

## Bluetooth Wireless Expansion Module for MAC motors. Type MAC00-FB4



A range of integrated AC servo motors makes JVL a world leader within motion control. The numerous features of these motors include a modular concept that makes it extremely easy to adapt the motors to a very wide range of applications.

This module MAC00-FB4 now makes it possible to use wireless control of the motors, giving total freedom of cables.

The module makes it possible to have a direct Bluetooth connection to the motor. Via the Bluetooth connection, the motor can be set-up and controlled with the same possibilities as offered by a serial connection. Functionality is exactly as with the MAC00-R4 module, but instead of the

serial connector the FB4 module is equipped with an antenna. The module can be programmed via MacTalk. Control is typical from a mobile phone or a PC. On a PC the program MacTalk can be used directly, or commands can be sent from your own program.

The module furthermore has the possibility for connection of a local zero-set sensor. Connection of supply and signals takes place through 3 robust M12 connectors.

The module has a standard antenna plug connection, where the included antenna is connected. Other antennae can be connected if required.

### Applications:

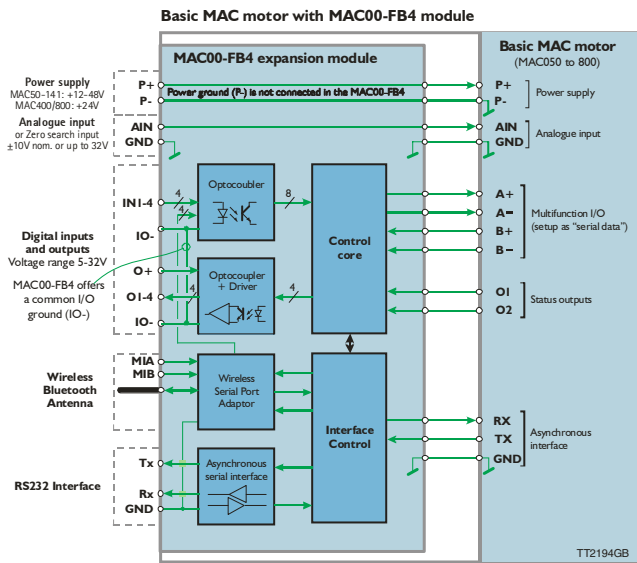
- Positioning of axes.
- Supervising motor.
- Parameter setup.

### Function

- The solution gives full access to all functions and registers in the MAC motor.
- Possible to connect up to 7 modules (Requires a Bluetooth server. E.g. Initium Bluetooth server)
- Baud rates of 19200
- Wireless control of the motor
- 4 In- and 4 Outputs
- Programmable via wireless control with MacTalk



# Block Diagram



# Pin Connections

## "PWR" Power input. M12 – 5 pin male connector

Signal name	Description	Pin no.
P+	Main supply+12-48VDC.	1
P+	Main supply+12-48VDC	2
P-	Main supply ground	3
Unused	Future options	4
P-	Main supply ground	5





## "IO1" Basic I/O's. M12-8pin male connector

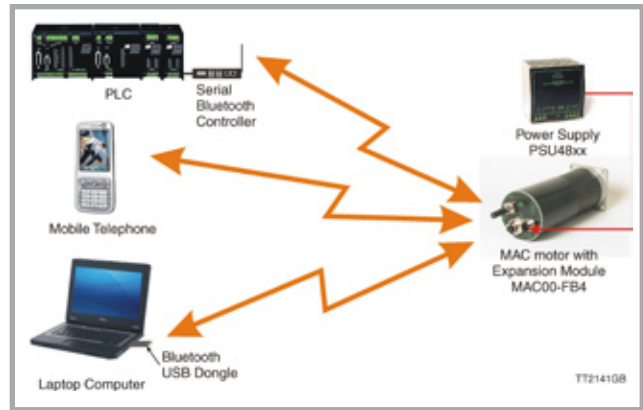
Signal name	Description	Pin no.
IN1	Digital input 1	1
IN2	Digital input 2	2
IN3	Digital input 3	3
IN4	Digital input 4	4
O1	Digital output 1 - PNP output	5
O2	Digital output 2 - PNP output	6
O+	Output supply +5-32VDC. used for O1-4.	7
IO-	I/O ground. Used for IN1-4, MIA, MIB and O1-4	8

## "IO2" - Extended I/O's. M12 – 8pin female connector

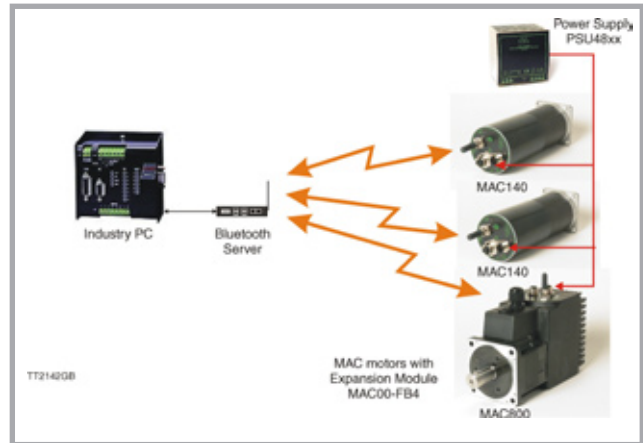
Signal name	Description	Pin no.
MIA	Mirrored input A	1
RS232: Tx	RS232 Transmit	2
RS232: Rx	RS232 Receive	3
MIB	Mirrored input B	4
O3	Digital output 3 - PNP output	5
O4	Digital output 4 - PNP output	6
AIN	Analog input +/-10V (also used for zero search sensor)	7
GND	Ground for AIN. This ground is shared with the main ground	8

# Accessories

-  MA0001: 1/2 wave stub antenna.
-  MA0002: 70mm antenna on 3m cable.
-  MA0004: Antenna, rugged stub.
-  USB-Bluetooth 2.0: USB to wireless Bluetooth 2.0



Examples of communication possibilities with the Bluetooth Expansion module. Note: Only one of the possibilities can communicate at a time.



Communication between an Industry PC and several MAC motors.

# Specifications

- Bluetooth:** Version 2.0 Class1
- Level and Range:** MAC00-FB4-01 +7dBm (10-50m). MAC00-FB4-02 +17dBm (>300m).
- Bluetooth chipset:** Connectblue with Philips chipset BGB203. This product contains a Bluetooth qualified product, QPLN B02599.
- Bluetooth profiles:** Generic Access Profile (GAP), Serial Port Profile (SPP), Dial-up Networking Profile (DVN; GW; DVN DT).
- Baud Rate:** 19200 bits/s.
- Antenna connections:** SMA.
- Starter kit:** MAC00-FBX-Kit. Contains module MAC00-FB4 incl. antenna MA0004, dongle USB-Bluetooth 2.0 and CD with software driver and set-up program.



JVL Industri Elektronik A/S  
 Blokken 42  
 DK-3460 Birkerød, Denmark  
 Tel: +45 4582 4440  
 Fax: +45 4582 5550  
 E-mail: jvl@jvl.dk www.jvl.dk