

Technical manual for

# HP9642

CAN bus keypad & LED

Firmware version 2.0

Date: 2018-03-15\KT

## Table of content

1) DIP switch.....	3
2) CAN bus protocol.....	3
2.1) Setup.....	3
2.1.1) General setup: .....	3
2.2) Keys .....	4
2.3) Keys, sequence.....	4
3) LED .....	5
3.1) Firmware version 1.xx .....	5
3.2) Firmware version 2.xx .....	5



## 2.2) Keys

Default CAN bus ID = 0x451

Byte	Bit 7 128	Bit 6 64	Bit 5 32	Bit 4 16	Bit 3 8	Bit 2 4	Bit 1 2	Bit 0 1
0	M-key 8	M-key 7	M-key 6	M-key 5	M-key 4	M-key 3	M-key 2	M-key 1
1	M-key 16	M-key 15	M-key 14	M-key 13	M-key 12	M-key 11	M-key 10	M-key 9
2	Sequence A			M-key 21	M-key 20	M-key 19	M-key 18	M-key 17
3	T-key 8	T-key 7	T-key 6	T-key 5	T-key 4	T-key 3	T-key 2	T-key 1
4	T-key 16	T-key 15	T-key 14	T-key 13	T-key 12	T-key 11	T-key 10	T-key 9
5	Sequence B			T-key 21	T-key 20	T-key 19	T-key 18	T-key 17
6	Sequence D				Sequence C			
7	Version number, major (1).				Version number, minor (1).			

## 2.3) Keys, sequence

Default CAN bus ID = 0x452

Byte	Bit 7 128	Bit 6 64	Bit 5 32	Bit 4 16	Bit 3 8	Bit 2 4	Bit 1 2	Bit 0 1
0	Sequence key 4-A		Sequence key 3-A		Sequence key 2-A		Sequence key 1-A	
1	Sequence key 8-A		Sequence key 7-A		Sequence key 6-A		Sequence key 5-A	
2	Sequence key 12-A		Sequence key 11-A		Sequence key 10-A		Sequence key 9-A	
3	Sequence key 4-B		Sequence key 3-B		Sequence key 2-B		Sequence key 1-B	
4	Sequence key 8-B		Sequence key 7-B		Sequence key 6-B		Sequence key 5-B	
5	Sequence key 12-B		Sequence key 11-B		Sequence key 10-B		Sequence key 9-B	
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0

Sequence A:

Press	Decimal	Binary
#1	1	0 1
#2	2	1 0
#3	0	0 0

Sequence B:

Press	Decimal	Binary
#1	1	0 1
#2	3	1 1
#3	0	0 0

### 3) LED

#### 3.1) Firmware version 1.xx

Default CAN bus ID for green LED = 0x454

Default CAN bus ID for red LED = 0x455

Byte	Bit 7 128	Bit 6 64	Bit 5 32	Bit 4 16	Bit 3 8	Bit 2 4	Bit 1 2	Bit 0 1
0	Key 8	Key 7	Key 6	Key 5	Key 4	Key 3	Key 2	Key 1
1					Key 12	Key 11	Key 10	Key 9
2								
3								
4								
5								
6								
7								

#### 3.2) Firmware version 2.xx

LED status are controlled by logical OR from CAN messages received on ID:

- 0x454
- 0x455

LED is switch off when CAN signal change from 1 to 0, or after a 5 second timeout.

Byte	Bit 7 128	Bit 6 64	Bit 5 32	Bit 4 16	Bit 3 8	Bit 2 4	Bit 1 2	Bit 0 1
0	Green 8	Green 7	Green 6	Green 5	Green 4	Green 3	Green 2	Green 1
1					Green 12	Green 11	Green 10	Green 9
2	Red 8	Red 7	Red 6	Red 5	Red 4	Red 3	Red 2	Red 1
3					Red 12	Red 11	Red 10	Red 9
4	Green 8	Green 7	Green 6	Green 5	Green 4	Green 3	Green 2	Green 1
5					Green 12	Green 11	Green 10	Green 9
6	Red 8	Red 7	Red 6	Red 5	Red 4	Red 3	Red 2	Red 1
7					Red 12	Red 11	Red 10	Red 9

Note: This implementation is in most cases backward compatible with version 1.xx firmware.