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## Finnish Interlocking Requirements – Interlocking Commands



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# Finnish Interlocking Requirements – Interlocking Commands

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*This guideline is part of the Finnish Transport Infrastructure Agency's Safety Management System for railway applications.*

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## Foreword

This document is a translation of *Suomen asetinlaittevaatimukset – Toiminnalliset vaatimukset 48/2021 (Finnish Interlocking Requirements – Interlocking Commands)*.

The original Finnish version is followed in ambiguous situations.

Translation has been made by Sweco Infra & Rail Oy.

Helsinki, December 2021

Väylävirasto  
Engineering and Environment

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# 1 Main route commands

The needed parameters shall be added after the command in the order presented in the table (for example JK2EVT).

*Table 1. Main route commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR001-REQ	Main route with overlap 1. Command can also be the command for a composite (overpressed) main route.	JK		
FIR-CR002-REQ	Main route with overlap 2.	JK2		
FIR-CR003-REQ	Main route with overlap 3.	JK3		
FIR-CR004-REQ	Main route with overlap 0.	JK0		
FIR-CR005-REQ	Parameter, substitute path.	S		
FIR-CR006-REQ	Parameter, setting main route from an energized to a de-energized or non-electrified track.	E	X	
FIR-CR007-REQ	Parameter, setting main route to a line without line block system or to a line block which is temporarily disabled with a special coded socket.	L	X	
FIR-CR008-REQ	Parameter, setting main route to an occupied track.	VT	X	
FIR-CR009-REQ	Parameter, setting main route regardless of the line block direction of the line block connected to the route exit line block.	L0	X	

## 2 Shunting route commands

The needed parameters shall be added after the command in the order presented in the table (for example UKEL).

*Table 2. Shunting route commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR010-REQ	Shunting route. Command can also be the command for a composite (overpressed) shunting route.	UK		
FIR-CR011-REQ	Shunting route when track blocking is applied on the path.	UKLU	X	
FIR-CR012-REQ	Shunting route with flank protection.	UKSS		
FIR-CR013-REQ	Parameter, substitute path.	S		
FIR-CR014-REQ	Parameter, setting shunting route from an energized to a de-energized or non-electrified track.	E	X	
FIR-CR015-REQ	Parameter, setting shunting route to a line without line block system or to a line block which is temporarily disabled with a special coded socket.	L	X	
FIR-CR016-REQ	Parameter, setting shunting route regardless of the line block direction of the line block connected to the route exit line block.	L0	X	

## 3 Route cancellation

*Table 3. Route cancellation commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR017-REQ	Cancel route.	KPER		
FIR-CR018-REQ	Emergency cancel route, train on an approach section.	HP	X	
FIR-CR019-REQ	Emergency cancel route, route partially used.	HPM	X	X



## 4 Signal commands (general)

*Table 4. Signal commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR020-REQ	Set signal to display "stop" aspect	SEIS		
FIR-CR021-REQ	Set signal to display a permissive aspect. (Not applied to signals on a line.)	AJA		

## 5 Line signal commands

Table 5. Line signal commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR022-REQ	Lock line signal to display "stop" aspect (automatic line block system).	SOSEIS		
FIR-CR023-REQ	Release a line signal locking (automatic line block system).	SOVAP		
FIR-CR024-REQ	Give an impulse to a line signal on an automatic line block system.	SHER		
FIR-CR025-REQ	Cancel the impulse to a line signal on an automatic line block system.	KPER		

## 6 Shunting signal commands

*Table 6. Shunting signal commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR026-REQ	Return signal to the use of enabled local shunting area.	UPL		

## 7 Line block commands

Table 7. Line block commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR027-REQ	Change the line block direction.	SSK		
FIR-CR028-REQ	Lock the changing of the line block direction.	SLUK		
FIR-CR029-REQ	Release the changing of the line block direction.	SVAP	X	
FIR-CR030-REQ	Restore the basic state of the line block system.	LHP	X	
FIR-CR031-REQ	Emergency - restore the basic state of a signal on a route-based line block system.	SHP	X	
FIR-CR032-REQ	Emergency - release block section of a centralised line block system.	HPS	X	

