

Local Regulations for Marshalling Movements with a Description of the State Railway Infrastructure of the Combined Transport Terminal in the Freight Service Centre (FSC) of Bayernhafen Nürnberg

Operating Company of the State Railway Infrastructure:

**TriCon Container-Terminal Nürnberg GmbH
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Annexes:

- Annex 1 Site Plan (not to scale) of the Railway Tracks of HNR
- Annex 1a Site Plan (not to scale) of the Railway Tracks of TriCon
- Annex 2 Site Plan 1:2000
- Annex 3 Brake Test Installations Operation Module 1
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- Annex 4 Accident Reporting Boards I and II
- Annex 5 Communication Regulations in the Container Terminal
- Annex 6 Terminal Regulations

The harbour regulations of HNR can be found on the internet under

<https://www.gvz-hafen.com/informationen/schiffsverkehr/hafenordnung.html>

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- TriCon Container-Terminal Nürnberg GmbH
- Railway Operations Manager of TriCon
- State Railways Authority (LEA) North
- Railway Operations Manager of the port of Nürnberg-Roth GmbH (HNR)
- Railway Transport Companies (RTC)
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Laws, regulations, guidelines and the recognized rules of engineering applicable in the FSC Bayernhafen Nürnberg and in the combined transport terminal:

BayESG	Bavarian Railways and Cable Railways Act
EBO	Railway Construction and Operation Act
EBOA	Railway Construction and Operation Act for Branch Lines
BÜV/NE	Regulation for the Safety of Railway Crossovers with Non-federally owned Railways
DS 301	Signal Codes (SB)
Obri-NE	Superstructure Regulations for Non-federally owned Railways
408	Corporate Marshalling Guidelines of DB Netz AG, in particular 408.0801, 408.0811, 408.0821, 408.0822, 408.0823, 408.0824, 408.0831, 408.0841
DB RILI 424	Guideline of DB AG – Safety-related Measures after the Escape of Hazardous Goods
GGSVEB	Hazardous Goods Ordinance (national legislation) on the transport of hazardous goods by road, rail and inland waterways
ADR/RID	International legislation on the transport of hazardous goods
Sig-VB-NE	Regulation for the operation of signalling systems for non-federally owned railways
Buvo-NE	Industrial accident regulation for non-federally owned railways
GUV	Federal Association of Statutory Occupational Accident Insurers of the State Sector (BAGUV)
DIN VDE 0105 - 100	Operation of electrical installations
DIN VDE 0105 – 103	Additional specifications for railways

DIN EN 50119	Overhead power lines for operating electric trains
RIL 997.0104	Operation of the overhead power line network
Local Guidelines	The Bayernhafen Nürnberg Local Guidelines can be found on the internet under http://www.bayernhafen.de/fileadmin/user_upload/ Bayernhafenhafen_Gruppe/Downloads/Infrastruktur _2016/NBS Annex 3d 02-2015.pdf
Port Regulations	can be found on the internet under https://www.gvz- hafen.com/informationen/schiffsverkehr/hafenordnung.html
Communications Regulations	of TriCon-Container-Terminal Nürnberg GmbH
Terminal Regulations	of TriCon-Container-Terminal Nürnberg GmbH
RIL 482	Signalling systems, ELP

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Public Railway Infrastructure in the Freight Service Centre (FSC) Bayernhafen Nürnberg

The public railway infrastructure of the Bayernhafen GmbH & Co. KG (BG) and the public railway infrastructure of the TriCon Container-Terminal Nürnberg GmbH serve the purpose of freight transportation.

The public railway infrastructure of the FSC consists in the main of

- A port station with a track-plan signal box
- Main tracks sidings and feeder lines
- Quayside tracks with port crane operation
- Heavy goods loading facilities with heavy load basins
- A trimodal transshipment terminal for combined transport (CT) for the transshipment of containers, swap bodies and semi-trailers

A part of the port station, the feeder tracks to the combined transport terminal and the combined transport terminal is spanned with a 15kV overhead power line system and is connected to the electrification of the Nürnberg-Eibach station.

The operational execution of the train and marshalling movements on the public railway infrastructure of the BG is controlled by the present local guidelines with a description of the public railway infrastructure of the combined transport terminal in the freight service centre (FSC) Bayernhafen Nürnberg, pages 6 - 14. The carrying out of the marshalling movements on the public railway infrastructure of the combined transport terminal is described on pages 12 - 38.

Connection to the public railway infrastructure of the BG in the FSC Bayernhafen Nürnberg

The combined transport terminal of TriCon is connected to the public railway infrastructure of the BG in the south via the points 83 in the main track 5, the junction K1 in the main track 6 and track 830. In the north, TriCon is connected to the public railway infrastructure of the BG via tracks 831, 840 and the points 84.

Pushed or pulled units hauled by electric locomotives can drive directly to either the south or north head (points area) in the combined transport terminal port station.

1. LOCAL REGULATIONS

1.1 General

1.1.1 Corporate Guidelines of the DB Netz AG

The Corporate Guideline 408 “Driving and Marshalling Trains” of the DB Netz AG, in particular, the sections on marshalling: 408.0801, 408.0811, 408.0821, 408.0822, 408.0823, 408.0824, 408.0831, 408.0841

1.1.2 Supplements to the Local Guidelines

Additional regulations, structural measures or temporary changes are notified through permanent supplements to the local guidelines of the Railway Management of the HNR and TriCon.

1.1.3 Communication

For trains arriving in the port station, the communication of the train driver (TD) with the port signal box signalman (Sm) via the train radio C28 takes place. In the event of radio malfunction, communication takes place via mobile radio.

Port signal box signalman telephone number: +49(0)911-632318-12 or -13.

The TriCon control centre can be reached via train radio C44. In the event of radio malfunction, communication takes place via mobile radio: Telephone number: +49(0)911-99968126.

All communications via the above-named radio frequencies are recorded.

1.1.4 Electric Railway Operation

It must always be assumed, that the entire overhead power line system is under power (15,000 V).

If operation-threatening conditions are detected on the overhead lines or on electric traction units, then the positions named in the accident reporting boards must be informed immediately. It must be ensured that the overhead lines are switched off without delay.

Likewise, personnel must be informed before approaching live parts. Sagging or trailing overhead lines must not be touched.

With a cable touching the earth, the ground around the contact point also carries dangerous voltages (step voltage). Therefore, the earth within a radius of approx. 10 metres must not be touched or walked upon until the live cable has been switched off and earthed. The release of the damaged area is given by the TriCon authorized person responsible for overhead power lines.

1.1.5 Information about the Traction

Train and marshalling movements between the Nürnberg- Eibach station and the port station are agreed between the Nürnberg-Eibach station Traffic Controller (TC) and the port station signalman with information about the traction.

1.1.6 Train Movements between Nür-Eibach and the Port Station

Entry in tracks 1, 2 and 3 with $V_{max} \leq 30$ km/h. Additional signal 3(3) present. Stop at Light Signal Points (LSP) 74/1, (LSP) 74/2 and LSP86/1 (elevated). After stopping, onward movement to Safety Stop Signal (SSS) 1.

Exit from tracks 1 – 4 as a marshalling movement and transition at signal 2C into train movement. Secondary Signal (SS) 2 (shortened) set. For this, see The List of Locally Approved Speeds (LLAP), Route 5941.

1.1.7 Parking of Wagons in the Port Station in accordance with GGVSE (Hazardous Goods Ordinance, Road and Rail)

In accordance with NBS-BT (terms of use for service facilities – special section) of the BG, outside the signal box opening times, due to statutory regulations and potential environmental risks, wagons or marshalling units carrying hazardous goods must not be left unattended. The authorized accessor must, therefore, arrange for the appropriate supervision of the deposited hazardous goods in accordance with the NBS-BT of the BG. If the wagons are interim parked as described above, then the shipping documents must be deposited with the signalman.

1.1.8 Parking of Locomotives in the Port Station

Locomotives may only be parked during the occupancy of the port signal box. The parking of locomotives must be agreed with the signalman.

1.1.9 Route Loading

Route class D4 (22.5 tonnes axle load and 8.0 t/m) is permitted in the entire FSC. With higher loads, the approval of the Railway Operations Manager (ROM) is required.

1.1.10 Oversized Freight (OF) Port Station

Trains with OF shipments may only enter following the approval of the ROM.

1.1.11 Speeds

Entry speed (from Eibach) in the tracks 1, 2 and 3 \leq 30 km/h.

