

Modular Junction Box MJB with  
Under Bed Light (Int.) and switch input  
**Data sheet**

# MJB

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The MJB Modular Junction Box is designed for use together with OpenBus™ control boxes.

The MJB makes it possible to connect multiple handsets, attendant controls or it is also possible to use the MJB as a control unit for such as USB charger, Under Bed Light and 3<sup>rd</sup> party products.

## **MJB with UBL (int.), Switch input (S1/S2), version 505-010 & 505-020 :**

The MJB is an MJB with 3 different options, Under Bed Light (UBL) and 2 different switch inputs, S1 and S2 which can be used for an external switch.

**UBL:** The MJB with Under Bed light (UBL) gives a guiding light when the patient leaves the bed and makes it easy for the patient to find their way back to the bed at night without disturbing the other patients. The MJB has an LED integrated in the MJB housing which makes it easy to use.

**External Switch (S1/S2):** It is possible for the customer to connect a switch directly to the MJB. This could be used with a customised switch or control.

For more info about Standard functionality, please see on page 3



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### **Features:**

- Add-on value for hospital & care bed
- Compact and functional design which allows easy mounting
- 4 connections
- Connection to OpenBus™ control box via modular plug cable, 6 wires
- Colour: light grey RAL 7035
- Protection class IPX6

### **Options:**

- Customised Configuration (Configuration number  $\geq 100$ )
- It is possible to customise the OpenBus signals to be used for the UBL, switch input and the indicators so that it fits to the customer system. Please contact your Sales Engineer at LINAK A/S for further information.

### **Usage:**

- Compatible with all LINAK OpenBus™ control boxes, light & full
- Current consumption:

V bus 8V:	9.3 mA
V permanent 40V:	2.3 mA
- Approvals: IEC60601-1, ANSI/AAMI ES60601-1 and CAN/CSA-22.2 No 60601-1

## OpenBus™ standard configuration code:

MJB 5 0 5 4 0 0 0 - 1 0 2 3

5 0 5

### UBL int. / Switch input (S1/S2)

0 1 0 DN (Device Number) 140  
 UBL Key 1: H28 (ID1)  
 UBL Key 2: E28 (ID5)  
 S1 Enable/disable Key 1: E22 + E27 (ID5)  
 S1 status: E7 (ID5)  
 S1 notification: E6 (ID5)  
 S2 Enable/disable Key 1: E23 + E27 (ID5)  
 S2 status: E9 (ID5)  
 S2 notification: E8 (ID5)

5 0 5

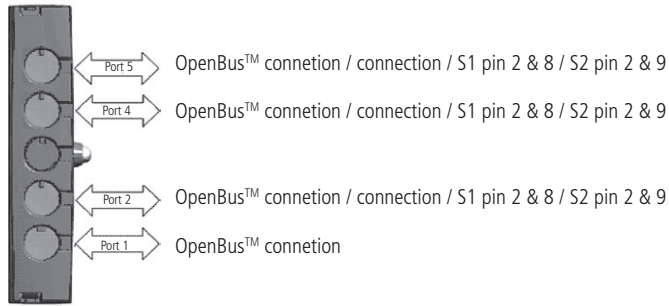
### UBL int. / Switch input (S1/S2)

0 2 0 DN (Device Number) 141  
 UBL Key 1: H28 (ID1)  
 UBL Key 2: E28 (ID5)  
 S1 Enable/disable Key 1: Disabled  
 S1 status: Disabled  
 S1 notification: Disabled  
 S2 Enable/disable Key 1: Disabled  
 S2 status: Disabled  
 S2 notification: Disabled

\* The switch input S1/S2 is as default "Disabled" (factory setting).

When using 2 x UBL (left/right side of bed) is it important to order the MJB with 2 different device numbers. Otherwise is it not possible to define the MJB through SDT2.

Order variant 505-010 & 505-020.



