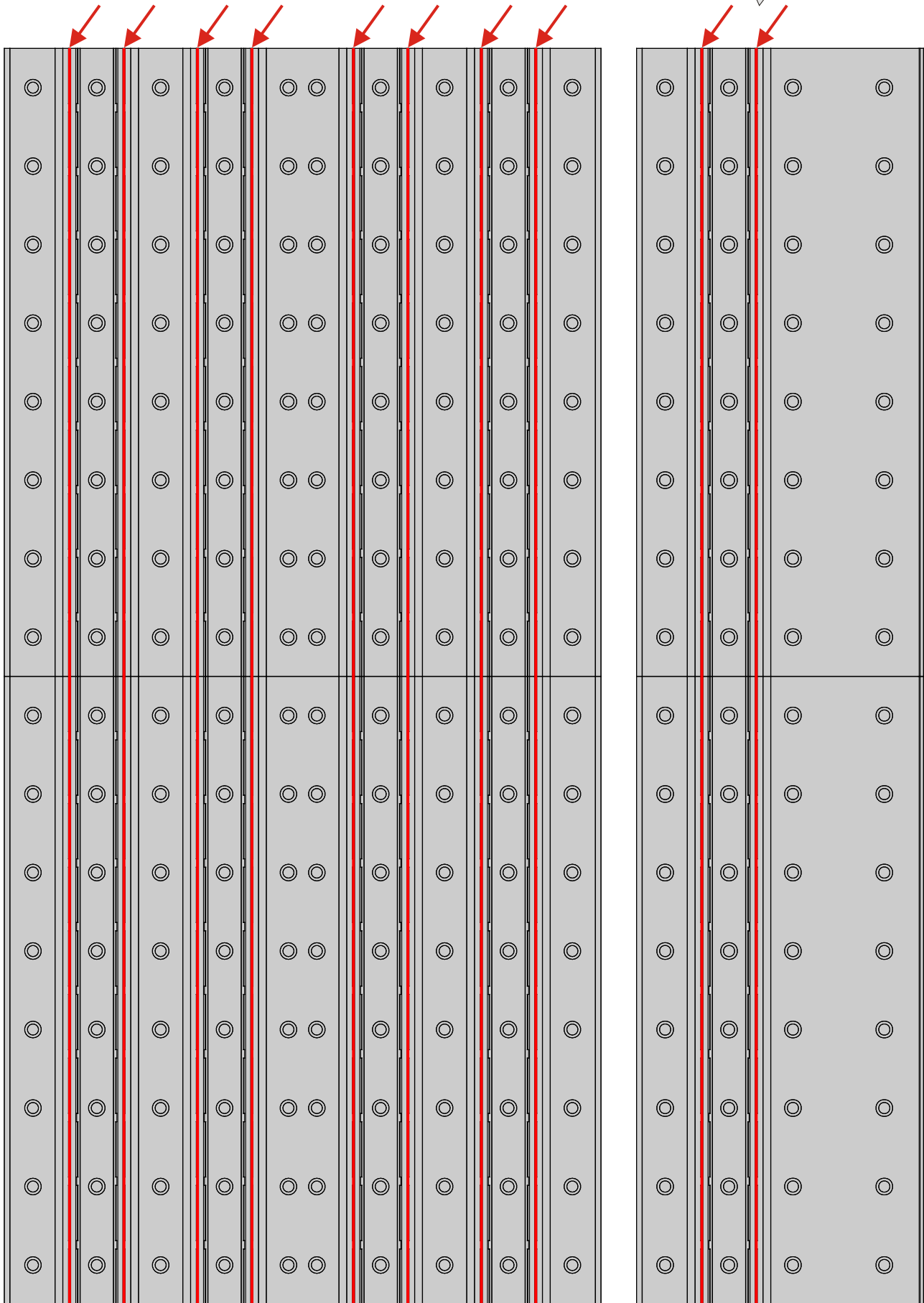


Photo 2

ASSEMBLING THE BASE ELEMENT



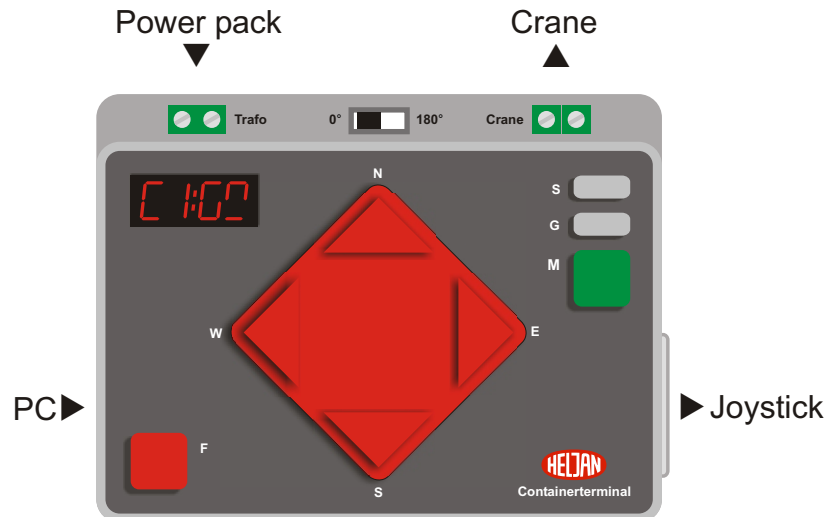
INSTALLING THE TRACKS



POWER SUPPLY

You can use either AC or DC power packs. The voltage should be 14-16 V, 2,5 A. Connect the control unit to your power pack and the crane tracks (see below). Do not turn on the power until you have read the next paragraph!

THE CONTROL UNIT

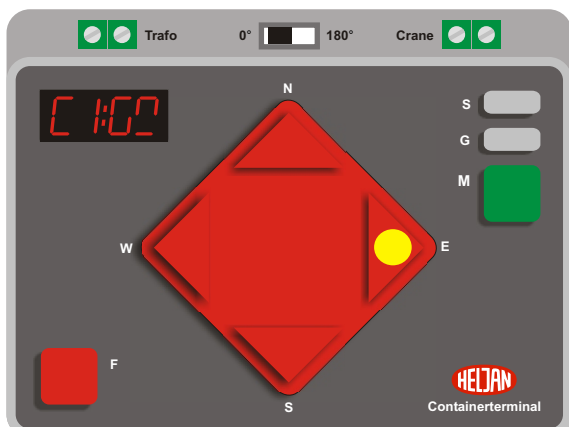


The control unit is the core or the brain of the container terminal. Apart from controlling *all* functions of the crane, you can also adjust the speed with this unit. There are four connections: one for the power pack, one to the crane, one to a joystick and one for a PC. In the next section the use of the crane with the