Marshalling speed \leq 25 km/h and / or in accordance with the signalling

Marshalling speed in the combined transport terminal \leq 20 km/h.

The exit speed from the combined transport terminal via the southern connection (track 830) signalled is 15 km/h (Speed Restriction Signal) SRS7 with indicator 1.5). The cancellation takes place likewise signalled with SRS7 and the indicator 2.5 in the main track 6 with signal.

1.1.12 Marshalling Movements

Marshalling movements must only be carried out with fitted air brakes.

1.1.13 Pushing of Vehicles

The pushing and allowing to run on of vehicles is forbidden. Exception, see Pt. 1.1.8.

1.1.14 Damage / Breakdowns

Damaged caused to the infrastructure and vehicles as well as defects found on, for example, signals, points, axle counters and brake test installations must be reported immediately to the TriCon control centre.

1.1.15 Accidents / Irregularities

Accidents and irregularities must be reported immediately to the control centre and / or the harbour signal box signalman.

1.1.16 Movements to the Combined Transport Terminal with Electric Locomotives

Trains with electric locomotives arriving in the port station can drive up to the associated (Catenary Signal) CS6 (points area south head), tracks 1 – 6 and 9 – 14. Onward movement into the loading area of the container cranes takes place using diesel locomotives.

The onward movement may only take place when the “pantograph off” of the electric locomotive has taken place. CS4 not available.

Alternatively, the wagons can be pushed by electric locomotives (pushed marshalling section) into the loading area of the container cranes.

For this the electric locomotive must use the rearmost pantograph of the direction of travel. The marshalling movement may only take place up to CS6. How far in this manner the container carrying wagons come to a stop in the craneable area must be checked in advance by the RTC.

1.1.17 Electric Locally Set Points (ELP) in the Combined Transport Terminal

The points switching takes place by means of ELP. All points are equipped with light signals, Points Position Indicators (PPI) and axle counters.

The light signals on the electric locally set points (ELP) and Electric Locally set Double Crossing Points (ELDCP) are designated as points position and orientation indicators (PPI / DCPPI) (see Pt. 2.4.3).

The PPI at the points are equipped with three LED technology signal generators and with five signal generators at the double crossing points.

The PPI/DCPPI that indicates the points position, the switching, the end position and the occupancy of the points is visible from both directions of travel.

The following light signals are possible:

Constant white light => proper condition

Flashing white light => switching procedure or fault

Constant blue light => proper condition of the points. But the points are already occupied by the entering or another vehicle.

Flashing blue light => switching procedure or fault

1.1.18 Points with Priority Positions in the Combined Transport Terminal

The points 8322,8323A/B, 8323C/D and 8324C/D in the southern head have priority positions. This means, that after clearing the axle counting circuit (the POI (Points Orientation Indicator) and PPI (Points Position Indicator) change from blue to continuous white) the points automatically switch to the priority position after a delay of approx. 10 seconds.

The priority position is identified on the points position indicator with a bar (for this see also 2.3.4).

1.1.19 Clearance Restrictions (CR) in the Combined Transport Terminal on Tracks with Loading Equipment

In the tracks 1 – 4 and 9 – 14, transshipment operation must always be assumed.

Clearance restrictions can be imposed during loading work on tracks 1 – 4 and 9 - 14.

Lorry loading tracks are arranged next to track 1 and track 14.

Attention must be paid to the drive path here.

1.1.20 Travelling Over the Rail Crossovers in the Combined Transport Terminal

The non-technically secured Railway Crossovers (RC) located in the northern points area must be secured in accordance with the Corporate Guideline 408.0823-1 (2), final paragraph.

1.1.21 Parking Vehicles in the Combined Transport Terminal

The approval of the TriCon control centre is required for the parking of vehicles in the combined transport terminal.

The parking of locomotives is forbidden in the area of the crane track.

For the avoidance of faults at the points and the points controls, no railway vehicles may be parked between the points blades and points end. The permanent occupation of the axle counter must be avoided.

1.1.22 Electrants in the Combined Transport Terminal

The use of the electrants must be agreed with the TriCon control centre.

1.1.23 People in the Track Area

Increased attention must be paid to people in the tracks in the entire track area.

1.1.24 Terminal Regulations

All people on the site of the combined transport terminal must wear high-visibility clothing and safety helmets (see the Terminal Regulations).

1.2 Marshalling Journeys from the Port Station to the Combined Transport Terminal

1.2.1 Normal Operation

The marshalling movements from the port station up to the wait signal (Marshalling Signal MS11) on track 830 before the combined transport terminal are always agreed between the port station signalman and the TriCon control centre via marshalling radio C28 and via marshalling radio C44.

1.2.2 Combined Transport Terminal Not Occupied

Outside the TriCon occupation times, the port station signalman coordinates the marshalling movements up to the combined transport terminal in accordance with the track occupancy plan agreed in advance with TriCon.

1.3 Marshalling Journeys from the Combined Transport Terminal to the Port Station

Marshalling journeys from the combined transport terminal to the port station are agreed with coordination between the TriCon control centre, the port station signalman and the TD. After the approval of the TriCon control centre and the subsequent approval of the port station signalman, the respective marshalling movement may pass on MS 11 (track 1 – 14). Outside the TriCon occupation times, the marshalling movements are agreed between the port station signalman and the TD.

The travel route is set through the driving over of the associated axle counting contact. The PPI in the points lying in the travel route must display a permanent white light before the start of the movement. For a detailed description of the ELP light signals see 2.4.2.

The communication regulations must be observed.

1.4 Marshalling Journeys in the Combined Transport Terminal

1.4.1 Entry into the Combined Transport Terminal

1.4.1.1 Travel Route Setting by the Train Driver

The marshalling movement stops at MS11, track 830. The TD reports to the TriCon control centre via marshalling radio C44.

All involved parties, especially the crane driver, are informed by the TriCon control centre of the pending entry of the marshalling unit.

The destination track is agreed between the TriCon control centre and the TD.

Then the TD sets the agreed travel route on the travel route setting panel (TRP1).

The approval to travel on is considered to have been given when the destination track is agreed, the travel route has been entered and the destination indicator is displaying constant white light.

1.4.1.2 Combined Transport Terminal Not Occupied

The TD sets the travel route given by the signalman on the travel route setting panel (TRP1) (see Pt. 1.2.2).

The approval for going past the travel route setting panel (TRP1) and ongoing travel is considered to have been given when the destination track is known, the travel route has been entered on the travel route setting panel and the destination indicator is displaying constant white light.

1.4.1.3 Marshalling Movements with Electric Locomotives from the South Head Points into the Loading Tracks 1, 2 and 13

With movements with electric locomotives from the south head points into the loading tracks 1, 2 and 13 it must be noted that:

The entry into the loading tracks 1, 2 and 13 takes place using the raised rearmost pantograph of the direction of travel. The front pantograph must be lowered.

The train driver drives with the head of the traction unit up to the signal CS6, whereby the front driver's cab in the direction of travel must always be occupied.

The passing by of the CS6 is permitted only on the instruction of a marshalling escort.

The exit from the loading tracks 1, 2 and 13 takes place with the front pantograph in the travel direction raised. The rear pantograph must be lowered.

1.4.2 Marshalling Movements from the South Head up to LS (Light Signal) 831 (before Junction 1)

1.4.2.1 Regulation by the TriCon Control Centre

Marshalling movements between MS11 of tracks 1 – 14 and the LS 831 are agreed between the TD and the TriCon control centre. On the changing of the travel direction, the marshalling movements must always travel up to the back of the travel route setting panel 1 (at MS11), track 830.

The completion of the marshalling movement must be communicated to the TriCon control centre.

1.4.2.2 Regulation by the TD when the TriCon Control Centre is not Occupied

The TD obtains approval from the port station signalman. Otherwise, as described under Pt. 1.4.2.1.

Before vehicle movements are allowed to take place, the involved TDs must inform each other.

1.4.2.3 Exit Speed from the South Exit (track 830) in the Direction of the Port Station

The exit speed from the south exit of the combined transport terminal via the southern track 830 in the direction of the port station is reduced by means of a speed signal, SRS7, from 20 km/h to 15 km/h. In the main track 5 of the railway infrastructure of the BG, this speed restriction signalled by the SRS7 is lifted again to 25 km/h.