**Standard functionality:**

**UBL:** The UBL LED can be switched on and off via the patient control (Key 1) or the attendant control (Key 2).

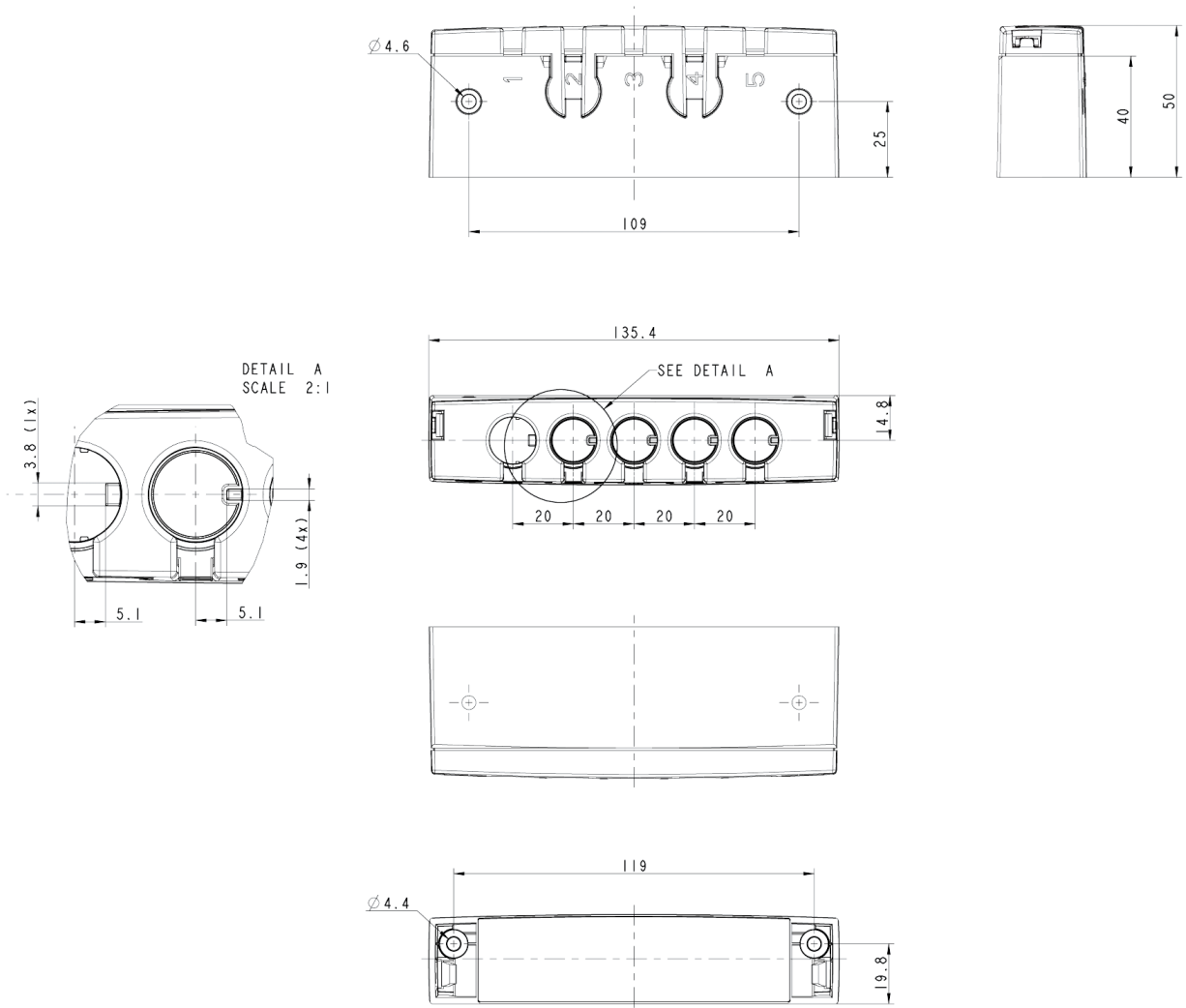
**External Switch (S1/S2):** The external switch is connected to S1:

Pin 2 & 8/S2: Pin 2 and 9 on Port 2, Port 4 or Port 5.

The Switch input functionality can be enabled/disabled via the attendant control. The enable/disable status (switch status) is indicated on the OpenBus™.

The switch input functionality is as standard to be used with a NO switch. When the switch is activated (NC), a notification is sent on the OpenBus (switch notification).

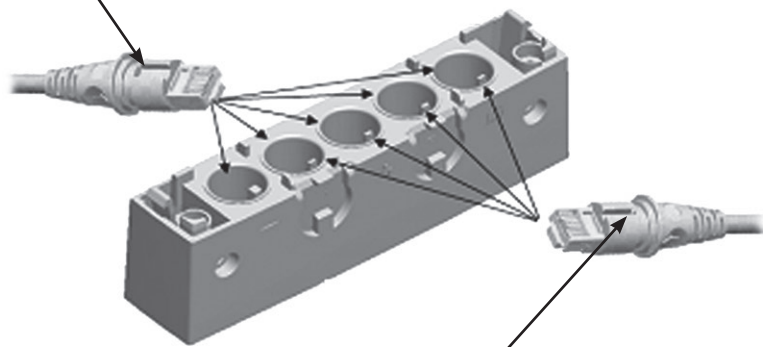
Dimensions:



**Modular plug cable, narrow/wide alignment grooves:**

**Modular plug with wide alignment groove**

To be used with **LINAK products**.  
Can be connected to all ports in the MJB, both ports with narrow and wide alignment grooves.