control unit will be explained. For use of Joystick and PC-connection please see our home page (www.heljan.dk). Prior to turning on the power please note these important points:

- All connections must be made *before* turning on the power.
- If operating with a joystick do *not* move the joystick during the start up phase, as this may cause a malfunction.
- If you unplug the joystick while still in use it will cause interruption to the signal.

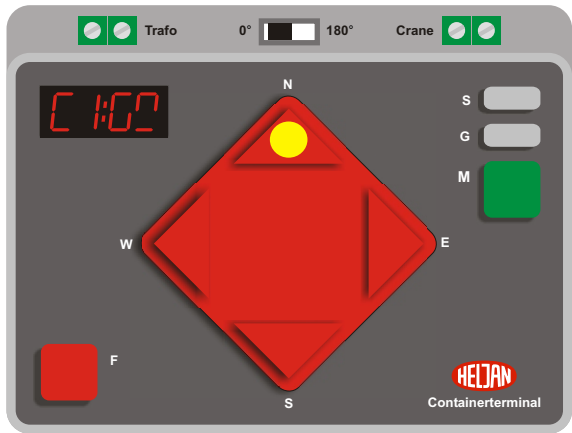
As soon as the power is turned on and the display shows 'HELJAN' the control unit is ready for use. If you connect a joystick it will be identified and calibrated during the start up phase. The joystick cannot be identified in the display during use.

YOU ARE NOW READY FOR OPERATION!



