

RDM BK86



Version **RDM BK86-5A** 500mW 869.400 – 869.650 MHz



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Foreword

- This manual contains text, images and explanations for the correct installation and use of the RDM BK86 transceiver. It should be read and understood before the appliance is installed and used.
- This manual has been published subject to alteration. We reserve the right to modify this manual without prior notice.
- As the system works by means of radio waves, transmission may, in certain cases, be influenced by the environment and by the method of use. The manufacturer is not liable for any damage to persons and/or appliances.
- Do not use the system near other appliances operating with radio waves as this could cause malfunctioning.

IMPORTANT

- Do not remove or replace any parts of the system.
- Do not remove, alter or modify the identification plate on the back of the system. It is forbidden to use the system without identification plates.

Hardware Manual

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Date: 07/2013

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1. Safety instructions for the user and safety measures for the RDM BK86 system

This manual has been drawn up for use by trained and competent personnel. The qualification of the personnel is defined in the European Directives on machines, low voltage and EMV. All the electrical connections of RDM BK86 systems must be carried out by a technician who has specific training in local and national electrical standards. Several symbols are used in this manual to highlight certain information. The purpose of these symbols is to draw the attention of personnel involved to warnings concerning safety and to safety measures. Whenever a symbol appears, the relevant note should be read and the information followed carefully.



This symbol indicates an imminent danger causing damage to persons or property.



This symbol indicates a danger that could cause damage to persons or property.



This symbol indicates the need to check the harmonization for the use of radio frequency.

Caution

- Avoid proximity of less than 3 m with an electronic appliance (PC, portable telephone, etc.) which could affect the high sensitivity of the modem and consequently reduce its effective range.
- Before using the system, check that the supply voltage specified in its user manual corresponds to your power source. If this is not the case consult your supplier.
- Place the appliance against a flat firm and stable surface.
- The appliance should be installed in a location that is sufficiently ventilated to eliminate any risk of internal overheating and should not be covered by objects such as newspapers, cloths, curtains, etc.
- The appliance's aerial should be in the open and at least 10 cm clear of any conducting material
- The appliance should never be exposed to sources of heat such as heating appliances.
- Do not place the appliance close to objects producing open flames such as candles, welding torches, etc.
- The appliance should not be exposed to aggressive chemical products or solvents that could affect the plastic materials or corrode metal components.
- Install your appliance close to its DC power source.
- Avoid using electrical extension leads and RS232 more than 3m long.

- TECHNOFASE cannot be held responsible for damage due to inappropriate installation or operation of the appliances.
- Do not replace the electrical components or attempt to repair products of the RDM BK86 series in any way.
- The products of the RDM BK86 series must be used in accordance with the relevant local and national standards in force.



Supplementary notes for RADIO interface appliances

The products with radio interface have been designed to operate on UHF radio frequencies (869MHz) that vary from one country to another. The user must take care to check the standards in force in the country in which the appliance is being used before putting it into use.

Contact the local Ofcom (Office of Communications) agency to obtain a licence or further information concerning the limitations on the free, unrestricted use (SRD) of the appliance.

2. Introduction

The RDM BK86 system has been developed for transmitting and receiving data via radio.

The special features of the RDM BK86 system are the following:

- Considerable immunity to disturbances
- Compact size
- IP65 aluminium / fiberglass casting
- Easily accessible RS232 communication port
- Up to 6 programmable channels (selected with software)
- Power supply 5 or 8-12VDC **===**
- Integral internal built-in antenna

2.1 Environmental characteristics

- Operating temperature -20 / 50 °C
- Storage temperature -25 / 50 °C
- Relative humidity 5-85%, without condensation
- Vibration resistance

3. Compliance with Standard

The system complies with the following harmonised standards:

- EN 60950 Electrical safety
- EN 301-489-1 + EN 301-489-5 Radio appliances
- EN 300-220-1 + EN 300-220-3 ISM Band SRD

3.1 Reference Standard

The RDM BK86 transceiver complies with the following European standards:

EN 300 220, EN 301 489.

