



BMU BEACON

USER'S MANUAL

Version	Date	Status	Performed	Checked	Approved
1.0	09/10/07	Creation	R. ELKHARDIOUI	M. BROUANT	
1.1	02/09/09	Modification	R. ELKHARDIOUI	M. BROUANT	



1.	INTRODUCTION.....	3
2.	CONNECTION	4
2.1.	Using one BMU beacon	4
2.2.	Using several BMU beacons	5
3.	CHARACTERISTICS.....	5
3.1.	Mechanical	5
3.2.	Electrical	6
3.3.	Optical	6
3.4.	Miscellaneous	6
4.	SETTING THE BMU.....	7
5.	CHANGE QUICKLY POWER OF BMU.....	8
6.	PRODUCT REFERENCES.....	8

1. INTRODUCTION

BMU beacon is a universal beacon designed for working with **SIRRAH sensors**.

It is used to control the sway, the skew or the height of a hoist on a container crane or bridge crane. It is able to work in connection with all our range of Sirrah sensors : LS08, TS10, TS19, TS20, SI08, SI10, SI19, SI20.

This product replaces the former beacons referenced: BMA1233 or BMA3x13-xy or BMA5x13-xy or BB-xy.

See the correspondences table at the end of this document.

WARNING : the BMU beacon is a new type of beacon with increased waterproofness.

Any adjustment or fuse change is made from outside the equipment.

This beacon is sealed and **SHOULD NOT BE OPENED** by users.

Removing the cover will **CANCEL** the warranty from the manufacturer ARCK Sensor.

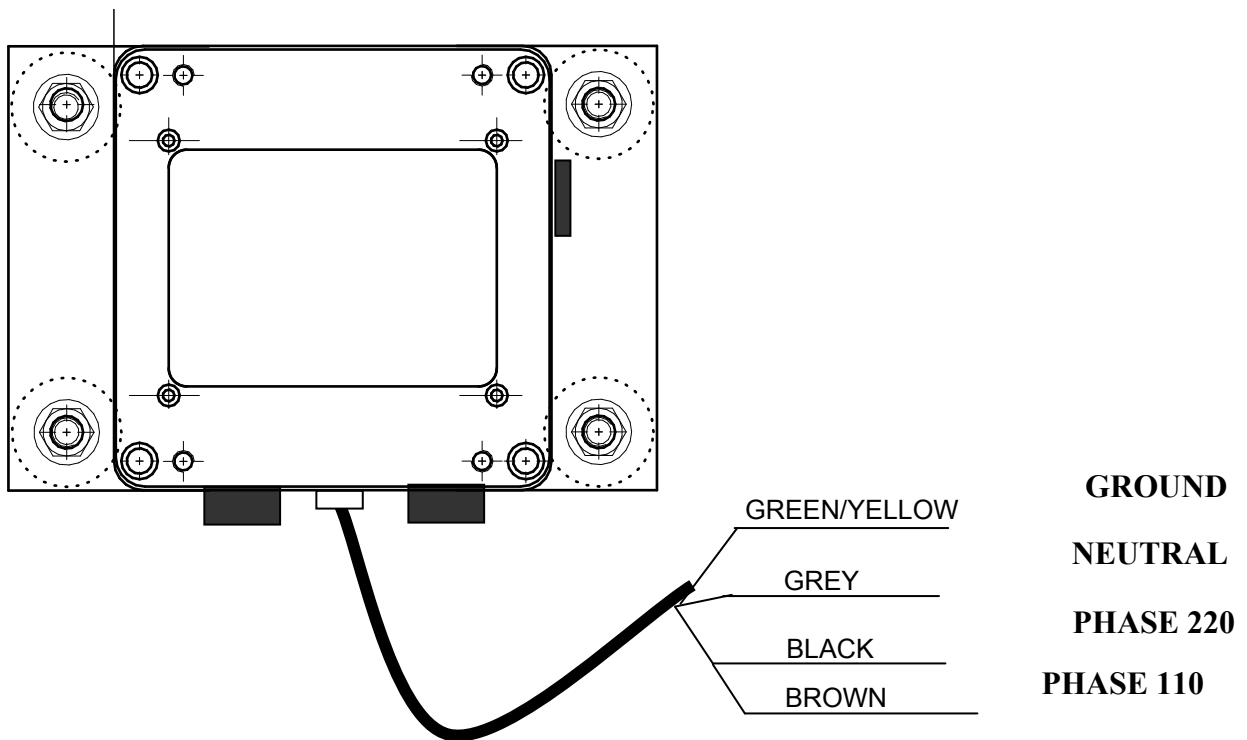
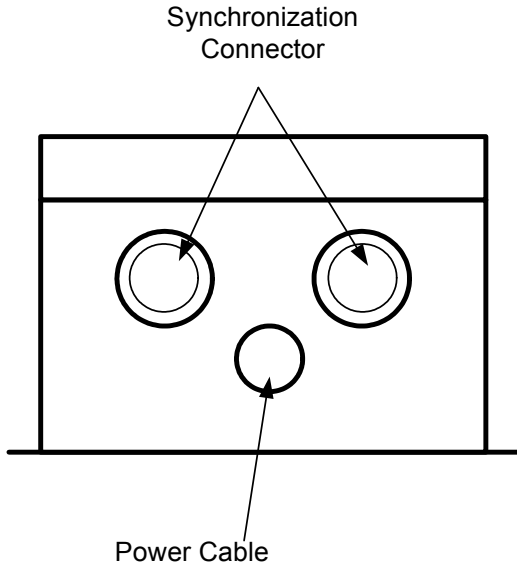
Only ARCK Sensor or authorized repair stations can open this beacon.