1.4.3 Marshalling Movements out of and into the Damaged Wagon Tracks 91 and 101 at the South Head

1.4.3.1 Out of Tracks 91 and 101

Marshalling movements out of track 91 into tracks 9 - 14 respectively out of track 101 into tracks 10 - 14 are agreed between the TD and the TriCon control centre. The TD sets the agreed travel route on the travel route setting panel (TRP2). Here, it must be ensured that the correct track number of the starting track is used. The approval for the marshalling movement is considered to have been given when the travel route has been entered and

the destination indicator on the travel route setting panel (TRP2) is displaying constant white light. Before vehicle movements are allowed to take place, the involved TDs must inform each other.

1.4.3.2 Into Tracks 91 and 101

Marshalling movements out of tracks 9 - 14 into track 91 respectively out of tracks 10 - 14 into track 101 are agreed between the TD and the TriCon control centre. With movements into tracks 91 and 101 the travel route is set from points to points by driving over the associated axle counting contacts and / or impact switches. Before vehicle movements are allowed to take place, the involved TDs must inform each other.

1.4.4 Marshalling Movements in the North Head and on Tracks 1 - 14

Marshalling movements to the north of MS11 on tracks 1 – 14 and in the north head of the combined transport terminal are agreed between the TD and the TriCon control centre.

1.4.5 The travel route out of tracks 1 - 14 is set from points to points by driving over the associated axle counting contacts and in the tracks 1 - 14 through impact switches.

Vehicle movements may first take place after the mutual agreement of the marshalling department. With marshalling movements in tracks 1 – 4 and 9 – 14, transshipment operation must always be assumed.

1.5 Marshalling Journeys by two or more Traction Units (TUs)

If a second, or, where necessary further TUs are to travel from the port station to the combined transport terminal, then these TUs are informed by the port station signalman that other TUs are active in the combined transport terminal.

Vehicle movements in the terminal may only take place after the mutual agreement of the marshalling department.

2. Description of the Railway Infrastructure in the Terminal

2.1 General

The CT (Combined Transport) in the transshipment terminal for the combined transport (CT) for the transshipment of containers, swap bodies and semi-trailers is connected in the south via the points 83 in the main track 5, the junction K1 in the main track 6 and in the north via track 831 to track 840 on the public railway infrastructure of the BG.

The movements from the port station to the combined transport terminal and from the combined transport terminal to the port station are carried out as marshalling movements.

For communication, radio sets with the radio channels C44 and C28 are used.

The radio sets must be reserved by the railway transport companies (RTC).

The communication with the signalman (Sm) in the port signal box takes place via channel C28.

The communication with the TriCon control centre takes place via channel C44.

All radio calls are recorded in the port signal box.

The Communication Regulations of TriCon must be observed

In the terminal, points switching takes place by means of electric locally-set points (ELP and / or ELDCP).

At the south head, the travel route setting takes place from the toe side via two travel route setting panels (TRP1 and TRP2), respectively from the heel side (of the points end) by travelling over the respective axle counter.

At the north head, the travel route setting takes place via impact switches (in front of the points blades) respectively from the heel side (of the points end) by travelling over the respective axle counter.

The ELP controls of the north and south head function independently of each other.

All points in the terminal are equipped with points heating.

The controls of the ELP and the points heating are located in the separate buildings in the south head and in the north head.

Module 1 (Tracks 1 - 7)

Two container cranes span four transshipment tracks (tracks 1 - 4), two lorry lanes (loading and driving lanes) and three parking lanes for containers. Outside the crane area to the west there are available two bypass and two parking tracks and to the east a lorry driving lane.

Module 2 (Tracks 8 - 14)

Two container cranes span six transshipment tracks (tracks 9 - 14), two lorry lanes (loading and driving lanes) and three parking lanes for containers. Outside the crane area to the east there are available a bypass track and to the west a lorry driving lane.

Track 8 is spanned by an electric overhead line.

2.1.1 Hazardous Goods Transport

The freight documents must be carried in the traction unit until the handing over of the hazardous goods wagons. The traction units must be provided with the accident instruction sheets, (DB RILI 424) or written instructions in accordance with ADR/RID 2007 Point 5.4.3 for the hazardous goods to be transported, on how to behave in the event of an accident or incident.

2.1.2 Parking of Wagons in the Combined Transport Terminal in accordance with GGVSE

The parking of wagons containing hazardous goods is controlled by TriCon through service instructions. The contents of the service instructions are communicated to the involved RTC on request.

2.1.3 Track Overview

Track Designation	Use	Working Length	Incline Conditions	Position
Main track 5*	Southern connecting track to the railway infrastructure of the BG		1.5 ‰	Port station – Start of Points (SP) 83
830*	Southern connecting track to the terminal	300 m	From crane 1 to 112 m 5.5 ‰ then to 188 m 0.0 ‰	End of Points (EP) 83 (l) in the main track 5 - SP8321
1	Transshipment track	794 m	0 ‰	EP8304(r) – EP8305(l)
2	Transshipment track	794 m	0 ‰	EP8304(l) – EP8305(r)
3	Transshipment track	857 m	0 ‰	EP8303(l) – EP8306(r)
4	Transshipment track	918 m	0 ‰	EP8302(l) – EP8307(r)
5	Parking track	1005 m	0 ‰	EP8312(r) – EP8309(l)

6	Parking track	938 m	0 ‰	EP8311(r) – EP8310(l)
7	Parking track	938 m	0 ‰	EP8311(l) – EP8310(r)
8*	Bypass track	916 m	0 ‰	EP8322 – SP8335
81*	Damaged wagon track 3	126 m	0 ‰	EP8335 – buffers
9	Transshipment track	905 m	0 ‰	SP8323 – EP8334
9a*	Connection track	112 m	0 ‰	SP8334 – EP8332
91	Damaged wagon track 2	153 m	0 ‰	SP8323 – buffers
10	Transshipment track	990 m	0 ‰	SP8324 – EP8331
101	Damaged wagon track 1	170 m	0 ‰	SP8324 – buffers
11	Transshipment track	901 m	0 ‰	EP8325 – EP8333
12	Transshipment track	848 m	0 ‰	EP8326 – EP8329
13	Transshipment track	780 m	0 ‰	EP8327(r) – EP8328(l)
14	Transshipment track	780 m	0 ‰	EP8327(l) – EP8328(r)
831*	Northern connecting track to the combined transport terminal		0 ‰	
840*	Northern connecting track to the railway infrastructure of the BG			

*) Tracks 8, 9a, 81 and 831 and the south and north heads points are electrified.

2.1.4 Track and Points Radii

Radii \geq 190 m

2.1.5 Route Class

D4 (22.5 tonnes axle loading and 8.0 t/m). With higher loads, the approval of the Railway Operations Manager (ROM) is required.

2.1.6 Track Spacing

The track spacing between all tracks is \geq 4.70m.

2.1.7 Track Terminations

The tracks 81, 91 and 101 are terminated by means of buffer stops. The positions of the buffer stops are marked with two yellow posts.

2.1.8 Standard Clearance

Except for loading work in the tracks 1 – 4 and 9 – 14, there are no restrictions on the standard clearance (CR) of container transshipments by means of container crane.

2.1.9 Marshalling Routes

Marshalling routes are arranged between the loading and transshipment tracks. The exception here is the area in the crane track runs.

2.1.10 Pedestrian Crossings

Module 2: There is a pedestrian crossing at the south and north heads between tracks 8 – 14.

2.1.11 Fire Service Crossing over the Southern Tracks for Emergencies

A fixed crossing from east to west for fire service access has been erected in the area of the south head of the trimodal CT transshipment facility.

This crossing may only be driven over in an emergency. Use as an operational crossing is not allowed.

If the fire service crossing needs to be used in an emergency, then the TriCon Railway Management will ensure that no marshalling movements are carried out in this area. In an emergency, the overhead lines must be switched off.

2.1.12 Chocks

Chocks (normal form) are kept on chock stands. The chock stands are positioned between the tracks.

2.1.13 Acknowledgement of the Chock Freedom to the Marshalling Unit on Wagon Withdrawal from the Combined Transport Terminal

The marshalling engine driver and / or the engine driver as the responsible person in accordance with the Train Operating Regulation, D 408, for the withdrawal of the marshalling unit must inform the TriCon control centre by radio before the departure of the marshalling unit:

- That the chocks of the marshalling unit to be withdrawn have been set aside as prescribed and the marshalling unit can, therefore, be safely removed.
- Of the track number out of which the marshalling unit is to be removed and
- The train number, provided that it is available.

The TriCon control centre will not issue an exit approval without the above-mentioned notification.