Furthermore, the product has been tested according to standard **EN 60950.**

Notified Body **CE 0477.**

3.2 CEPT 70-03 Recommendation

The RDM BK86 product operates on a harmonised frequency band and therefore, to comply with the standard in force, it must be used, on the time scale, for 10% max. of an hourly duty cycle (corresponding to 6 minutes of use per hour).

NOTE: In view of the construction system, the user is responsible for compliance with this parameter.

3.3 Identification

The product is identified by the product identification number and a seven-digit number (representing the series number and year of manufacture) on the casing.

4. Technical data

Make	TECHNOFASE
Model	BK86-XX
Channels	Selectable, up to 9
Max. RF power	500mW ERP
Frequency stability	+/- 1 KHz
Power supply	5-12V DC
Operating temperature	-20 / 50 °C
Sizes (cylindrical)	290 x 40 mm

4.1 Models available

The models vary according to the frequency band and the antenna power

RDM BK86 Mod. 5A	869.4125 - 869.6375MHz	500mW ERP	¹
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¹⁾ This model can be used in the EU region. Contact the local department of the Office of Communications for further information concerning its use and the limitation.

4.2 Standard radio channels

	BK86-5A 25KHz
CH 1	869.4125 MHz
CH 2	869.4375 MHz
CH 3	869.4625 MHz
CH 4	869.4875 MHz
CH 5	869.5125 MHz
CH 6	869.5375 MHz
CH 7	869.5625 MHz
CH 8	869.5875 MHz
CH 9	869.6125 MHz

4.3 Communication interfaces

RS232	RS232 standard interface Mini DIN 6 F type connection
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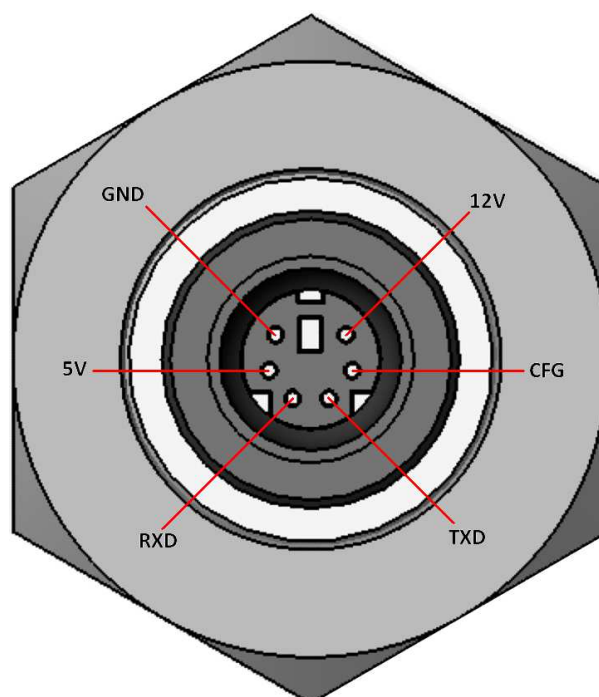
4.4 Power supply

The RDM BK86 transceiver must be run on a very low safety voltage supply protected against short circuits.

Supply voltage:	5 or 8-12V ===
Maximum absorption in Tx:	400 mA
Protection against short circuits:	External
Type:	Fast Fuse 400mA or electronic