2. CONNECTION

2.1. Using one BMU beacon

Connecting for the power supply has to be done as indicated

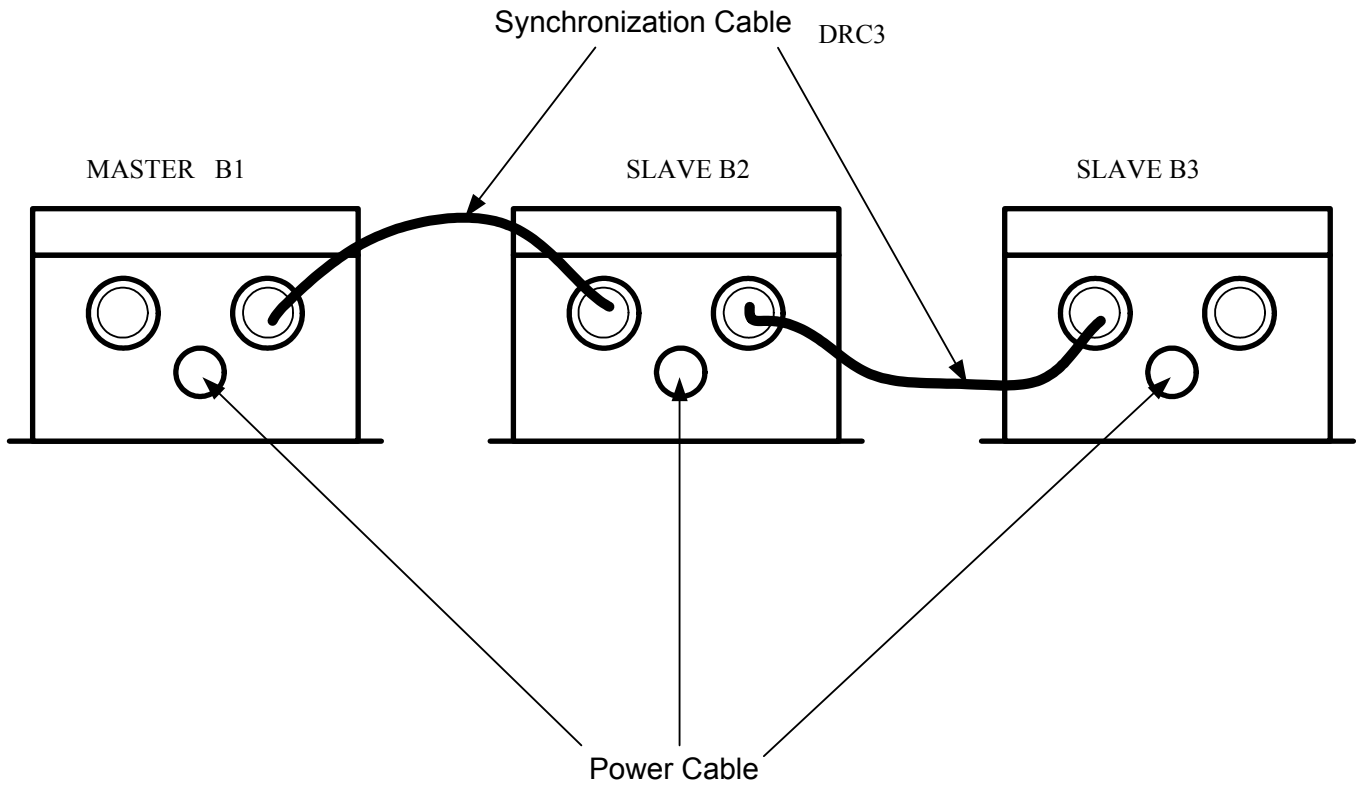


BE CAREFUL :

Verify the cabling before starting. Any miss wiring may definitively damage the product.

2.2. Using several BMU beacons

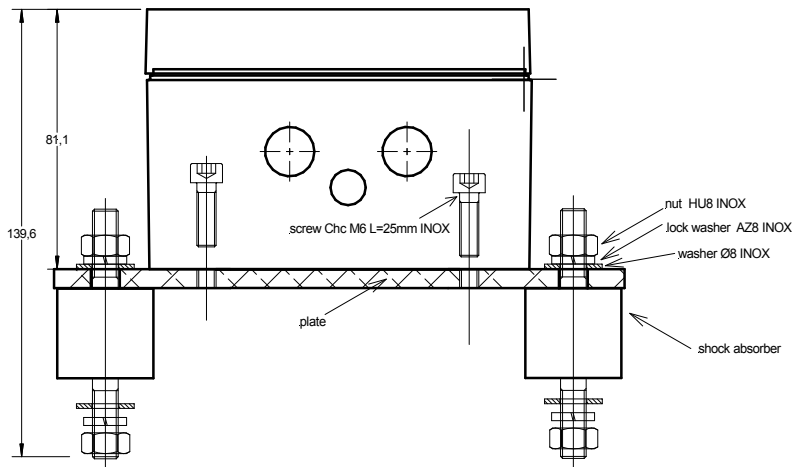
Connecting power supply for each beacon and synchronization link cable has to be done as indicated :



3. CHARACTERISTICS

3.1. Mechanical

- Box dimensions except fixations and connectors : 120 x 120 x 88 mm
- Connectors : height 35 mm + 20 mm minimum for cable curves
- Fixation : 4 holes 146 and 90 mm spaced for M8 screws including nuts (see diagram)
- Anti-vibration pads included Ø 30 mm, height 28 mm
- Fixation for Anti-vibration pads M8.



All dimensions are given in millimeters

3.2. Electrical

- Supply: 220 VAC / 65mA
Tolerance: from 180VAC to 270VAC

- 110VAC /125mA
Tolerance: from 90VAC to 125VAC
An external fuse protects 110VAC against errors connections (220VAC).

- 24VDC/0.5
Tolerance: from 21VDC to 40VDC
Characteristic of power supply: 24VDC 1.5A

- Internal fuse is “auto-switch” resettable



External Fuse
-220/110VAC : 250mA
- 24VDC : 1.6A

NO INSIDE FUSE : DO NOT OPEN THE BOX

3.3. Optical

- Infrared light:
 - 880 nm
 - Three Modulated pulses
 - Several emission angle available : +/- 12°, +/- 25° or double cone +/-3° and +/-10°
 - Three modes are available: 1-beacon (mode 1), or 2-beacon (mode 6), or 3-beacon (mode 7). The mode is programmable by software.
 - Beacon number in mode 6 and 7 is programmable by software.
 - Level of energy is adjustable by software.

Optical selection of pulse: The SIRRAH working with the beacon is using the best pulse for the best measurement.

In case of BMU-04 with two beams, the SIRRAH is selecting the narrow beam +/-3° as long as it is available with a good level of energy. If not available the SIRRAH is using the +/-10°.

For the working mode (1, 6 or 7) see the SIRRAH user’s manual.