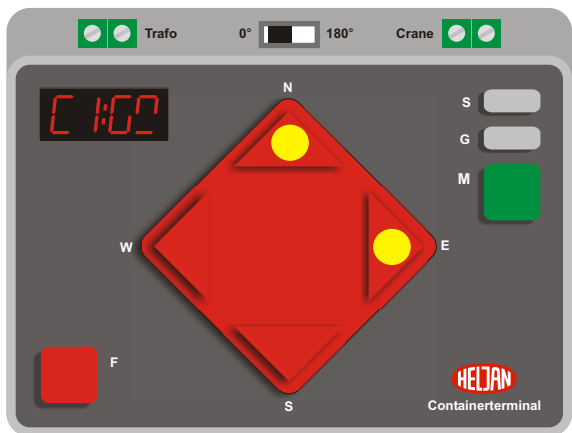
OPERATING THE GANTRY

- Press button 'E' (East) to drive right or 'W' (West) to drive left.



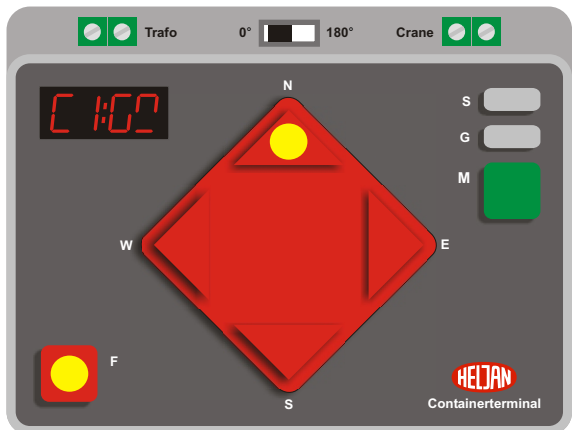
DRIVING THE TROLLEY

- Press button 'N' (North) to drive forwards or 'S' (South) to drive backwards.



DRIVING THE GANTRY AND THE TROLLEY AT THE SAME TIME

- Press buttons 'N' and 'E' or 'N' and 'W' 'S' and 'E' or 'S' and 'W'.



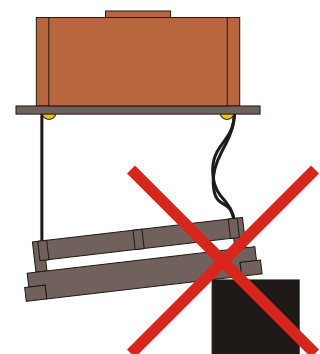
RAISING OR LOWERING THE HOIST

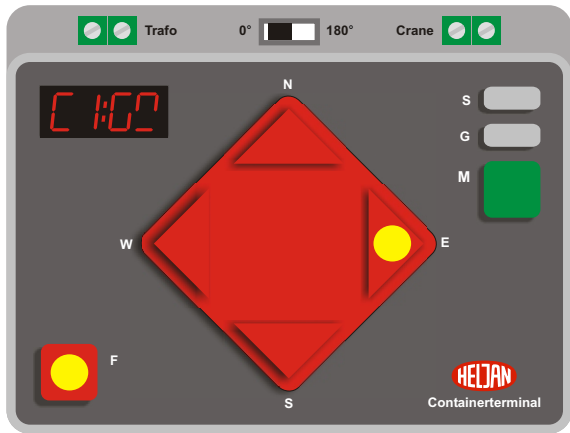
- Hold button 'F' (Function) and then press button 'N' (to raise the trolley) or 'S' (to lower the trolley).

IMPORTANT!

To prevent the strings that connect the hoist with the trolley from getting tangled avoid obstructions when you lower the hoist.

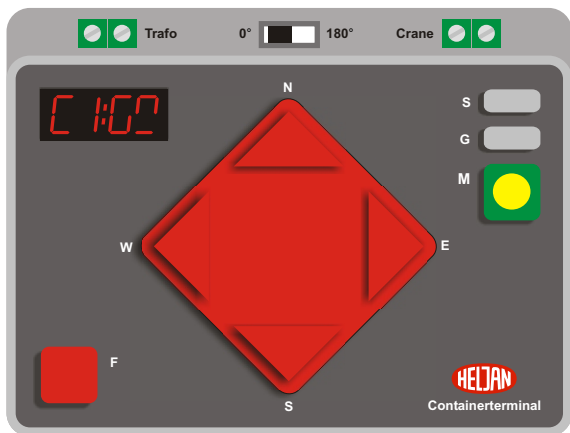
If the hoist comes to rest at an angle raise it until it reaches the trolley and hold the buttons for a short while. When you lower the hoist after having done so it will then be in a horizontal position.





