Modular Junction Box MJB5 Plus with Switch Mode Power Supply (SMPS)

Data Sheet



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Introduction

The modular junction box MJB5 Plus is designed for use together with OpenBus™ control boxes.

The MJB5 Plus makes it possible to connect multiple hand controls and attendant controls. It can even be used for charging or to connect the Under Bed Light and 3rd party products.

The compact design and in-line cable management makes it easy to integrate in a wide range of healthcare applications like hospital beds, surgery tables and treatment chairs.

The MJB5 Plus offers IPX6 Washable DURA™ and is the perfect match for the OpenBus control box platform. IPX6 Washable DURA helps prolong the lifetime and makes the system ready for wash tunnels and high-pressure wash down.

MJB5 Plus version 502-010, 5V SMPS

The SMPS is to be used where there is a need for power supply near the bed. For example, to charge electronical devices.

It is also possible to connect a bedside lamp from our 3rd party supplier. This will be connected directly to the MJB5 Plus port 2 via a modular plug. The SMPS indicates with an LED on the hand control whether the power supply is switched on or off.



Features and options

2 connections:	Port 1, OpenBus connection / Port 2, power supply
Colour:	Light Grey RAL 7035
Protection class:	IPX6, IPX6 Washable DURA™
Output power:	On mains: 5Vdc ± 0.5V / max. 4 watt (based on Vpermanent 40V) On battery: 5Vdc ± 0.5V / max. 2 watt
Current consumption:	V Bus 8V: < 9 mA V Permanent 40V: < 150 mA
	Short circuit protection: The SMPS switches off resulting in an error/a notification which is indicated on the OpenBus
Temperature protection:	The SMPS switches off if the temperature inside the MJB5 Plus is above 110 °C. This results in an error/a notification which is indicated on the OpenBus.
Overload protection:	When the SMPS is overloaded, the SMPS switches off, resulting in an error/a notification which is indicated on the OpenBus. Overload if current consumption on V permanent > 150 mA.

Usage

Compatibility:	All OpenBus products
Operation temperature:	+5 °C to +40 °C
Storage temperature:	-10 °C to +50 °C
Relative humidity:	20% to 80% – non-condensing
Atmospheric pressure:	700 to 1060 hPa
Meters above sea level:	Max. 3000 meters
Latex free:	Yes
Approvals:	IEC60601-1 ANSI/AAMI ES60601-1 CAN/CSA-22.2 No 60601-1

Ordering example

	MJB		
Special/Standard code no.	000	**000 =**	**Port repeater box (without functionality)**
		502 =	**SMPS 4W (Switch Mode Power Supply)**
		504 =	**Gateway**
		505 =	**UBL (Internal) / Switch input (S1 + S2)**
		506 =	**UBL (External) / Switch input (S1 + S2)**
		509 =	**Analogue to OPENBUS™ Converter**
No. of OPENBUS™ connections	4	**1 =**	**For standard code: 502 (Ports: 1=OB, 2=third party) For standard code: 504 (Ports: 1=OB, 5=Third party)**
		3 =	**For standard code 000: 3 ports**
		4 =	**For standard code 000: 4 ports For standard code: 505, 506 & 509**
		5 =	**For standard code 000: 5 ports**
Configuration Number	000	**000 =**	**Port repeater box (without functionality)**
		001-099 =	**Standard configuration**
		100-999 =	**Special configuration**
Not used	-	**- =**	**Not used**
Colour	1	**1 =**	**Light grey (RAL 7035)**
HardWare version	0	**0 =**	**No Power request**
		1 =	**HW-variant with power request on all ports where it is possible**
		2 =	**HW-variant with power request on port 2 (Only for MJB509)**
		3 =	**HW-variant with power request on port 4 & 5 (Only for MJB509)**
IP Degree	2	**2 =**	**IPX6**
		9 =	**IPX6 Washable DURA™**
Cable	3	**3 =**	**No cable**
	Chosen item number:		MJB0004000-1023

Modular plug cable for connection of OpenBus™ control box to MJB5 Plus has to be ordered separately. Please remember to order DURA cable and blind plug if IP degree IPX6 Washable DURA™ is required.

Approvals and certifications

For approval documentation, LINAK recommends specifying the product type instead of individual item numbers to ensure broader approval coverage and simplify future product changes.

Listed LINAK item for application approval: MJB

If this is not possible, we advise being as non-specific as possible when specifying LINAK products in your approval application:

Listed LINAK item for application approval: MJBSSS****S**S*

" * " is not safety critical and we recommend including a non-specific signifier such as an asterisk.

" S " is safety critical and represents a listed critical component in the product and cannot be left out.

For more information, please refer to "Approvals and certifications" in LINAK Application Design Recommendations found under User Manual for any given product on LINAK.com



Port 2

Port 1

+5V Power supply
-Pin 2 (GND)
-Pin 7 (reserved)
-Pin 8 (reserved)
-Pin10 (output power)

OpenBus™ connection

Standard functionality

Port 1 is to be connected to the OpenBus control box.

The electronic device must be connected to PORT 2. The power on port 2 can be switched on/off via the patient control (key 1) or the attendant control (key 2), the status is indicated on the OpenBus. Switching on/off the power supply is useful, for instance when the SMPS is used together with a bedside lamp. If an error occurs, this is indicated on the OpenBus. As standard, it is switched off.

