

RF03 compared to RF02

Introduction

The RF02 internally consists of an RF controller and a small antenna. This controller software uses a communication protocol which has limited flexibility and intelligence to deal with RF disturbances.

The small antenna makes the RF02 small in size, but also limits its sensitivity. It furthermore requires a careful relative positioning of RF modules, which complicates correct installation.

With the RF03 we tackle both of these limitations. The software now uses techniques such as adaptive frequency hopping, smart re-transmissions and forward error control to be more robust in the presence of RF disturbances. We furthermore increased the size of the antenna to increase its sensitivity and link budget.

We accommodate this by increasing the size of the housing which, on the other hand, also ensures that the potential space between the antenna and any surrounding metal is larger compared to the RF02.

As a result, the placement of the RF03 is much less sensitive to installation orientation and used mounting surface.

Visual comparison

RF02



Antenna and mounting bracket

RF03 (antenna module)



Antenna and mounting foam

Tech specs

	RF02	RF03 (2,4GHz)
RF Chip	XBee XBP24-API-001	Bever Innovations EM01
Antenna	Integrated PCB	External 9mm flex antenna. Gain (dBi) 3.0 @ 2.4 GHz
Frequency band	2,4 GHz	2,4 GHz
RF output power	<10 dBm	<10 dBm
Frequency hopping	No, fixed	Yes, adaptive
Error control	No	Yes
Dimensions	40 x 40 x 20 mm	91 x 53 x 51 mm
Ingress Protection	IP65	IP65
Cable length	Integrated, 2m	-

Connection to IC(-U) or SC

	RF02	RF03 (2,4GHz)
Antenna	RF-MOD-2.4GHz- International-IP65-2m	RF-MOD-2.4GHz-gen2- International-IP65-M8
Cable	-	CABLE-M8-4P-PVC-2M- Male_to_Female-angled
PCB connector*	RF-MOD-IC-SC-Cable-2m	RF-MOD-IC-SC-Cable-2m

*The module that connects the RF02 or RF03 to SC or IC(-U) is the same module. To upgrade from RF02 to RF03 only the antenna part must be changed and a connection cable must be added to connect the new antenna to the existing cable.

RF03 accessories / kits

Article	Bevercode	Description
18681	OPT-RF03 for InMo Controller	RF03 option for InMo Controller required for price overlay
18076	OPT-RF03_2,4GHz for SC or IC(-U)	Antenna, Cable and PCB connector To add RF03 option to Sign Controller or IC(-U) or change from RF01 to RF03
18584	REPLACE-RF02-RF03_2,4GHz for SC or IC(-U)	Antenna + 2m cable with 90° angled connector. Needed to change from RF02 to RF03.
17909	RF-MOD-2.4GHz-RF03-International-IP65-M8	Antenna module only (excluding mounting foam and cable). Spare part

RF03 System requirements

The RF03 wireless option works with the same system requirements as the RF02. However, Bever Innovations recommends the following minimum system requirements:

- Sign Controller (SC02) running software version 2.6.6
- Interface Controller (IC(-U)) running software version 1.5.6

RF01 replacement

If the system is upgraded from RF01, article 18076 must be used for both SC and IC(-U) with the above system requirements.