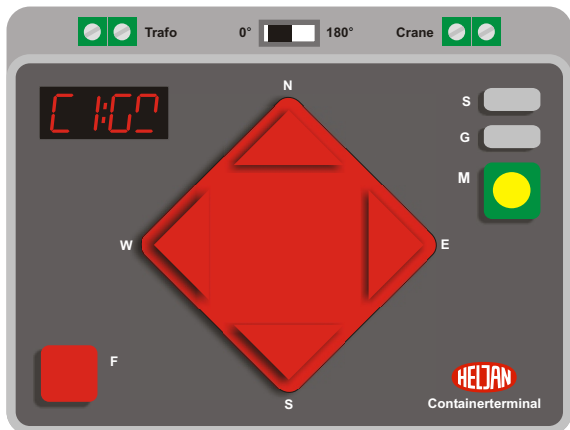
TURNING THE HOIST AROUND

- Hold button 'F' and then press button 'E' or 'W'.



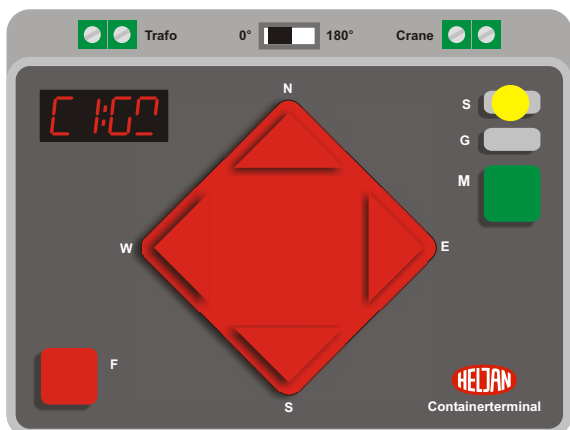
TURNING ON THE MAGNET

- Press button 'M' (Magnet).



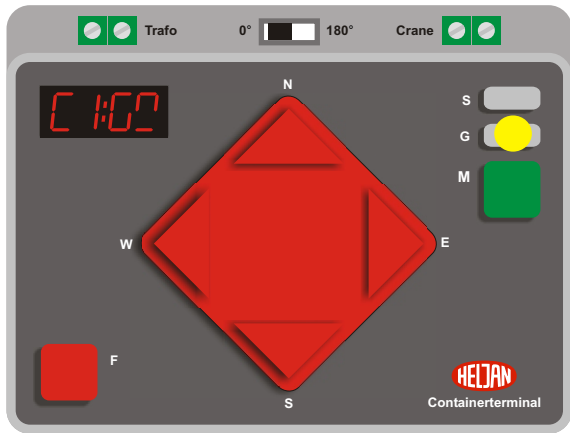
TURNING OFF THE MAGNET

- Press button 'M'.



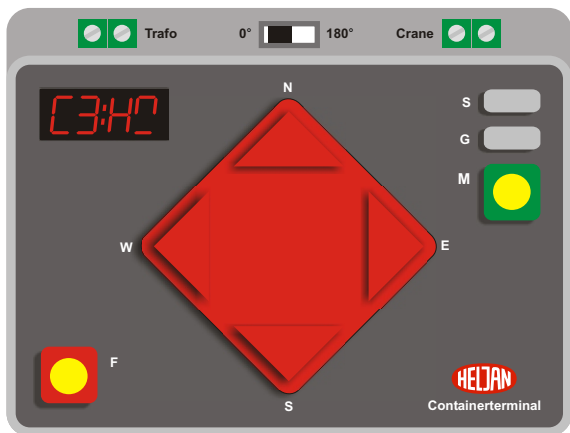
TURNING THE SPOTLIGHT ON AND OFF

- Press the grey button 'S' (Searchlight).