## 8 Axle counter commands

Table 8. Axle counter commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR033-REQ	Reset (release) to the basic state of an axle counting section if required safety level is achieved.	ALHP	X	
FIR-CR034-REQ	Preparatory reset before the clearance drive.	ALP	X	
FIR-CR035-REQ	Reset to the basic state after a successful clearance drive, option for an ALHP.	ALSP	X	X
FIR-CR036-REQ	Maintenance related command/function which overrides the safety conditions related to the axle counting system and enables the execution of the unconditional reset command.	AKVAP	X	

## 9 Point commands

Table 9. Point commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR037-REQ	Move	V		
FIR-CR038-REQ	Emergency - move an occupied point	VHP	X	
FIR-CR039-REQ	Emergency - move a trailed point	VAP	X	
FIR-CR040-REQ	Block	VLUK		
FIR-CR041-REQ	Release block	VVAP		
FIR-CR042-REQ	Set track block	VEST		
FIR-CR043-REQ	Release track block	VEPO	X	

## 10 Diamond crossing commands

*Table 10. Diamond crossing commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR044-REQ	Restore the position detecting of an occupied diamond crossing.	RAPAL	X	

## 11 Track section commands

*Table 11. Track section commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR045-REQ	Set track blocking to a track section or diamond crossing.	REST		
FIR-CR046-REQ	Release track blocking of a track section or diamond crossing.	REPO	X	



## 12 Local shunting area commands

*Table 12. Local shunting area commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR047-REQ	Enable local shunting area	PL		
FIR-CR048-REQ	Disable local shunting area	PLP		
FIR-CR049-REQ	Emergency - Enable local shunting area	PLH	X	
FIR-CR050-REQ	Emergency - Disable local shunting area	PLHP	X	

## 13 Key box commands

*Table 13. Key box commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR051-REQ	Lock a key box	ASL		
FIR-CR052-REQ	Release a key box	ASV		
FIR-CR053-REQ	Emergency - release a key box	LVH	X	

## 14 Level crossing commands

Table 14. Level crossing commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR054-REQ	Level crossing specific alarm activation.	KVAR		
FIR-CR055-REQ	Level crossing specific alarm deactivation.	KEI		
FIR-CR056-REQ	Track specific alarm activation.	RVAR		
FIR-CR057-REQ	Track specific alarm deactivation.	REI		
FIR-CR058-REQ	Prevent track specific automatic operation.	RLUK		
FIR-CR059-REQ	Enable track specific automatic operation.	RVAP		
FIR-CR060-REQ	Emergency - Track specific deactivation of a level crossing alarm (as instructed in RATO 6.5.3.2.5).	POISTO ON	X	
FIR-CR061-REQ	Track specific activation of a level crossing alarm (as instructed in RATO 6.5.3.2.5).	POISTO EI		
FIR-CR062-REQ	Emergency - bypass the level crossing barrier position detection in route conditions.	RHEO	X	

## 15 Movement preventing gate commands

Commands also applies to maintenance gates and doors.

*Table 15. Movement preventing gate commands.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR063-REQ	Lock a gate.	OVIL		
FIR-CR064-REQ	Release a gate.	OVIV		
FIR-CR065-REQ	Emergency - release a gate.	OVIH	X	

## 16 Commands of a liftable overhead line

*Table 16. Commands of a liftable overhead line.*

ID	Requirement	Command	Critical command	Optional command
FIR-CR066-REQ	Enable local operation permission.	PK		
FIR-CR067-REQ	Disable local operation permission.	PKP		
FIR-CR068-REQ	Emergency - Disable local operation permission.	PLHP	X	