4.5 Connections

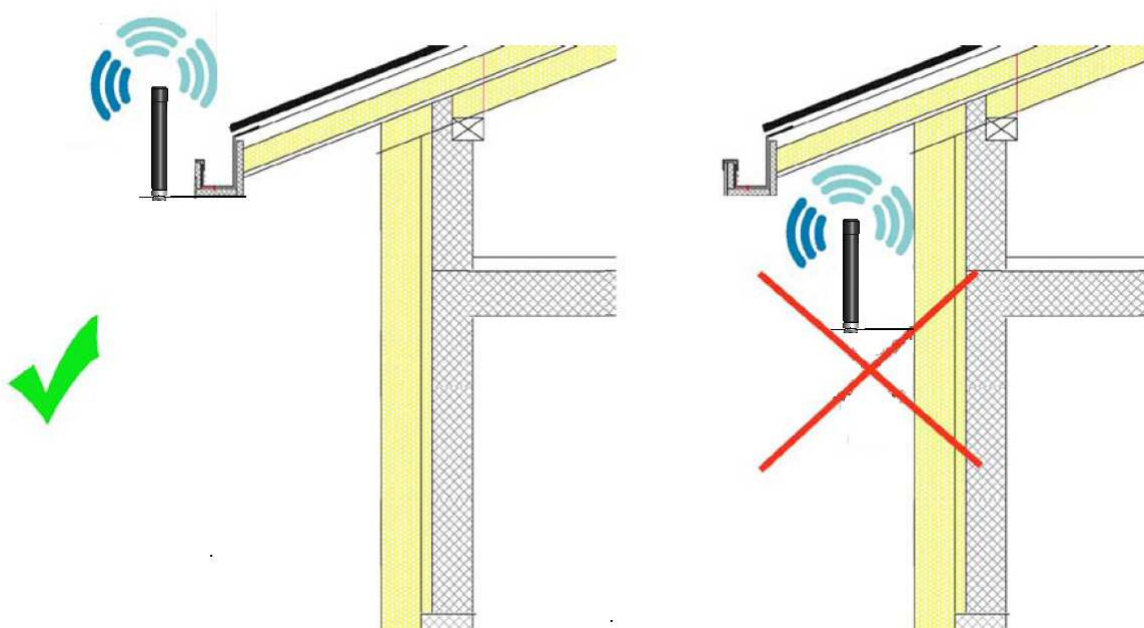
For external connections, a screened cable with a MINIDIN 6 type connector has been provided both for data and for the power supply. All electrical connections are designed for lengths up to a max. of 3m.



5. Assembly specifications

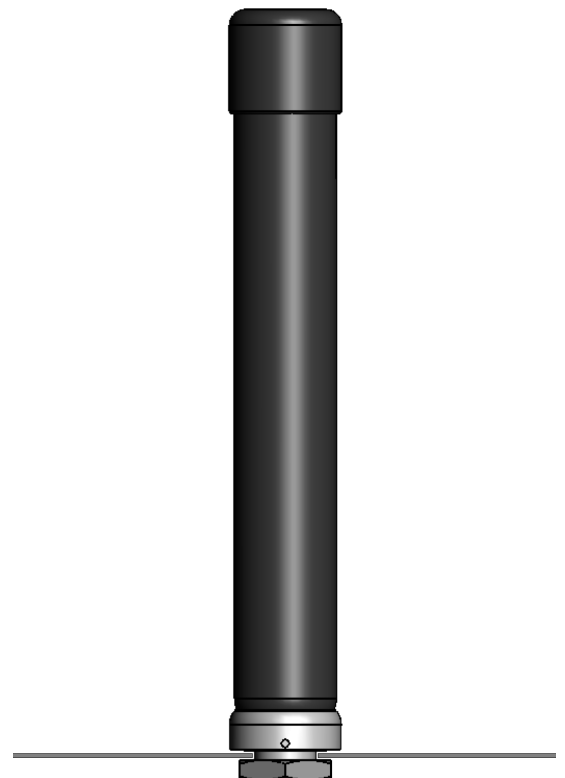
5.1 External assembly

External assembly can be carried out using a support plate with a 24 mm hole in the centre. This plate must then be fixed to a suitable means of support.



5.2 Assembly inside an electrical panel

For assembly inside an electrical panel, a hole 24 mm in diameter must be drilled to allow the antenna to transmit and receive outside. The earthing surface must be at least 10cm x 10cm in size.