TURNING THE GANTRY LIGHT ON AND OFF

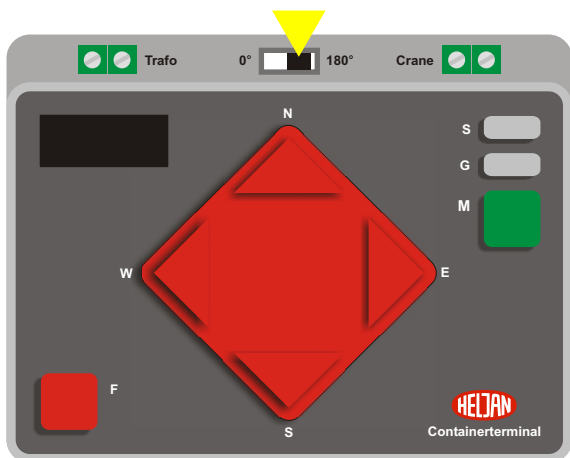
- Press button 'G' (Gantry Light).



CHANGING FROM CRANE 1 → CRANE 2 → CRANE 3

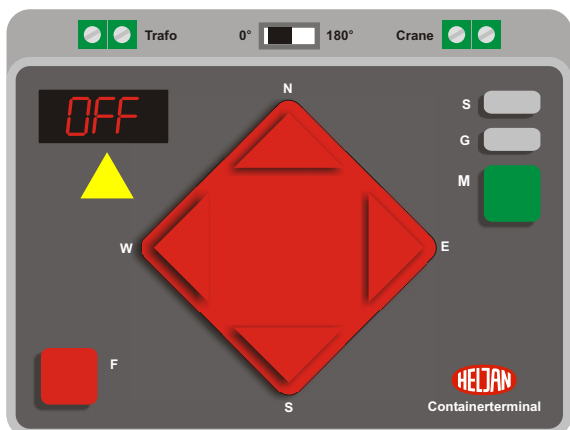
- Hold button 'F' and then press button 'M'.

This function is not possible when using a joystick or PC.



