Table of Contents

1 Introduction

This document specifies IQRF light standard DPA commands and FRC Commands.

ID of this standard is 0x4A. All values wider than one byte are encoded using little-endian style unless otherwise specified.

2 DPA Commands

The standard uses peripheral PNUM = 0x**4A**.

2.1 Send LDI Commands - 0x00

PCMD = 0x00

Sends specified lighting digital interface commands (LDI) command(s) and returns the respective answer(s). The commands are compatible with standard IEC 62386, EC 60929 and IEC 62386 part 103 (aka DALI).

Request

NADR	PNUM	PCMD	HWPID	0 … 1	…	n × 2 … n × 2 + 1
NADR	0x4A	0x00	0xXXXX	Cmd #0		Cmd #n

Cmd #n   The nth Cmd is a LDI command to send. The command is 2 bytes wide and it has the standard format *YAAAAAAS + DDDDDDDD* (big endian).

Response

NADR	PNUM	PCMD	HWPID	ErrN	DpaValue	0 … 1	…	n × 2 … n × 2 + 1
NADR	0x4A	0x80	0xXXXX	0	?	Answer #0		Answer #n

Answer #n   2 bytes wide answer to the nth LDI command. 1st byte contains the answer status, 2nd byte contains the answer value, if applicable:

1st byte = Answer status									2nd byte = Value
bit7	*bit6*	*bit5*	*bit4*	*bit3*	*bit2*	*bit1*	*bit0*	*Status*	
1	*x*	*x*	*x*	*x*	*x*	0	0	No answer received	0
1	*x*	*x*	*x*	*x*	*x*	0	1	Answer received	Answer value
1	*x*	*x*	*x*	*x*	*x*	1	0	*unused status combination*	n/a
1	*x*	*x*	*x*	*x*	*x*	1	1	Error receiving answer	0

x reserved, equals 0.

2.2 Send LDI Commands Asynchronously - 0x01

PCMD = 0x01

Same as Send LDI Commands but does not return answers in the DPA response as this DPA command returns an empty DPA response immediately and the provided commands are sent to the LDI bus afterward. During sending commands to the LDI-bus the device is blocked from the IQRF network point of view. The answers are received from the bus but ignored. The command provides a quick response in the terms of the short IQRF latency at the cost of not returning answer(s).

2.3 Set LAI – 0x02

This command sets the voltage of the 0-10 V lighting analog interface (LAI). The response returns the previous value.

Request

NADR	PNUM	PCMD	HWPID	0 … 1
NADR	0x4A	0x02	0xXXXX	CtrlSignal

CtrlSignal   The desired voltage at LAI at the Extra-low Voltage format. If the value is 0x8000 then the voltage is not set. If the value is out of the interval 0-10 V then ERROR_FAIL is returned.

Response

NADR	PNUM	PCMD	HWPID	ErrN	DpaValue	0 … 1
NADR	0x4A	0x82	0xXXXX	0	?	CtrlSignal

CtrlSignal   Voltage at the LAI at the Extra-low Voltage format before the request was received.

3   FRC Commands

The FRC response time reported by FRC Response Time is 40 ms for all specified FRC commands.

3.1 Send LDI - 0xE0

Returns 2 bytes wide answer to the provided LDI command.

FRC user-data has the following format:

UserData[0]   0x4A (equals to the PNUM).
UserData[1…2]   Command to send and to return the answer of. See CMD #n parameter at the DPA request of Send LDI Commands.
UserData[3]   Reserved. Must equal to 0.

Returned 2 bytes wide FRC value has the same format as the Answer #n parameter at the DPA response of Send LDI Commands.

3.2 Read LAI - 0xE1

Returns 2 bytes wide answer with the voltage at the LAI.

FRC user-data has the following format:

UserData[0]   0x4A (equals to the PNUM).
UserData[1]   Reserved. Must equal to 0.

Returned 2 bytes wide FRC value has the same format as Volt parameter at the DPA response of Set LAI + 0x8000 (see Extra-low voltage FRC).