## 17 Control system commands

Table 17. Control system commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR069-REQ	Acknowledge.	KUIT		
FIR-CR070-REQ	OK.	OK		
FIR-CR071-REQ	Set time.	AIKA		
FIR-CR072-REQ	Display time.	AIKI		
FIR-CR073-REQ	Indication verification.	ITAR		
FIR-CR074-REQ	Disable the inhibition of giving commands (for example. After keyboard failure).	TESP		
FIR-CR075-REQ	Display existing failures.	VIKI		
FIR-CR076-REQ	Clear the failure buffer.	VIPO		
FIR-CR077-REQ	Set manually the day voltage of signal power supply.	PV		
FIR-CR078-REQ	Set manually the night voltage of signal power supply.	YÖ		
FIR-CR079-REQ	Adjust automatically signal lamp.	OITS		
FIR-CR080-REQ	Adjust manually signal lamp.	OKÄS		
FIR-CR081-REQ	Acknowledge after a control failure of feeding of track circuit.	RVPVAP		X
FIR-CR082-REQ	Acknowledge earth leakage.	MV		X

## 18 General commands

Table 18. General commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR083-REQ	Switch on lights of railway yard.	VAON		
FIR-CR084-REQ	Switch off lights of railway yard.	VAEI		
FIR-CR085-REQ	Set point heating for thermostat control (isolation transformer specific control).	LÄMA		
FIR-CR086-REQ	Set point heating at full power for two hours (isolation transformer specific control).	LÄMK		
FIR-CR087-REQ	Turn point heating off (isolation transformer specific control).	LÄME		
FIR-CR088-REQ	Point heating 1/3-power (voltage step control, old system).	LÄM1		
FIR-CR089-REQ	Point heating 2/3-power (voltage step control, old system).	LÄM2		
FIR-CR090-REQ	Point heating 3/3-power (voltage step control, old system).	LÄM3		
FIR-CR091-REQ	Switch on lights of railway yard.	LÄM0		

## 19 Interlocking-specific commands

Table 19. Interlocking-specific commands.

ID	Requirement	Command	Critical command	Optional command
FIR-CR092-REQ	Give the interlocking system for remote control.	KOA		
FIR-CR093-REQ	Enable local control. Command EK requires that command EKA has been given earlier if remote control is enabled.	EK		
FIR-CR094-REQ	Emergency - Activate local control.	EKH	X	
FIR-CR095-REQ	Automatic movement of the points of the interlocking for routes is enabled.	AKON		
FIR-CR096-REQ	Automatic movement of the points of the interlocking for routes is disabled.	AKEI		
FIR-CR097-REQ	Enable pass through automation.	LKKO		
FIR-CR098-REQ	Disable pass through automation.	LKKE		
FIR-CR099-REQ	Enable station specific encounter automation.	KOHT		X
FIR-CR100-REQ	Disable station specific encounter automation.	KOHT EI		X
FIR-CR101-REQ	Enable station specific overtake automation.	OHIT		X
FIR-CR102-REQ	Disable station specific overtake automation.	OHIT EI		X



## 20 Kauko-ohjausjärjestelmän komennot

Kauko-ohjausjärjestelmän komennot koskevat vain kauko-ohjausta.

Table 20. Kauko-ohjauksen komennot.

ID	Requirement	Command	Critical command	Optional command
FIR-CR103-REQ	Kauko-ohjauksen päällekytkentä. Komennon KO antaminen edellyttää aiemmin annettua KOA-komentoa, mikäli ohjaus on erilliskäytössä.	KO		
FIR-CR104-REQ	Kauko-ohjauksen päällekytkentä hätävaraisesti.	KOH	X	
FIR-CR105-REQ	Kauko-ohjauksen päällekytkentä asemakohtaisesti hätävaraisesti keskuksessa.	KOHA	X	
FIR-CR106-REQ	Asetinlaitteen erilliskäyttöön anto.	EKA		
FIR-CR107-REQ	Kauko-ohjauksen automaattivarmistus (junanumeroautomaatiikka) päälle.	AVON		
FIR-CR108-REQ	Kauko-ohjauksen automaattivarmistus (junanumeroautomaatiikka) pois päältä.	AVEI		



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