3.4. Miscellaneous

- Waterproof : IP 66 (enhanced with resin coated electronics)
- Shockproof : 30 g (15 msec) for use on crane hooks or spreaders with the anti- vibration rubber

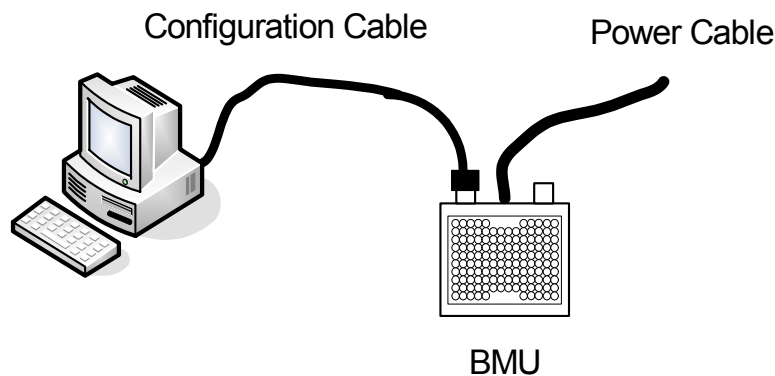
4. SETTING THE BMU

To configure the BMU, you must have:

- The configuration software “BELO26 V1R0”
- The cable Configuration “DRC4”

First Step

Disconnect all synchronization cable of the beacon
Switch off the power of BMU

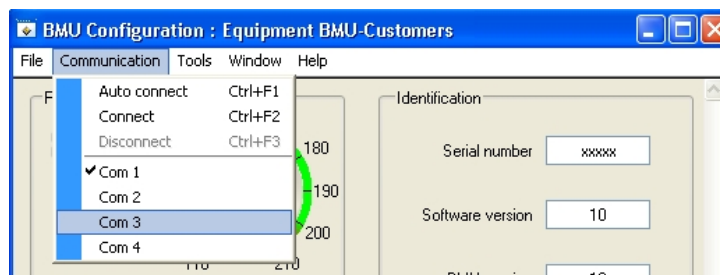


Connect the Configuration Cable DRC4 between the PC and the BMU.

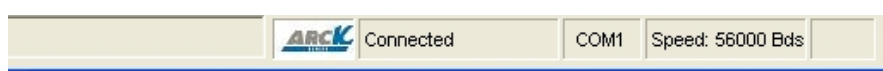
Start the BMU Configuration software.

Switch on the power of BMU.

Establish the connection with the beacon with the “**auto connect**” command in the “**communication**” menu



You can see on the status



the connection bar

Select “**Enter configuration mode**” in the “**Tools**” menu, and then follow the instruction.

When beacon is in “**configuration mode**”, the message “**Beacon in configuration mode**” is displayed on the status bar.

Then adjust the **mode** and the **type**.

Select “**Send Configuration**” in the “**tools**” menu.

Select “**Quit configuration Mode**” in the “**tools**” menu to finish the configuration.

See the “**Help**” menu of the software for a detailed instruction.

5. CHANGE QUICKLY POWER OF BMU

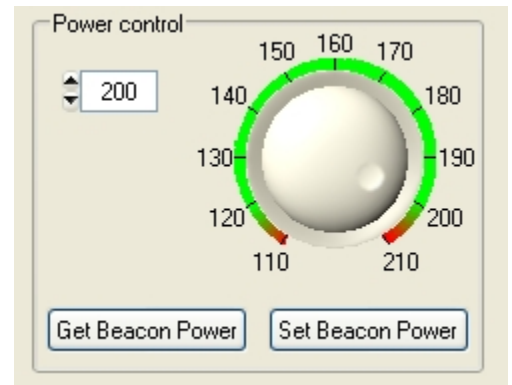
Switch on the BMU.

Connect the Cable Configuration on the BMU DRC4

Start the software of configuration

Establish the connection with the beacon with the **“auto connect”** command in the **“communication”** menu.

To change quickly power of BMU, you only need to use this part of the software:



You can get the existing adjustment by click on **“Get Beacon Power”**.

You can change the value of power between 110 to 210 by turning the button:

110 give a minimum power

210 give a maximum power

When you have finished changing the value, click on **“Set Beacon Power”** to send the value to the BMU.

See the **“Help”** menu of the software for a detailed instruction.

6. PRODUCT REFERENCES

BMU BEACONS

Reference : B M U - x y

Explanations :

B M U stands for 'Universal Matrix Beacon'

x indicates the power supply voltage x = 0 : 110 or 220VAC

 x = 1 : 24VDC

y indicates the vertical emission angle y = 1 : cone of +/-12°

 y = 2 : cone of +/-25°

 y = 4 : double cone of +/-3° and +/-10

CABLES DRC3 – x.y

Synchronization cable for BMU beacons used in mode 6 or 7.

