MEDLINE® IMPROVING EFFICIENCY CARELINE® IMPROVING EFFICIENCY

Modular Junction Box MJB5 Plus with Gateway

Data sheet

LINAK.COM/MEDLINE-CARELINE

LINAK® WE IMPROVE YOUR LIFE

MJB5 Plus with Gateway

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 with Gateway
MJB5 Plus versions 504-010 & 504-020:
The MJB5 Plus is a simple gateway interface which can connect switch input notifications from the hospital or nursing home infrastructure such as service/nurse call systems.

Please note that notifications are only to be used as service information and not for emergency issues.

Features and options:
- 2 connections: Port1 OpenBus connection / Port 5 Gateway
- Colour: Light Grey RAL 7035
- Protection class: IPX6, IPX6 Washable DURA™

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
- Operational meters above sea level: Max. 3000 meters
- Latex free: Yes
- Approvals: IEC60601-1, IEC60601-1-6
  ANSI/AAMI ES60601-1
  CAN/CSA-22.2 No 60601-1

MJB5 Plus Gateway usage:
- Contact rating: Maximum continuous current: 1A
  Maximum switching voltage: 48VDC
  Maximum switching capacity: 24VA
  Contact resistance: <100 mΩ
- Current consumption: V bus 8V: 9 mA
  V permanent 40V: 14 mA

Ordering example:

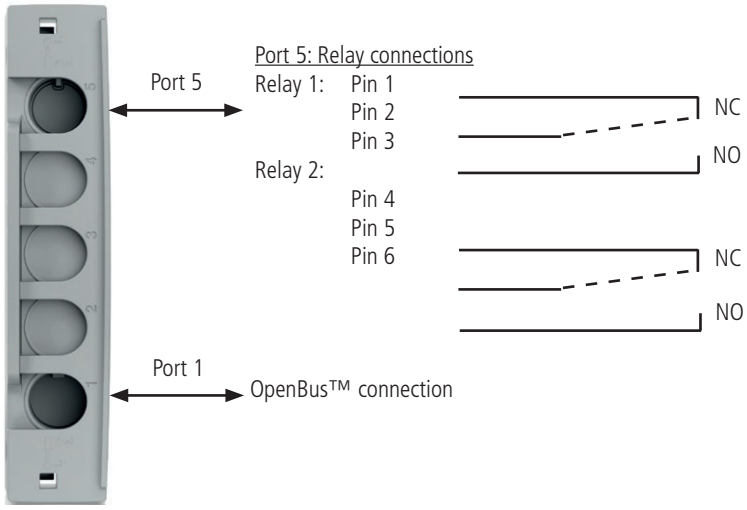
MJB5Plus ordering example

	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)**
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**
		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**
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.



Standard functionality:

The MJB5 Plus Gateway consists of two relays, which are connected through port 5 on the MJB5 Plus. This can be done with the special cable 0964140 (modular plug - open end)

There are as standard 2 configurations, 504-010 and 504-020, see description on the next pages.

Relay 1: NC (normally closed) = Pin 2 + Pin 1/NO (normally open) = Pin 2 + Pin 3
Relay 2: NC (normally closed) = Pin 5 + Pin 4/NO (normally open) = Pin 5 + Pin 6

Ordering example
OpenBus™ standard configuration, versions 504-010 and 504-020:

MJB 5 0 4 1 010 - 1 0 2 3

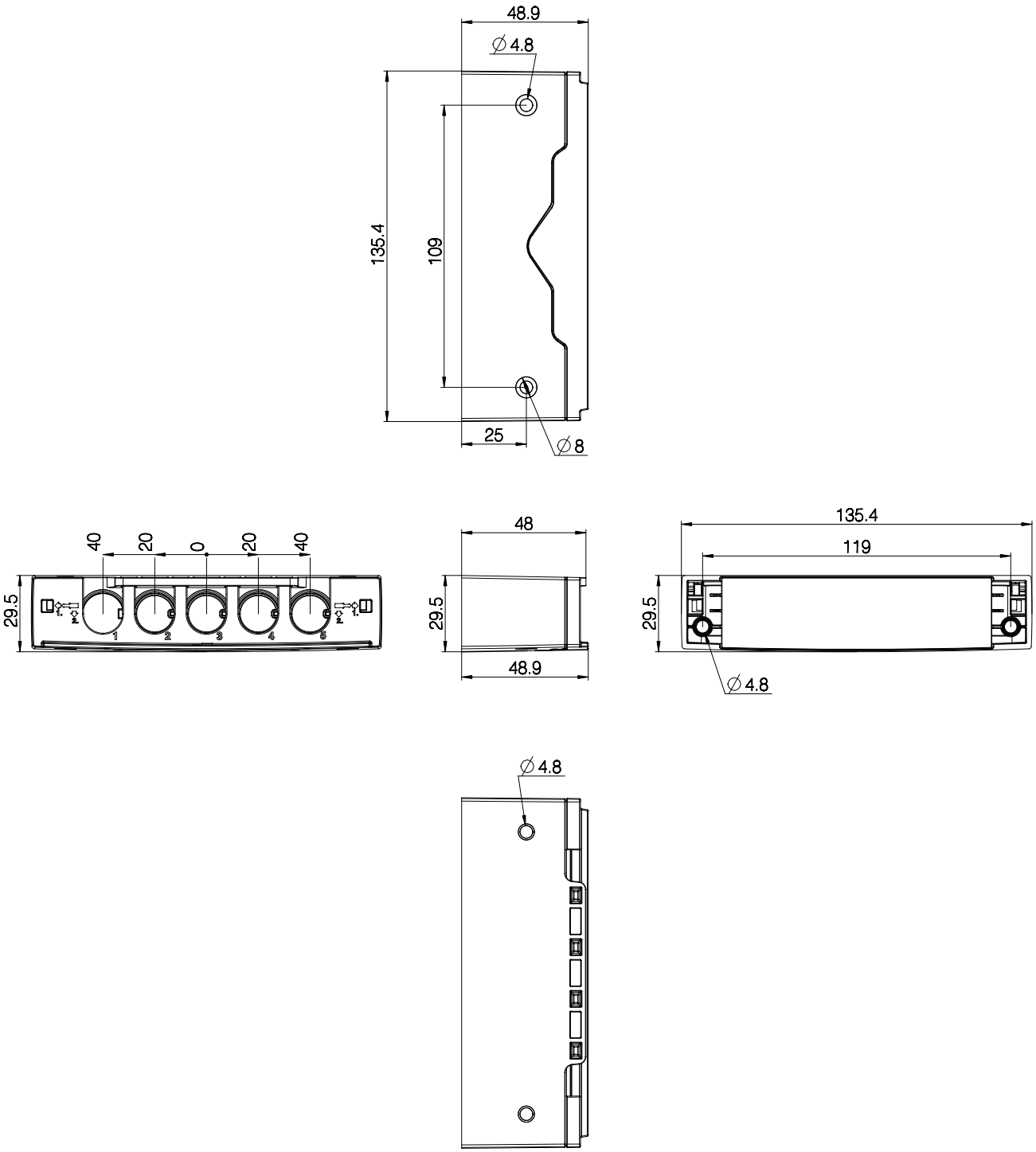
HardWare version: 0 = Standard.

Gateway: 0 1 0 DN (Device Number) 150
Relay 1, Key 1 = A31 (ID2 - Nurse Call)
Relay 1, Key 2 = E31 (ID5 - Nurse Call)
Relay 1, Key 3 = H31 (ID1 - Nurse Call)
Relay 2, Key 1 = A29 (ID2 - Service Call)
Relay 2, Key 2 = E29 (ID5 - Service Call)
Relay 2, Key 3 = H29 (ID1 - Service Call)
Relay 1, Status 1 = A0 (ID2 - Nurse Call)
Relay 1, Status 2 = E0 (ID5 - Nurse Call)
Relay 2, Status 2 = E1 (ID5 - Service Call)
! Please note, Relay 1 changes state when powering up

Gateway: 0 2 0 DN (Device Number) 150
Relay 1, Key 1 = A31 (ID2 - Nurse Call)
Relay 1, Key 2 = E31 (ID5 - Nurse Call)
Relay 1, Key 3 = H31 (ID1 - Nurse Call)
Relay 1, Key 4 = H29 (ID1 - Service Call)
Relay 1, Status 1 = A0 (ID2 - Nurse Call)
Relay 1, Status 2 = E0 (ID5 - Nurse Call)
Relay 2, Alarm 1 // Out of bed alarm (S2)
Relay 2, Alarm 2 // Switch alarm (S1)
! Please note, Relay 1 changes state when powering up

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

Dimensions:



Drawing no.: 0835011

Relay 1

Relay 1 is NO when connected to mains and NC when no mains, this means the relay is "active", when connected to mains (closed loop). The closed loop principal is to ensure that a notification is sent if power is missing on the bed. When mains is disconnected (power is missing), the relay will go from NO to NC which will automatically result in a notification (status indicator) on the OpenBus.

Relay 1 can be activated via the patient control (Key1/Key4) or the attendant control (Key2 / Key3). When a key is activated, the relay will switch state from NO to NC for 2 seconds. After 2 seconds the relay will automatically change state from NC to NO.