OpenBus™ standard configuration

Version 502-010

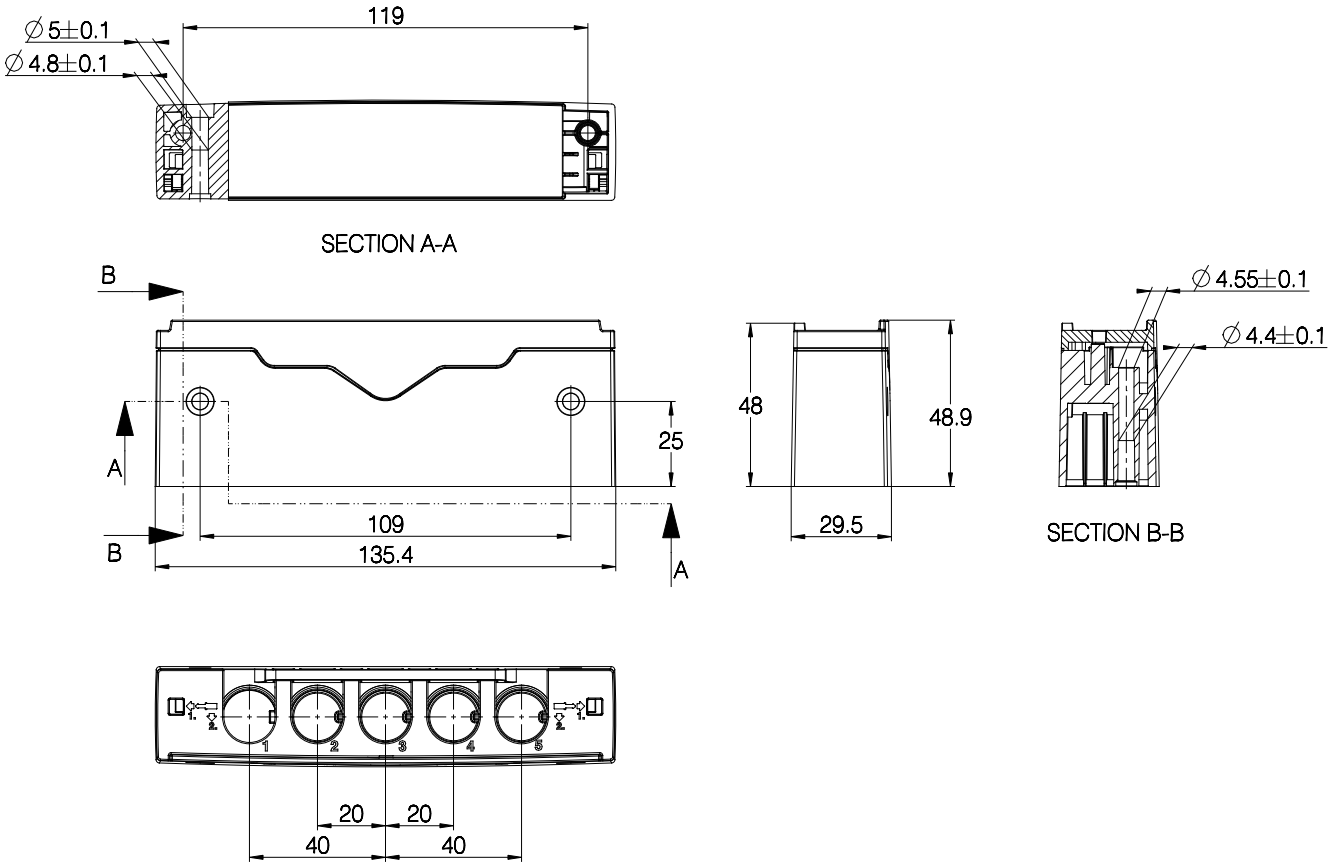
MJB 5 0 2 1 0 1 0 - 1 0 2 3

HardWare version:
0 Standard

SMPS 4W
0 1 0 DN (Device Number) 61
Key 1: H30 (ID1)
Key 2: E30 (ID5)
Status: E5 (ID5)
Error: E4 (ID5)

* Service Data Tool 2, can read out the special/standard code no. and configuration.

Dimensions



Drawing no.: 0835101

Cable and accessory overview

		MJB5 Plus version					
		000	502	504	505	506	509
Ordering number	Description	Port repeater	SMPS	Gateway	UBL (Int.)	UBL (Ext.)	AOC
0821147	MJB5 Plus locking mechanism	X	X	X	X	X	X
1015W1010-A	Mounting bracket exclusive screws	X	X	X	X	X	X
SA0002645	Special screws type WN1423 K60x16	X	X	X	X	X	X
0821008	Blind plug, RAL 7035 Light Grey, IPX6	X	X	X	X	X	X
0821120	Blind plug, RAL 7035 Light Grey, IPX6 Washable DURA™	X	X	X	X	X	X
0834000	USB cable, length 1000 mm (USB cable is not medically approved)		X				
0964399	Modular plug cable with open end, length 1500 mm				X	X	
0964461-xxxx	Modular plug to modular plug, 6-wire extension cable	X	X	X	X	X	X
0964140-1375	Gateway cable, xxxx mm, modular plug, open end			X			
0964135	Under Bed Light Cable, 2500 mm					X	
0965347	Modular plug cable with 10 open-end wires						X

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