Reference DRC3-x.y

xy indicates the cable length in meters

Examples : Reference DRC3-3.0 cable 3 meters long

 Reference DRC3-8.0 cable 8 meters long



CABLES DRC4

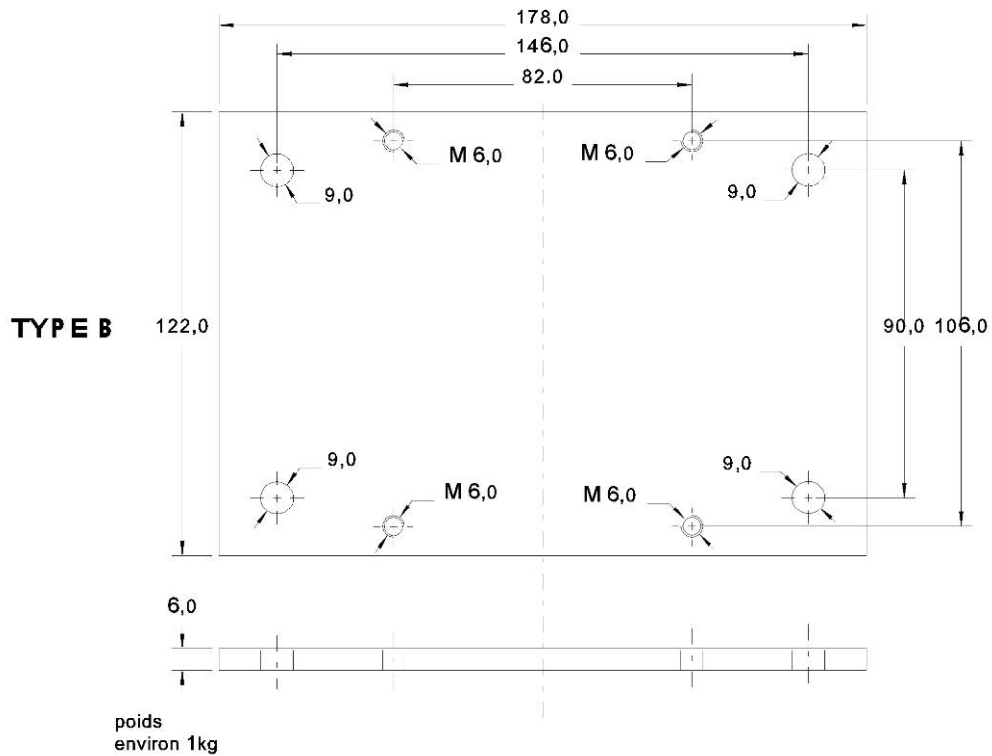
Programming cable for BMU to be connected to a PC-RS232 with SUBD9 plug.
Cable length is 1m.

CABLES DRC5

Connection cable used to interface a BMA beacon to a BMU beacon through the DRC3 cable. Cable length is 10cm.

REPLACEMENT TABLE

Former reference of beacon	New reference of beacon
BMA1133	BMU-01
BMA1233	BMU-02
BMA1223	No replacement
BMA3113-61 or BMA5113-62	BMU-01
BMA3213-61 or BMA5213-62	BMU-02
BMA3113-71 or BMA5113-72 or BMA5113-73	BMU-01
BMA3213-71 or BMA5213-72 or BMA5213-73	BMU-02
BB-61 or BB-62	BMU-04
BB-71 or BB-72 or BB-73	BMU-04



Matière : acier courant
 Finition : peinture couleur gris/blanc doit résister à l'air salin
 Ces plaques sont montés sur des grues de port maritime

EPAISSEUR : 6 mm

N. Affaire :	Tolérances garanties sauf indications : Linéaire - Angulaire	Echelle : 1.45	AFFAIRE : BALISE MATRICIELLE
Messe :		Revisé par : A3	S/E
Matériau :		Date : 23/12/03	PIECE : PLAQUE SOUS BOITIER DE BALISE TR3 TR1
Traitement :		Vérifié par : RD	
		Date :	
			NUMERO B EME083 Inc. Pl. 3.0

Ce plan est la propriété de ARCK SENSOR
 Il ne peut être utilisé, communiqué ou reproduit sans accord préalable écrit.