2.1.14 Use of Chocks for the Securing of Railway Wagons in the TriCon Combined Transport Terminal

When parking coupled up wagon groups or single wagons, they must be secured through the placing of a one-way working wheel chock in each of the two directions (north and south)

under a wheel or bogie on the respective last wheel axle of the train end pointing in the southern direction (direction port station exit).

2.1.15 With Movements with Electric Locomotives from the South Head Points into the Loading Tracks 1, 2 and 13 it must be ensured that:

- The entry into the loading tracks 1, 2 and 13 takes place using the rear pantograph in the direction of travel raised. The front pantograph must be lowered.
- The traction unit driver drives with the front of the traction unit up to the CS6 signal, whereby the front driver's cab in the direction of travel must always be occupied.
- The passing by of the CS6 is permitted only on the instruction of a marshalling escort.
- The exit from the loading tracks 1, 2 and 13 takes place with the front pantograph in the travel direction raised. The rear pantograph must be lowered.

2.2 Points (see the Site Plan)

2.2.1 Points Table South Head

Points no.	Points type	Switching of the points toe via RTC**	Switching from the heel side via the vehicle* (Ve)	Priority position	Flank protection
8301	ELP	TRP 1	Ve		
8302	ELP	TRP 1	Ve		
8303	ELP	TRP 1	Ve		
8304	ELP	TRP 1	Ve		
8311	ELP	TRP 1	Ve		
8312	ELP	TRP 1	Ve		
8321	ELP	TRP 1	Ve		
8322	ELP	TRP 1	Ve	L	8323 C/D
8323 A/B	EL	TRP 2	Ve	L	8324 C/D
8323 C/D	DCP	Impact switch	Ve	L	8322
8324 A/B	EL	TRP 2	Ve		
8324 C/D	DCP	Impact switch	Ve	L	8323 A/B
8325	ELP	TRP 2	Ve		
8326	ELP	TRP 2	Ve		
8327	ELP	TRP 2	Ve		

All points have an electric drive.

All points are equipped with points heating.

*) With the occupancy of the axle counter, the points are set to the necessary position.

***) RTC = Railway Transport Company

2.2.2 Points Table North Head

Points no.	Points type	Switching of the points toe via RTC**	Switching from the heel side via the vehicle* (Ve)	Priority position
8305	ELP	Impact switch	Ve	without
8306	ELP	Impact switch	Ve	without
8307	ELP	Impact switch	Ve	without
8308	ELP	Impact switch	Ve	without
8309	ELP	Impact switch	Ve	without
8310	ELP	Impact switch	Ve	without
8333	ELP	Impact switch	Ve	without
8332	ELP	Impact switch	Ve	without
8331	ELP	Impact switch	Ve	without
8330	ELP	Impact switch	Ve	without
8329	ELP	Impact switch	Ve	without
8328	ELP	Impact switch	Ve	without
8334	ELP	Impact switch	Ve	without
8335	ELP	Impact switch	Ve	without

All points have an electric drive.

All points are equipped with points heating.

*) With the occupancy of the axle counter, the points are set to the necessary position.

***) RTC = Railway Transport Company

2.2.3 Electric Locally Set Points (ELP/ELDPC)

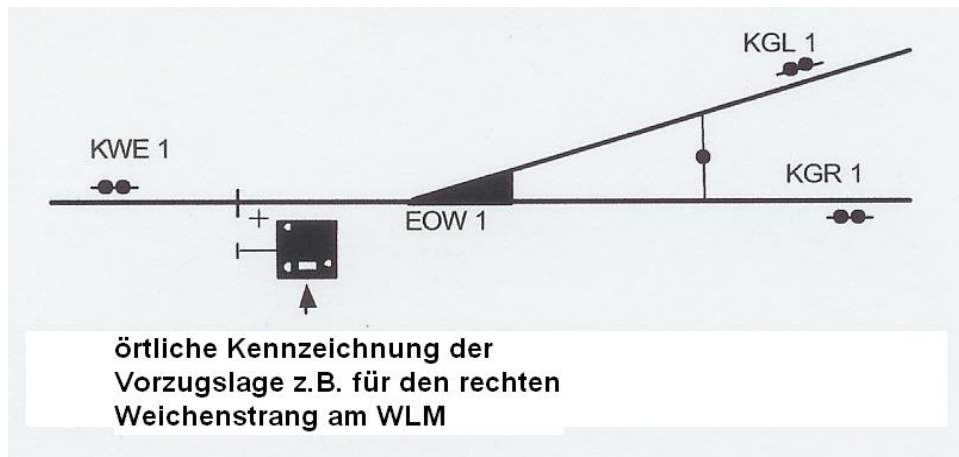
All ELP/ELDPC are electrically driven into the required position. They have a clamp lock and are equipped with light signals. All points are identified on the points position indicator and the points drive with the appropriate points number.



2.2.4 Points with Priority Positions

The points 8322, 8323A/B, 8323C/D, 8324C/D at the south head have a priority position. The points 8322,8323A/B, 8323C/D and 8324C/D.in the south head have priority positions. This means that after driving free of the axle counting circuits (the points orientation indicator, POI, and the points position indicator, PPI, change from blue to constant white light) the points are automatically reset to the priority position after a delay of approx. 10 seconds.

The points priority position is identified on the points position indicator with a bar (see the illustration below)



In the image above: CPE, ELP, CTL (Crossing Track Left), CTR (Crossing Track Right)
Local identification of the priority position, for example, for the right-hand points branch of the PPI

2.2.5 Points Heating

The heating of the points is regulated automatically via control devices. The TriCon control centre must be informed in the event of malfunctions.

2.3 Signalling Installations from the Port Station into the Combined Transport Terminal

1.1.25 Signals on the Port Station Track – Combined Transport Terminal and on the Tracks in the Combined Transport Terminal

1.1.26 Overview

Signal Designation / Position	Travel Direction	Signal Switching by	Approval by	Travel Route by
LS P74/1, LS 74/2, LS P86/1 and. LS P81, 82 and 83 on the main track 5	From the port station to MS11 before points 8321	Port station signal box	Port station signalman	Port station signalman
MS11 before P8321	From MS11 in the tracks 1 - 14		TriCon control centre	RTC
MS11 to the tracks 1 - 14	From the combined transport terminal (south head) out of tracks 1 – 14 to LS 83 ¹ on track 830		Port station signalman TriCon control centre	RTC
MS11 on track 91 MS11 on track 101	Tracks 9 – 14 Tracks 10.-.14		TriCon control centre	RTC
MS11 to the tracks 9- 14	Out of tracks 9 – 14 in the tracks 91 and / or 101		TriCon control centre	RTC
LBS83 ¹ before junction 1 on track 830	To the port station	Port station signalman		
MS11 to the track gate in track 831	To the port station		TriCon control centre Port station signalman	
Points position indicator	On all ELP points in the combined transport terminal			RTC

Additional LBSs are present in the harbour railway.

1.1.27 Light Signals on the ELP/ELDCP

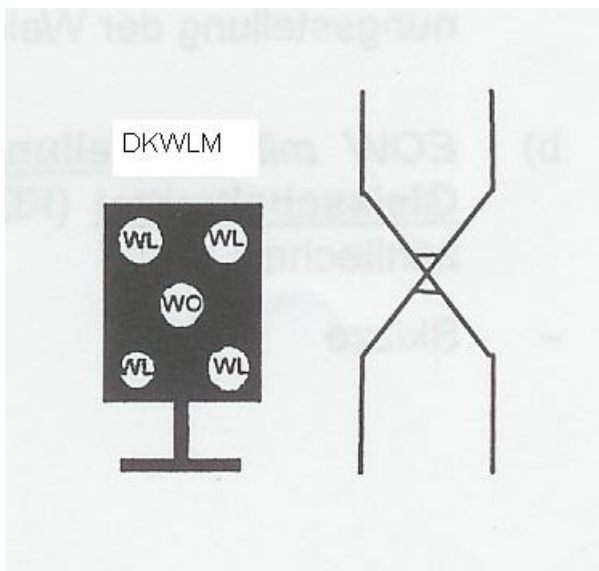
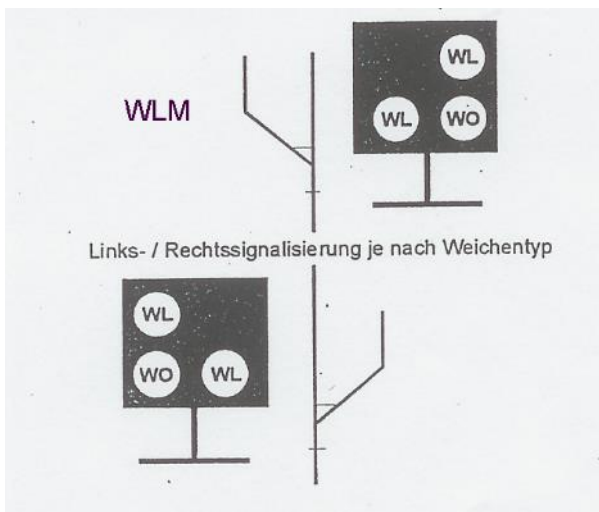
The light signals on the ELP/ELDCP are designated as points position and orientation indicators (PPI/ DCPPI) (see Pt. 2.4.3). The PPIs are equipped with three (Single Points SP) LED technology signal generators and respectively with five signal generators (Double Crossing Points, DCP). The PPI / DCPPI that displays the points position, switching, end position and the occupancy of the points is visible from both directions. The following light signals are possible:

- White constant light => proper condition

- White flashing light => switching procedure or fault
- Constant blue light => proper condition of the points. But the points are already occupied by the entering or another vehicle.
- Flashing blue light => switching procedure or fault

There is a key switch for points auxiliary switching (PAS) present on the housing of the PPI. The operation in the event of a fault is described in Point 2.7.1.