The status of the relay is indicated on the OpenBus and can be used for switching on an LED.

Relay 1		
OpenBus control box power mode	**Notification level**	**Relay state**
Mains unplugged, the control box is in power-down or the OpenBus is not running (Clock/data is missing)	Notification	NC*
On mains or battery at "wake up"	Bed notification**	NC
	No notification	NO

Relay 2

Relay 2 is as default NC, with or without mains, (open loop).

Relay 2 can be activated via the patient control (Key 1) or the attendant control (Key 2 / Key 3).

When the relay is activated, it will switch from NC to NO for 2 seconds. After 2 seconds the relay will automatically change state from NO to NC.

The status of the relay is indicated on the OpenBus™ and can be used for switching on an LED.

By using the variant 504-020 will relay 2 be controlled by the MJB5 Plus variant 505/506 with switch input.

Notification 1 = Switch input S2 / notification 2 = Switch input S1

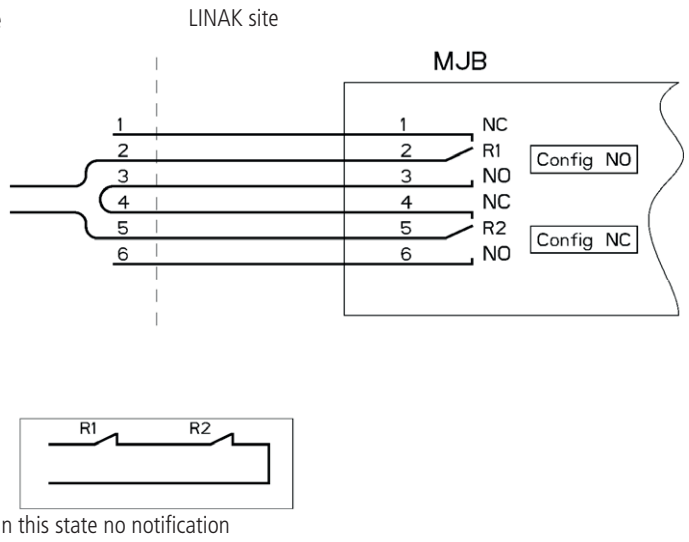
When using this combination, is it important to have the MJB5 Plus 505/506 connected to the system all the time. If it is not connected, the Gateway MJB5 Plus will see it as a notification and the relay will be activated. The Gateway MJB5 Plus is "scanning" the OpenBus system. every minute for a notification.

Relay 2		
CB or OpenBus control box power mode	**Notification level**	**Relay state**
Mains unplugged or the control box is in power-down	No notification	NC
On mains or battery at "wake up"	Bed notification**	NO
	No notification	NC

* When mains is unplugged or CB or the OpenBus control box is in power-down, the relay will shift to NC state and generate a notification.

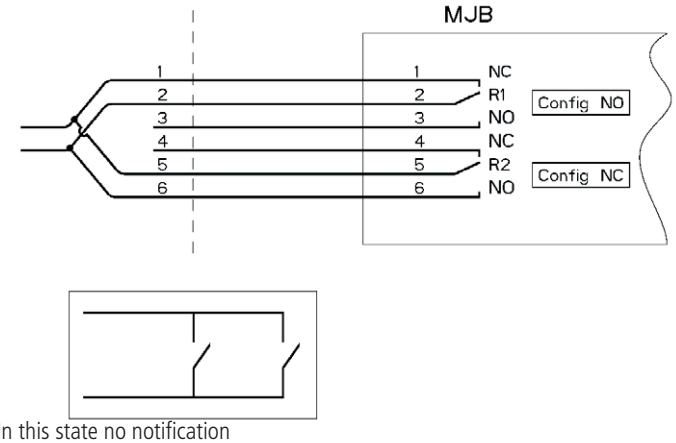
** Notification generated by nurse call or bed notifications.

Example of closed loop:



In this state no notification

Example of open loop:



In this state no notification

MJB5 Plus Cable and accessory overview

		MJB5 Plus version				
		000	502	504	505	506
Ordering number	**Description**	**Port repeater**	**SMPS**	**Gateway**	**UBL (Int.)**	**UBL (Ext.)**
0821147	MJB5 Plus locking mechanism	X	X	X	X	X
1015W1010-A	Mounting bracket exclusive screws	X	X	X	X	X
SA0002645	Special screws type WN1423 K60x16	X	X	X	X	X
0821008	Blind plug, RAL 7035 Light Grey, IPX6	X	X	X	X	X
0821120	Blind plug, RAL 7035 Light Grey, IPX6 Washable DURA™	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
0964140-1375	Gateway cable, xxxx mm, modular plug-open end			X		
0964135	Under Bed Light Cable, 2500 mm					X