**Modular plug with narrow alignment groove**

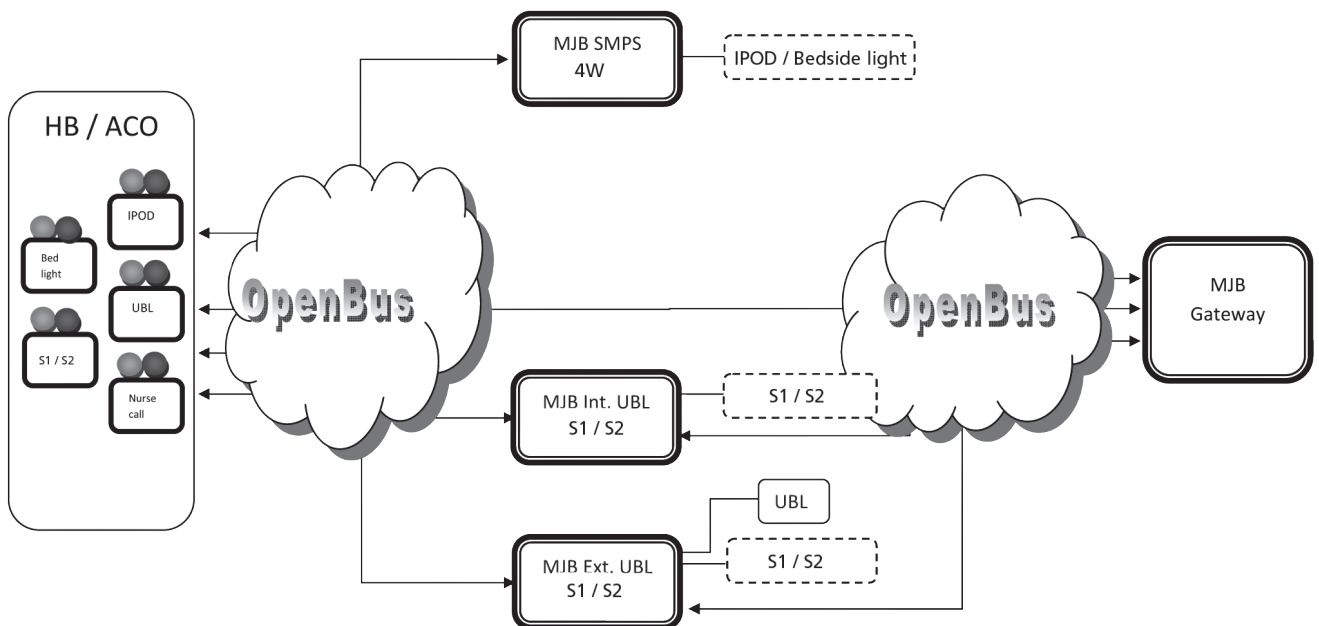
To be used with **3<sup>rd</sup> party products**.  
Can only be connected to ports in the MJB with narrow slit.  
This is to prevent 3<sup>rd</sup> party products to interfere with the OpenBus™ connections.

**Test device for MJB standard code no. >500:**

In case the system does not perform as expected due to a failure, a test device is available. The device is able to simulate the 3<sup>rd</sup> party product, which should be connected. Please contact LINAK for further details.

If you get the expected output from the MJBs it shows that it is working satisfactorily and the problem should instead be found in the 3<sup>rd</sup> party product.

**Connection overview:**



Bit matrix:

MJB	Device ID	Config nr.	ID 1 H-Codes		ID 2 A-Codes		ID 5 E-Codes		Bit
			Bit 0-11 = LED Bit 12-31 = Activation*	Indicator Relay 1 Indicator Relay 1	Bit 0-11 = LED Bit 12-31 = Activation*	Indicator Relay 1 Indicator Relay 1	Bit 0-11 = LED Bit 12-31 = Activation*	Indicator Relay 1 Indicator Relay 1 Indicator Relay 2	
Gateway	150	01							
Gateway	150	02		Indicator Relay 1				Status 2	0
Gateway	150	01		Indicator Relay 1				Status 2	1
								Status 1	2
									3
SMPS 4W	61	01					Indicator	Error	4
									5
SMPS 4W	61	01					Indicator	Status	6
UBL / Switch input (S1/S2)	140	01					Indicator S1	alarm 1	7
UBL / Switch input (S1/S2)	140	01					Indicator S1	Status 1	8
UBL / Switch input (S1/S2)	140	01					Indicator S2	alarm 1	9
UBL / Switch input (S1/S2)	140	01					Indicator S2	Status 1	10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
UBL / Switch input (S1/S2)	140	01						Key 1 (+E27)	22
UBL / Switch input (S1/S2)	140	01					Enable/Disable S1	Key 1 (+E27)	23
							Enable/Disable S2	Key 1 (+E27)	24
									25
									26
UBL / Switch input (S1/S2)	140	01					Enable/Disable S1	Key 1 (+E22)	27
UBL / Switch input (S1/S2)	140	01					Enable/Disable S2	Key 1 (+E23)	28
UBL / Switch input (S1/S2)	141	02		Toggle UBL			Toggle UBL	Key 2	29
Gateway	150	01		Activate Relay 2			Toggle UBL	Key 2	30
Gateway	150	02		Activate Relay 1		Key 1	Activate Relay 2	Key 2	31
SMPS 4W	61	01		On / Off			On / Off	Key 2	
Gateway	150	01		Activate Relay 1		Key 1	Activate Relay 1	Key 2	
Gateway	150	02		Activate Relay 1		Key 3	Activate Relay 1	Key 2	
Gateway	150	02		Activate Relay 2		S1	Activate Relay 1	Key 2	
Gateway	150	02		Activate Relay 2		S2	Activate Relay 1	Key 2	

\* Activation: bit 12 - 31 or via MJB505/506

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