1.1.28 Points Position and Orientation Indicators (PPI/ DCPPI)



The points position indicator PPI / double crossing points position indicator DCPPI consists of:
 POI = points orientation indicator
 PPI = points position indicator

During the switching process of the points, the POI and PPI associated with the end position flash.

When the switching process has been completed, the PPI / DCPPI display constant light.
 If the points are occupied, the POI and the associated PPI display constant blue light.
 If the points are faulty, the POI and the associated PPI display flashing blue, respectively white light.

In the images: Left-hand / right-hand signalling depending on points type
 WLM = PPI, WO = POI, WL = PPI, DKWLM = DCPPI

1.1.29 Track Clear Signal in the Points Area

For the track clear signals, there are track switching devices in axle counting technology (axle counters) located at all points toes and points ends. The axle counters at the points ends also trigger the switching of the points for the travel route from the heel end. The permanent occupation of the axle counters by wagon axles must be avoided.

1.1.30 Track Clear Signal Outside the Points Area

There are no track clear signals present in tracks 1 – 14. Therefore, track occupancy is not displayed in the loading tracks, bypass tracks and parking tracks.

1.1.31 Marshalling Signals (MS11)

MS11s are positioned on track 830 (before the points 8321), on 831, on track 91 (before the DCP 8323) and on track 101 (before the DCP 8324).

MS11s are positioned on tracks 1 – 14 in the track 830 travel direction.



track

1.1.32 Isolation Sign (MS13)

The MS13 isolation sign is located at the height of the axle counters on tracks 1 – 14, 81, 91, and 101.



1.1.33 Safety Stop Signals (SSS)

Safety stop signal SSS2 (pointsman stop discs) is fitted to each of the southern and northern track gates.

Pointsman stop discs are also used for the identification of track sections which temporarily may not be driven over.



Safety signal SSS0 (Stop! Driving Prohibited) is fitted as a semaphore signal on the buffers in tracks 81, 91 and 101.



1.1.34 Overhead Line Signals (OLS)

OLS6 signals are present in the south and north heads. OLS6 identifies the position from which movements of traction units with raised pantographs are forbidden. OLS6 with direction arrows (before points) indicate that the traction units with raised pantographs may not drive over the travel route indicated by the arrow direction (left or right).



2.4 Route Setting at the South Head

General

1.1.34.1 Travel Route Setting Panel 1 (TRP1)

Travel routes from track 830 into tracks 1 – 14 are set locally on the TRP 1 (see 2.5.2 and 2.5.3).

1.1.34.2 Travel Route Setting Panel 2 (TRP2)

For movements from track 91 into tracks 9-14 respectively from track 101 into tracks 10-14, the travel routes are set on the TRP 2 (see 2.5.5).

1.1.34.3 Travel Route Setting from the Blunt Side (of the points end) by the Vehicle

With movements out of tracks 1-14, the travel route from points to points is set automatically by the vehicle driving over the associated axle counters (at the points end).

Operating Procedure on the Travel Route Setting Panel 1 (TRP1) for Movements from Track 830 into Tracks 1 – 14

Setting of the travel route:

- Press the On / Off button to switch on the travel route setting panel
- The green operation display lights up
- Press the destination button to set the desired travel route
- When the destination button is pressed, the white destination indicator flashes
- The destination indicator changes to a constant light when the travel route has run in
- If the red blocked indicator flashes, the travel route could not be set
- The points position indicators (yellow LED) are assigned to the points branches. A position indicator displays a constant light when the points have reached an end position.
- If a button is kept pressed for longer than 3 seconds, on releasing the button, no command can be output and the button flashes. In order to continue operating, the TRP must be switched off and switched on again.

Cancellation of the travel route

- Press and keep the delete button pressed
- Press and keep the destination button pressed
- Release both buttons simultaneously
- Press the On / Off button to switch off the travel route setting panel

Cancellation of a mistakenly set travel route in tracks 8, 9 or 10 without travelling this travel route:

- Cancellation of the mistakenly set travel route on the ELP setting panel (tracks 8, 9 or 10)
- Setting of a travel route on the ELP setting panel in tracks 11, 12 or 13 (Thereby the DCPs receive their home position again)
- Cancellation of the set travel route on the ELP setting panel (tracks 11, 12 or 13). Thereby the ELP setting panel has a neutral setting again.

If an RTC outbound from Module 2 detects that the DCPs are lying against the intended travel direction, not in the direction of the southern exit track (track 830), then in these cases the operator must proceed on the ELP setting panel as follows:

- Message to the TriCon control centre, that the travel route is not correctly set and that the exit cannot be carried out.

- Set a travel route on the ELP setting panel in tracks 11, 12 or 13 (Thereby the DCPs receive their home position again).
- Cancellation of the set travel route (tracks 11, 12 or 13). Thereby the ELP setting panel has a neutral setting again.
- Message to the TriCon control centre that the correct travel route is now set and that the exit, with the prerequisite of the approval of the TriCon control centre, can now take place.

Automatic switching off of the travel route setting panels:

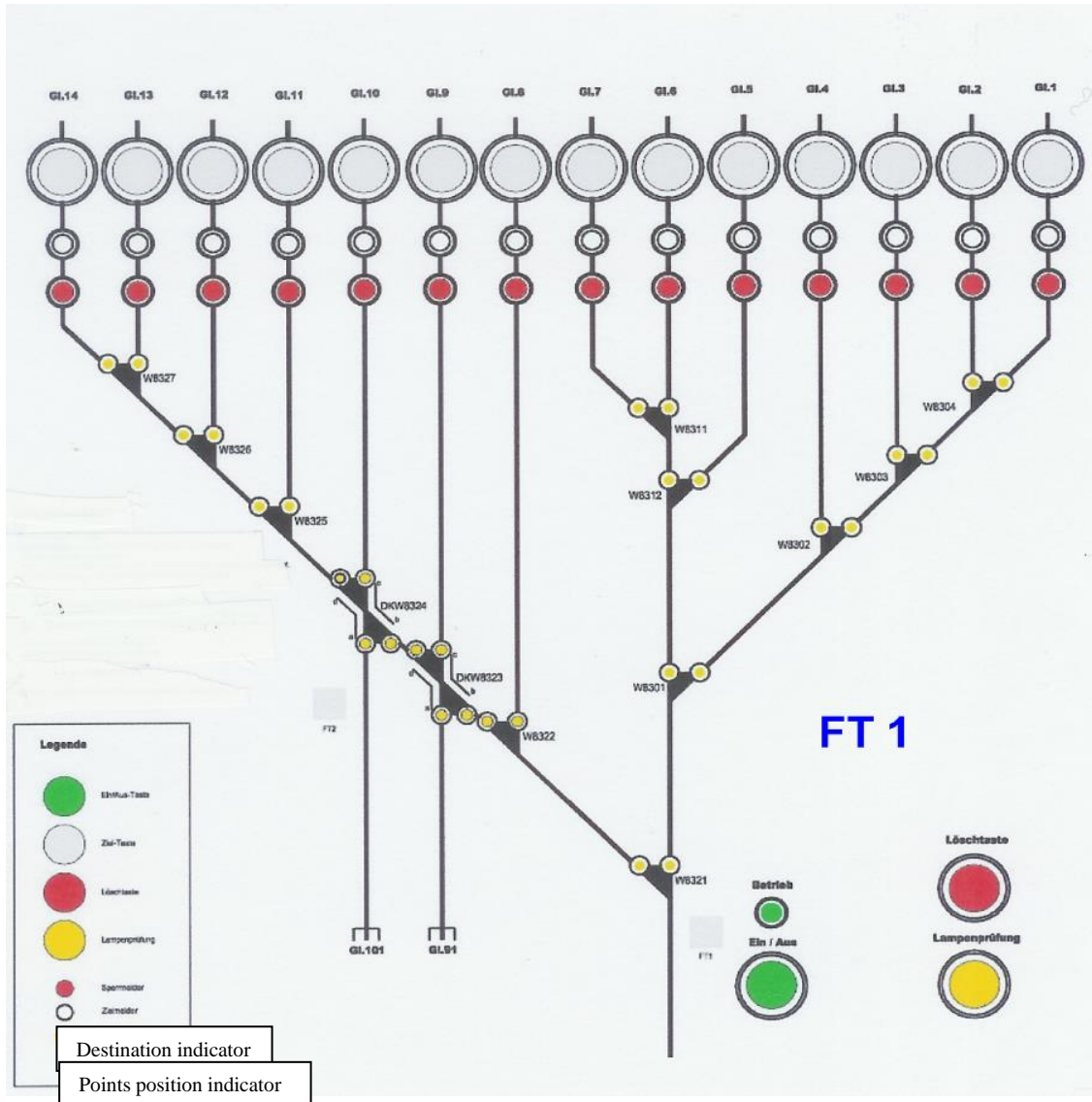
- The travel route setting panels are automatically switched off 5 minutes after the last button operation