8. Product guarantee

8.1 Terms of the guarantee

8.1.1 GUARANTEE AND CONDITIONS

Technofase products are covered by a 1 (ONE) YEAR guarantee from the date of purchase with the exception of the batteries which are covered by a 6 (SIX) MONTH guarantee. During this period Technofase undertakes, at its sole discretion, to repair or replace faulty components with similar or equivalent products or to refund the Customer for the amount paid for the component in the case of faulty material or manufacturing defects. If the label with the series number of a product has been cancelled, tampered with, or partially or completely covered, Technofase reserves the right not to consider such a product under guarantee. The guarantee covers manufacturing faults in the components at the time of purchase and the labour necessary to repair them.

The guarantee is null and void in the event of: improper use of the product, negligence, intentional damage or any problem due to incorrect installation after purchase. The guarantee is of the “on-centre” type, i.e. the customer is only liable for paying the cost of dispatching the faulty product to the repair shop.

8.1.2 DURATION OF THE GUARANTEE FOLLOWING SERVICES UNDER THE GUARANTEE

Any service carried out under the guarantee will not prolong the duration of the guarantee.

8.1.3 RESPONSIBILITY TOWARDS THIRD PARTIES

The buyer will not hold Technofase responsible with regard to any controversy that may arise with the final user as the buyer undertakes to check in advance the appropriateness of the system configuration and of every single component he has purchased. It is expressly understood that Technofase is responsible only towards the first buyer and exclusively within the terms provided for by the guarantee clause.

9.1 Standard concerning disposal



EC-Directive 2002/96 Waste electrical and electronic appliances – RAEE.

This product complies with EU Directive 2002/96/EC.

The symbol of the crossed litter bin appearing on the appliance indicates that at the end of its useful life the product must be disposed of separately from household waste. The user is responsible for taking the appliance to a suitable collection point at the end of its life.

Separate waste collection and subsequent recycling, processing and the eco-friendly disposal of exhausted appliances contribute towards preventing negative effects on the environment and on health and help to recycle the materials of which the product is made. Contact the local waste disposal service or the shop in which the product was purchased for more detailed information concerning the collection systems available.

DICHIARAZIONE DI CONFORMITÀ DECLARATION OF CONFORMITY

TECHNOFASE SRL
VIA GALVANI 23
39100 BOLZANO
ITALY

Il sottoscritto dichiara sotto la propria responsabilità che il prodotto:
Hereby declare under its sole responsibility that the products:

Prodotto: **RDM**
Product:

Modello: **BK86-5A**
Model :

è conforme a tutte le norme tecniche relative al prodotto entro il campo di applicabilità
delle Direttive Comunitarie 99/5/CEE, 2006/95/CE:
*satisfies all the technical regulations applicable to the product within the scope of Council
Directives 99/5/EC and 2006/95/CE:*

ETSI EN 301 489-1 (V.1.6.1 2005) + ETSI EN 301 489-5 (V. 1.3.1 2002)
ETSI EN 300 220-2 (V.2.3.1 2010)
EN 60950-1 (2001) + EN 60950-1/A11 (2004)

Sono state eseguite tutte le necessarie prove di radiofrequenza.
All essential radio test suites have been carried out.

Notified Body 0477

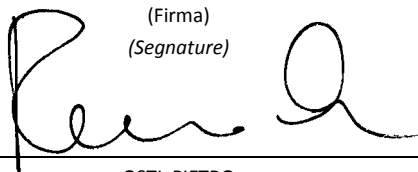
Questa dichiarazione viene emessa sotto la sola responsabilità del costruttore e, se applicabile, del suo
rappresentante autorizzato
*This declaration is issued under the sole responsibility of the manufacturer and, if applicable, his authorised
representative.*

(Luogo, data di emissione)
(Place, date of issue)

BOLZANO, 15.08.2013

Doc: Dichiarazione di conformità RDM BK86
Release of 15.08.2013

(Firma)
(Signature)

A handwritten signature in black ink, appearing to read 'Pietro Osti', written over a horizontal line.

OSTI PIETRO
GENERAL MANAGING DIRECTOR

Manufacturer

RDM BK86 is made by:

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