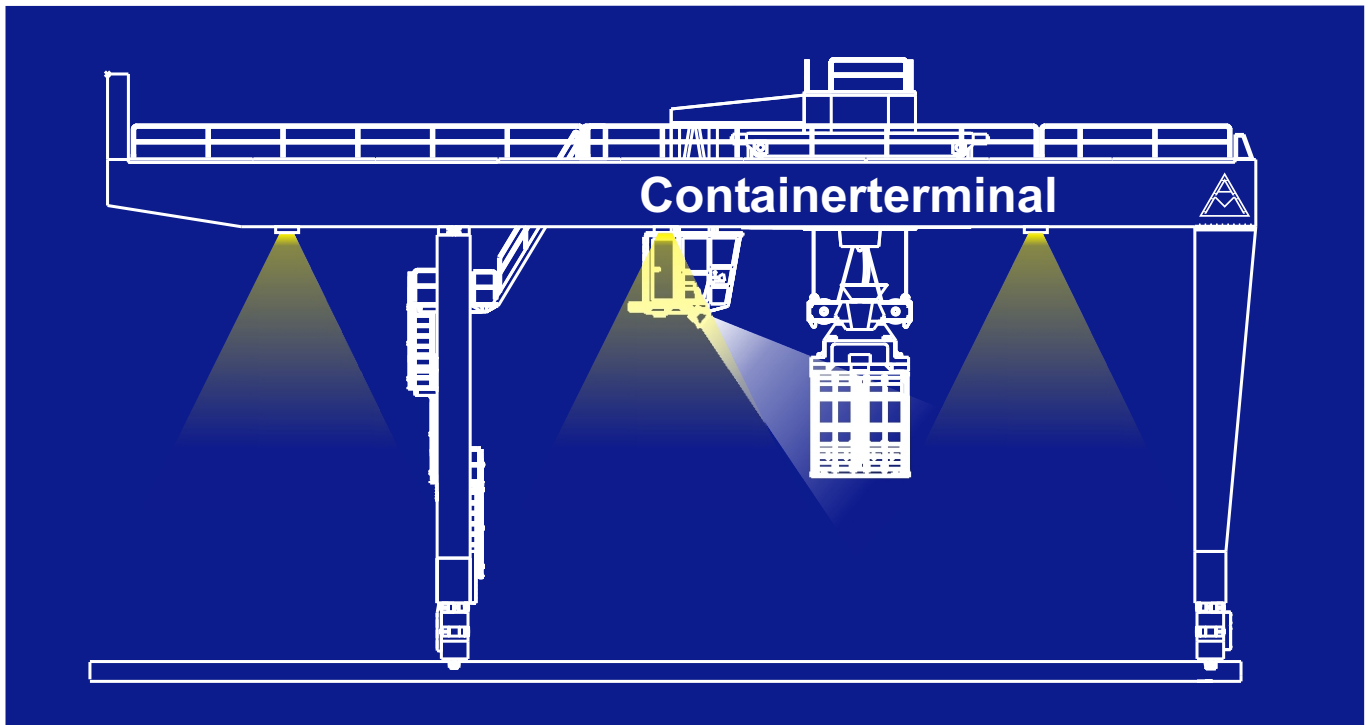
CHANGING DRIVING DIRECTION

Depending on how the control unit is placed in relation to the Container Terminal the driving direction of the gantry and the trolley can be changed by switching the switch. This influences both the control unit, the joystick and the PC-system.



SHORT CIRCUIT

In the case of a short circuit a flashing "OFF" appears in the display and the power supply to the crane will be turned off. When the reason for the short circuit has been determined and cleared press button 'F'.



SETTING THE SPEED

Choose the address of the crane whose speed you want to change.

Hold 'F'.

Press 'S' or 'G'.

'SP:Gt' appears in the display.

By pressing 'S' or 'G' you can choose the speed to be changed.

These are the meanings of the specifications shown in the display:

SP:Gt = Gantry decoder

SP:to = Trolley decoder

SP:Hu = Hoist decoder Up

SP:Hd = Hoist decoder Down

SP:tr = Turn right

SP:tl = Turn left

When the desired speed has been reached press the button 'M'.

'SP:4' appears in the display.

'4' means the speed and may be varied after setting.

With the buttons 'S' and 'G' the speed can be increased or reduced.

When the 'F' button is released the 'new' speed has been fixed.

With the exception of the Gantry and Trolley decoders 'Pro' appears shortly in the display.

REPROGRAMMING THE CRANE ADDRESSES

The Gantry and trolley decoders can be reprogrammed as follows:

- A) Choose a new crane address as described 'CHANGE FROM CRANE 1 ➔ CRANE 2 ➔ CRANE 3'. Hold the buttons.
- B) Then press 'S'.
- C) 'Pro' appears in the display.
- D) The Crane now reacts to its new address.

Note: The Cv1 of the Crane decoder is programmed according to the Configuration Variables.

CONFIGURATION VARIABLES:

Trolley / Hoist Decoder

Config. Variables	Function	Range	Default Setting	Value
CV1	Local address, Crane 1	1-99	4	4
CV1	Local address, Crane 2	1-99	6	6
CV1	Local address, Crane 3	1-99	8	8
CV5	Trolley Motor, maximum speed	1-255	255	255
CV2	Trolley Motor, start voltage	1-255	48	48
CV3	Trolley Motor, acceleration time	1-255	0	0
CV4	Trolley Motor, deceleration time	1-255	0	0
CV55	Hoisting machine, Down Speed	1-255	100	8.0 V
CV56	Hoisting machine, Up Speed	1-255	100	8.0 V
CV57	Turn Mechanism, Turn right speed	1-255	80	6.5 V
CV58	Turn Mechanism, Turn left speed	1-255	80	6.5 V
CV61	Magnet on	1-255	255	16.0 V
CV60	Magnet function mapping	1-255	1	1
CV59	Search Light function mapping	1-255	2	2
CV120	Address Change CV (write only)	1-3	-	-