Travel Route Setting Panel (TRP1) at the South Head

Destination
button

Destination
indicator

Blocked
indicator

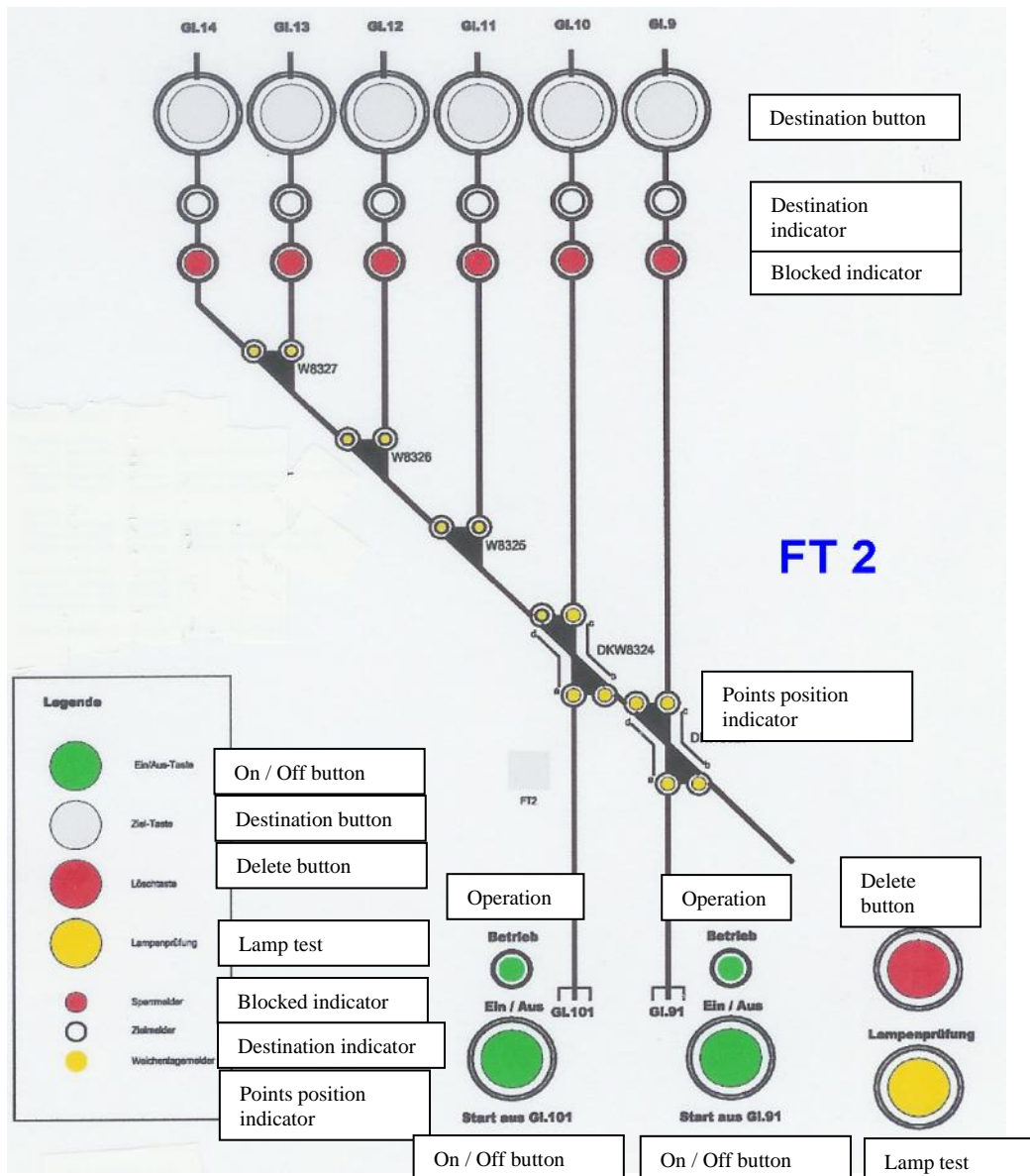


1.1.35 Operating Procedure on the Travel Route Setting Panel 2 (TRP2) for Movements out of Track 91 into Tracks 9 - 14 Respectively out of Track 101 into Tracks 10 - 14

There is an On / Off button present on the TRP 2 for each of the respective tracks 91 and 101.

For the operating procedure see Pt. 2.5.2

1.1.36 Travel Route Setting Panel (TRP2) at the South Head



1.1.37 Switching of the Points from the Heel Side

After the occupation of the axle counter, the points setting procedure is initiated.

In the process, the PPI (POI and PPI) change from constant white light to flashing blue light. The points, however, may first be driven over when the PPI (POI and PPI) displays constant blue light.

1.1.38 Early Operating Points (Impact Switches) before the ELDCP 8323 and 8324

For the setting of the travel route out of the tracks 9, 10 and 11 - 14 into tracks 91 and 101 (damaged wagon tracks) impact switches are present on tracks 9 and 10 and at the level of the points 8325.

The impact switches are arranged in three operating levels (see Point 2.6.1).

2.5 Route Setting at the North Head

1.1.39 Early Operating Points (Impact Switches) before the Points on the North Head to the Driving Over of the Points Blades

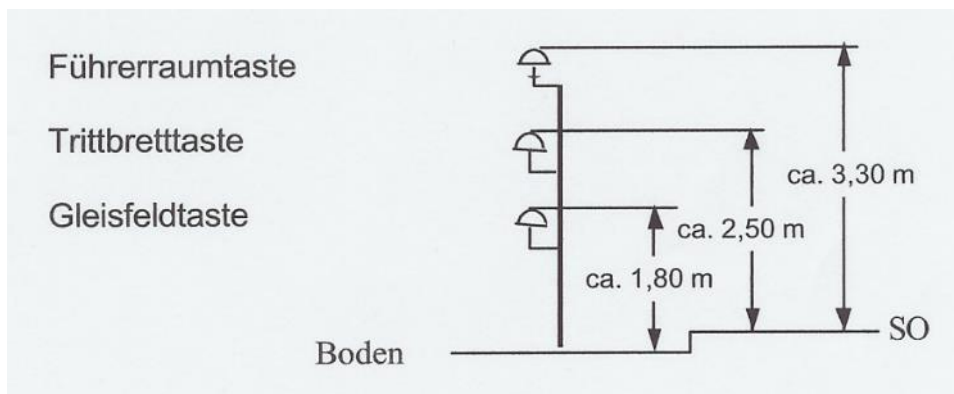
At the north head, the points setting into tracks 1 – 14 and from track 8 to track 9 and vice versa takes place by means of impact switches.

The impact switches are arranged in three different operating levels at each set of points (before the points blades). The operation, therefore, can take place from

- Track field
- Footboard or
- Traction unit

The desired travel route must be set from points to points.

However, the points may first be driven over after the switching of the points when the PPI (POI and PPI) displays constant white light.



In the image: Driver's cab button, Footboard button, Track field button, Ground

Information signs of the possible tracks to drive over are fitted to each impact switch.



1.1.40 Switching of the Points from the Heel Side

The switching of the points from the heel side takes place automatically through the driving over of the associated axle counting contacts.

In the process, the PPI (POI and PPI) change from constant white light to flashing blue light.

The points, however, may first be driven over when the PPI (POI and PPI) displays constant blue light.

2.6 Malfunctions / Auxiliary Actions

1.1.41 Points Auxiliary Switch (PAS)

In the event of a faulty available message, the affected points can be switched by means of the points auxiliary switch (PAS) on the housing of the respective points position and orientation indicators. For the operation of the switch, a DB 21 key is required. Before the triggering of the auxiliary action, the approval of the TriCon control centre must be obtained.

1.1.42 Points Release Switch (PRS)

In the concrete switchgear housings in the south and north heads, in one housing there is a key switch (PRS) available for each set of points. For the operation, a DB 21 key is required.

The points release switch serves for the creation of the home position after the forcing open of the points from the heel side.

This key switch must only be operated by qualified personnel. Therefore, in the event of fault, the TriCon control centre must be informed.

1.1.43 Axle Counter Home Position Switch (ACHPS)

In the concrete switchgear housings in the south and north heads, in one housing there is a key switch (ACHPS) available for each set of points.

Each ACHPS is allocated to a points-dependent available indicator section.

In the event of axle counter faults, through the operation of the ACHPS the home position of the points and the associated available indicator sections are created.

A DB 21 key is required for the operation.

This key switch must only be operated by qualified personnel. Therefore, in the event of faults, the TriCon control centre must be informed.

2.7 Overhead Power Line Systems (15 kV)

1.1.44 Overhead Line Damage

If operation-threatening conditions are detected on the overhead lines or on electric traction units, then the responsible positions in accordance with the accident reporting boards for the railway infrastructure of TriCon must be informed immediately. It must be ensured that the overhead lines are switched off immediately.

In emergencies, the entire overhead power line systems in the port station and in the terminal can be switched off by means of the X300 switch.

This switching off can be carried out by the ZES (DB Netz AG control centre), Eibach Traffic Controller (TC) or manually by the HNR.

Until then people must be warned against approaching live parts. Sagging overhead line sections must not be touched.

With a cable touching the earth, the ground around the contact point also carries dangerous voltages (step voltage). Therefore, the earth within a radius of approx. 10 metres must not be touched or walked upon until the live cable has been switched off and earthed.

After the switching off, the overhead lines must be rail earthed at the danger points.

Fire extinguishing work in the vicinity of electrical installations and electric vehicles must only be carried out after the switching off of the live parts.

1.1.45 Switching Groups

Switching Group	Affected Tracks/ Points	Isolation Switch/ Section Isolation	Switch Electric / By Hand	Earthing Device	Voltage Tester
South Head					
311	Main track 5 Points 83, junction 1 track 830 south-north head	X 311	X 311 on mast H64 by hand by HNR	.	.
321	South-north head	X 321	X 321 on mast H83 by hand by HNR		
327	Tracks 1 - 4 Points 8302, 8303, 8304	X 327	X 327 on mast H94 by hand by HNR		
328 ¹	South head tracks 8 – 14 Points 8322, 8323, 8324, 8325, 8326, 8327	X328	X 328 on mast H90		
338	Tracks 9 – 14 Points 8323, 8324, 8325, 8326, 8327	X338	X 338 on mast H7		
358	Through track 8	X358	Mast 14		
On mast H100c				2-off	1-off
On mast H13				2-off	
North Head					
322	Track 831	X 322	X 322 on mast H129		

368	Tracks 9 - 14 Points 8332, 8331, 8330, 8329, 8328	X368	X368 on mast H46		
337	Tracks 1 – 4 Points 8305, 8306, 8307	X 337	X 337 on mast H120		
348	Tracks 10 – 14 Points 8328, 8329, 8330, 8331	X 348	X 348 on mast H33		
On mast H114c				2-off	1-off
On mast H32				2-off	

1) Switching group 328 feeds the entire north head

* In the event of disrupted remote or local control, there is a crank handle available with the port signal box signalman for the activation of the switch drive

2.8 Rail Crossings

1.1.46 Non-technically Secured

The non-technically secured railway crossings at the north head (tracks 831L and 831R) serve as an entrance and exit for road vehicles to the transshipment facilities of the combined transport terminal (Module 1).

Both tracks are spanned electrically (15,000 Volt).

The rail crossing is fitted with Sign 201 (St. Andrew’s cross).

The rail crossing must be secured in accordance with the Corporate Guideline 408.0823-1 (2), final paragraph.

A fixed crossing from east to west for fire service access has been erected in the area of the south head. Due to the restrictions of the fire service access gates, this crossing may only be driven over in an emergency. Use as an operational crossing is not allowed.

If the fire service crossing needs to be used in an emergency, then the TriCon Railway Management will ensure that no more marshalling movements are carried out in this area.

3. Additional Facilities / Equipment

2.9 Container Cranes

1.1.47 Module 1

The tracks 1 – 4, two lorry lanes and three parking lanes for containers are spanned by two container cranes.

The western crane track runs between tracks 4 and 5.

The eastern crane track runs between the parking lane and the lorry return lane.
The usable crane track length is approx. 700 m.

1.1.48 Module 2

The tracks 9 - 14, two lorry lanes and three parking lanes for containers are spanned by two container cranes.

The eastern crane track runs between tracks 10 and 11.

The western crane track runs between the lorry driving lane and the container parking area. The usable crane track length is approx. 700 m.

2.10 Warning Devices of the Container Cranes

The container cranes in travel mode (parallel to the track) are equipped with direction-dependent flashing lights and acoustic warning sounds.

2.11 Loading Lanes / Container Parking Lanes

1.1.49 Module 1

To the east of track 1 there are two lorry lanes and three container parking lanes and next to the eastern crane track there is a lorry return lane.

1.1.50 Module 2

To the west of track 14 there are two lorry lanes and three container parking lanes and next to the western crane track there is a lorry return lane.

2.12 Brake Test Installations

Module 1: Between the tracks 1 and 2 and 3 and 4 on the south and north sides, brake test installations (BTI) are available. The operating instructions for BTI Exakt 10 KFB will be sent on request or be made available during separate instruction.

Module 2: Between the tracks 9 and 10, 11 and 12 and 13 and 14 on the south and north heads, brake test installations (BTI) are available. The operating instructions for BTI Kompakt 2D will be sent on request or be made available during separate instruction.

2.13 Electrants

Module 1: Power connections are available between the tracks 1 and 2, 3 and 4, 6 and 7 on the south head and 4 and 5 on the north head (Annex 3).

Module 2: Power connections are available between the tracks 8 and 9, 10 and 11, 12 and 13 on the south head and 10 and 11 on the north head and between track 14 and the crane rail track west (Annex 3a).

2.14 Lighting

A mast lane with light fittings has been installed between the tracks 7 and 8 for the illumination of the tracks 1 – 14, those east of track 1 and for the lorry and container parking lanes present to the west of track 14.

Street lights have been installed on the rail crossing.

The lighting is controlled automatically via twilight switches and / or a time setting. Outside these controlled times, the switching on of the lighting must be arranged through the TriCon control centre.

2.15 Track Gate / Fencing

The site of the combined transport terminal is fenced in. There is a track gate between junction 1 and the points 8321 and in the northern connecting track 831. The track gate is opened in coordination with the respective RTCs of the first arriving train and closed by the last train leaving the site. TriCon regulates the responsibility.

2.16 Lorry Entrance to the Combined Transport Terminal

The lorry entrance to and exit from the combined transport terminal and Modules 1 and 2 are located at the north head.

The lorry loading lanes in Module 1 are reached via the northern rail crossing (track 831).

2.17 Terminal Regulations

The Terminal Regulations must be observed.

People working in the combined transport terminal must be able to identify themselves.

4. Description of the Railway Infrastructure in the Port Station

2.18 Port Signal Box

The port station is equipped with a track-plan signal box.

1.1.51 Setting Range

The setting range of the track-plan signal box reaches from P73a in the track Nürnberg-Eibach station – port station, P80 in the main track 4, P83 in the main track 5 with connection to track 830 and P16 in the main track 5 with connection to main track 6.

1.1.52 Setting of the Signals

The setting of the signals for train and marshalling movements is done by the signalman. Movements between the Nürnberg-Eibach station and the port station are controlled between the Nürnberg-Eibach station traffic controller and the port station signalman.