Gantry Decoder

Config. Values	Function	Range	Default Setting	Value
CV1	Local address, Crane 1	1-99	5	5
CV1	Local address, Crane 2	1-99	7	7
CV1	Local address, Crane 3	1-99	9	9
CV5	Gantry Motor, maximum speed	1-255	255	255
CV2	Gantry Motor, start voltage	1-255	48	48
CV3	Gantry Motor, acceleration time	1-255	0	0
CV4	Gantry Motor, deceleration time	1-255	0	0
CV58	Gantry Light function mapping	1-255	4	4 (F2)
CV60	Flash Light config	0-44	33	33
CV120	Address Change CV (write only)	1-3	-	-

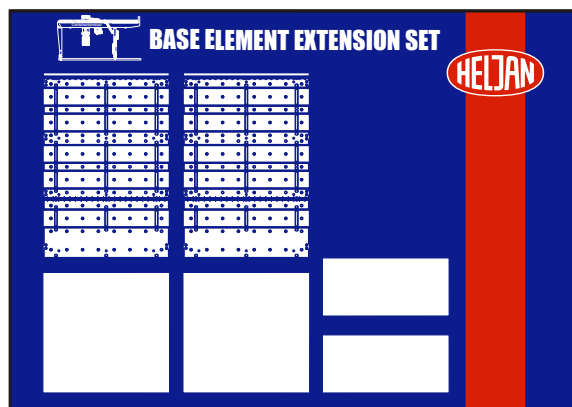


FEATURES

- Each movement can be adjusted by the user in 9 individual speedsteps.
 - Gantry floodlight for the whole working area under the crane.
 - Operator crane spotlights.
 - 1 control unit can control up to 3 container cranes.
 - 3 containers can be stacked.
 - Extra add-on base elements for longer movements.
(No practical track length limitation, except power loss)
- The crane base is extremely flexible to allow endless combinations of railway tracks, roadbeds and storage.
 - Additional containers can be purchased.
 - You can use all your favourite containers by adding a metal adapter (available as optional accessory) inside.
 - The crane can be controlled by an existing DCC-system.
- Unique control system makes it possible to move the gantry and the trolley at the same time.
 - Change of digital address: treat the crane as an ordinary locomotive.
 - The crane is designed with asymmetrical gantry boom to allow harbour operation with container ships.
- The crane may be powered and controlled via the nearest available powered track (which means less wiring) if you operate via DCC.
 - This system offers true 'turn key' operation: no wiring between track and gantry as well as between gantry and trolley.
- User friendly operation also with several cranes on the layout: just twin-key toggle on the control unit.

KEEP TRACKS AND WHEELS CLEAN!

ACCESSORIES



#19858904

Base Element Extension Set

2 central sections (33 x 22,6 cm)
4 rail connectors, 16 screws, 4 fittings

This set will extend your basic Container Terminal Set.



#19858905

Track Extension Set

2 OO Scale tracks (each 22.6 cm long)
8 rail connectors

For the installation of additional tracks in your Container Terminal.



#19858903

HELJAN Containers

4 Containers with metal adapter installed

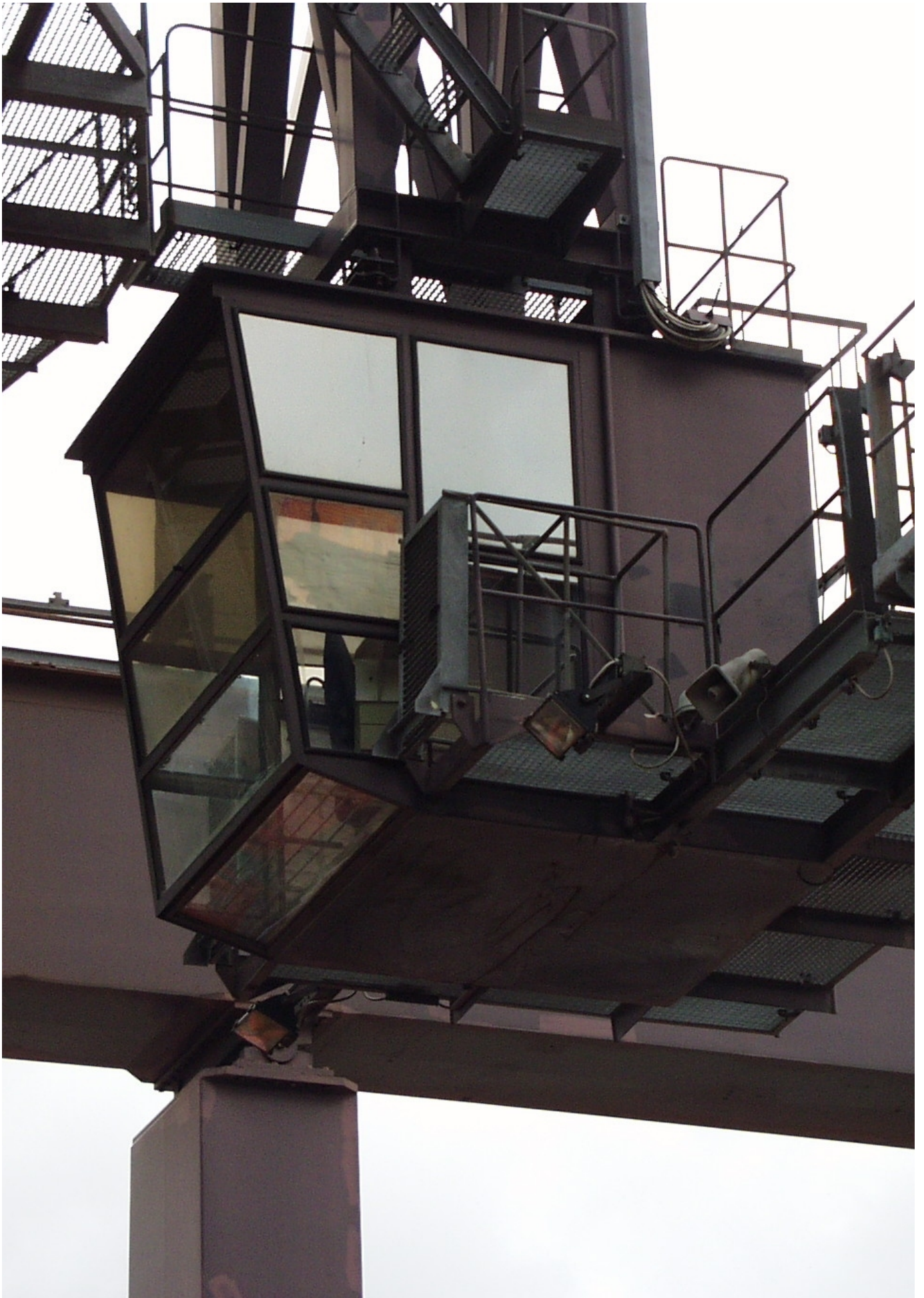


#19858906

Metal adapters for containers

5 metal adapters

After installing a metal adapter in an existing container, this can be used in the Container Terminal



ELECTRONIC TURNTABLE

OO

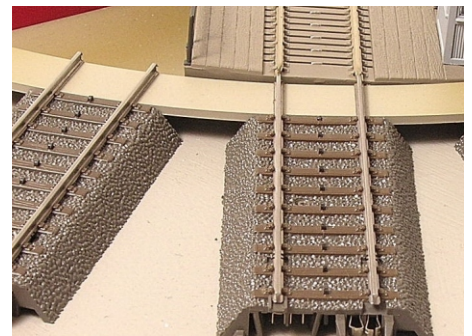


- Detailed bridge with arch
- Weathered one-piece pit
- Motorized gear drive
- Holds engines up to 315 mm long
- Programmable indexing for 60 positions

#89011 (DC)
#89012 (AC)



ACCESSORIES



#858902
4 connecting tracks for
Märklin C-tracks



#858901
4 connecting tracks for
Märklin K-tracks



The container revolutionized global transportation. It is efficient and flexible: once the cargo is placed in the container it can be carried by train, by truck or on a ship. Whenever the container is to be moved from a train onto a truck or a ship this is done by the container crane which is the key to the whole operation.

The HELJAN digital Container Terminal opens up an exiting new world of entertainment and model reality.

HELJAN

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