1.1.53 Setting of the Points

The points setting is done by the signalman at the request of the train driver.

2.19 Rail Crossing

An internal service crossing is available at the port signal box.

2.20 Lighting

The lighting in the port station is switched on and off automatically.

The mast lighting at P16 is controlled with the lighting of the port station.

2.21 Tracks

Track Designation	Use.	Usable Length	Incline Relationships	Position
Port tracks			0.0–0.2‰	SP73a – Eibach station
1	Entry and exit track	870	1.4‰	EP85 – EP86
2	Entry and exit track	760 m	1.4‰	EP3a – LSP74/1
3	Entry and exit track	720	1.4 ‰	EP73a – LSP74/2
4	Exit track	703 m	1.4 ‰	EP2 – EP13
5	Parking track	404 m	1.4 ‰	EP7 – EP13
5, subsection 5.1	Track	196 m	“	EP8 – EP13
5, subsection 5.2	Weighbridge	208m	“	EP7 – SP8
	General			
6	Customs office space	221 m	1.4 ‰	EP7 – EP9
7	Customs office space	350 m	1.4 ‰	EP6 – EP11
8	General	370 m	1.4 ‰	EP5 – EP10
9	General	380 m	1.4 ‰	EP5 – EP10
10	General	403 m	1.4 ‰	EP75 – EP72
11	General	380 m	1.4 ‰	EP75 – EP76
12	General	305 m	1.4‰	EP91 - EP76
13	General	355 m	1.4‰	EP91 – EP92
	Bypass track	105 m	1.4 ‰	EP17 – EP18
Part main track 5	General	950 m	1.5‰	SP15 – SP16 (63)
Main track 15	General	390	1.4‰	EP90 – EP92

1.1.54 Entrance Tracks

The entrance track 1 has a useable length of 870 m, track 2 has a useable length of 760 m, track 3 has a useable length of 970 m.

Tracks 1, 2 and 3 are equipped with an overhead line.

1.1.55 Exit Tracks

As a rule, trains up 720 m can be set up in the exit track (track 4).

Track 4 is equipped with an overhead line.

Tracks 1, 2 and 3 (entrance tracks) can also be used as exit tracks.

1.1.56 Customs Tracks

The tracks 6 and 7 are the customs spaces of the Nürnberg port customs office.

1.1.57 Track and Points Radii

Radii \geq 150 m

1.1.58 Track Spacing

The track spacing is generally 5.0 m. But between tracks 4 and 5, and between tracks 9 and 10, 6.0 m.

2.22 Track Weighbridge

There is a track weighbridge in track 5 between P8 and P13.

2.23 Marshalling Routes

To all tracks (east side) of the port station
 On the bypass track between P17 and P18 on the west side
 There are overhead line masts present between tracks 1 and 2 and 3 and 4

2.24 Structures (Bridges)

Route 1.196 Franconian expressway – Road Bridges (RBR) over the port entrance track and tracks 2 and 3.
 Passage for Route 1.196.

2.25 Points

1.1.59 Electrically Set Points

The points have clamp or Siemens pawl point locks. The points are equipped with reflective semaphore signals or with LS and mast panels.

2.26 Signalling Devices

1.1.60 Light Signals (LS)

Light Signal * Designation / Position	Travel Direction	Signal Setting By
2 C	Nürnberg-Eibach station	Station signal box DB Netz AG
LS 73a ¹ on the feeder track	Nürnberg-Eibach station – port station	Station signal box port station
LSP85 on track 1	Nürnberg-Eibach station	Station signal box port station
LSP73a ² on track 2	Nürnberg-Eibach station	Station signal box port station

LSP73a ³ on track 3	Nürnberg-Eibach station	Station signal box port station
LSP80 ¹ on main track 4	Port station	Station signal box port station
LSP16 on main track 5	Port station / main track 6	Station signal box port station
LSP16 ² on main track 6	Travel direction main track 5	Station signal box port station
LSP83 ¹ on track 830	Port station	Station signal box port station
LSP86/1 on entrance track 1	Combined transport terminal / main track 5	Station signal box port station
LSP74/1 on entrance track 2	Combined transport terminal / main track 5	Station signal box port station
LSP74/2 on entrance track 3	Combined Transport Terminal /main track 5	Station signal box port station
LSP83 on main track 5	Combined Transport Terminal /main track 5	Station signal box port station

* There are further LSS present on electrically set points.

1.1.61 Signal SS 2 – Distant Signal Panel

Signal SS 2 is positioned on tracks 3 and 4 for the port station - Nürnberg-Eibach station travel direction in place of an approach signal. The approach signal panels are located in the shortened braking distance spacing before signal 2 C.

Permanently effective PZB (intermittent automatic train running control) track magnets (1000 Hz) are present at the approach signal location.

1.1.62 Signal MS11

MS 11 signals are positioned on tracks 6-13 in the port signal box direction.

1.1.63 Additional Signal (AS) 3 – Speed Indicator

Signal AS 3 (3) is positioned as a stand-alone signal 200 m before points 73a on the feeder track for the Nürnberg-Eibach station – port station travel direction.

1.1.64 Safety Stop Signals (SSS)

SSS 2 safety stop signals (pointsman stop disks) are used for the identification of track sections which temporarily may not be driven over.

1.1.65 Points Signals

Points signals are present at points as semaphore signals (reflective).

1.1.66 Speed Restriction Signals

Speed reductions:

SRS4 (0.5) $V_{max} \leq 5$ km/h is signalled on both sides of the track weighbridge on track5.

SRS6 (25) $V_{max} \leq 25$ km/h is signalled after points 83 on the main track 5 in port station travel direction.

SRS4 (1.0) $V_{max} \leq 10$ km/h is signalled in main track 5 in the main track 6 travel direction (before the junction) and in main track 6 (before the junction)

SRS7 (1.5) $V_{max} \leq 15$ km/h on the southern track 830 in the port station direction

1.1.67 Overhead Line Signals (OLS)

The overhead line signal OLS 6 (reflective) identifies the position from which movements for traction units with raised pantographs are forbidden.

OLS 6 with a direction arrow (before the points) indicates that traction units with a raised pantograph may not drive over the travel route corresponding to the arrow direction (left or right).

2.27 Overhead Power Line Systems (15 KV)

1.1.68 Overhead Line Damage

If operation-threatening conditions are detected on the overhead lines or on electric traction units, then the responsible positions in accordance with the accident reporting boards for the railway infrastructure of TriCon must be informed immediately. It must be ensured that the overhead lines are switched off immediately.

In emergencies, the entire overhead power line systems in the port station and in the terminal can be switched off by means of the X300 switch.

This switching off can be carried out by the ZES (DB Netz AG control centre), TC Eibach or manually by the HNR.

Until then people must be warned against approaching live parts. Sagging overhead line sections must not be touched.

With a cable touching the earth, the ground around the contact point also carries life-threatening voltages (step voltage). Therefore, the earth within a radius of approx. 10 metres must not be touched or walked upon until the live cable has been switched off and earthed.

After the switching off, the overhead lines must be rail earthed at the danger points.

Fire extinguishing work in the vicinity of electrical installations and electric vehicles must only be carried out after the switching off of the live parts.

1.1.69 Switching Groups

Switching Group	Overhead Lines	Section Isolation Between	Switch Electric / By Hand	Earthing Device	Voltage Tester
300	Port entrance track	56-4f and H4 through switch X 300 the port entrance track and tracks 2, 3 and 4 become dead	X300 * on mast 56-4f Electrically by the ZES **		
301	Port entrance track, track 3, up to SP15	H5 and H6 through switch X 301 the port entrance track and tracks 2, 3 and 4 become dead	X301 on mast H5 by hand by HNR	On H6 2-off	On H6 1-off
307	Track 4 P13 to P73a	H10 and H12 H54 and H55 through switch X 307 track 4 becomes dead	X307 on mast H54 by hand by HNR		
317	Track 2 P3a bis P74	H16 and H17 H51 and H53 through switch X 317 track 4 becomes dead	X317 on mast H51 by hand by HNR		
311	Main track 5, Points 83, junction 1, track 830		X 311 on mast H64 by hand by HNR		
Port station signal box				2-off	1-off

* In the event of disrupted remote or local control, there is a crank handle available with the port signal box signalman for the activation of the switch drive

** ZES (DB Netz AG Control Centre) is, as a rule, responsible for the operation of the X300 switch. In an emergency, by the Eibach TC