



# MAN-652-OM2

## BACKUP LITHIUM BATTERY (9V)

0	May 2006	First Issue	A.G.	G.A.
<b>Rev.</b>	<b>Date</b>	<b>DESCRIPTION</b>	<b>Prepared</b>	<b>Approved</b>

**Note:**

Biffi Italia has taken every care in collecting and verifying the documentation contained in this Instruction and Operating Manual.

The information herein contained is reserved property of Biffi Italia.

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## 1 OPTIONAL MODULE 2: BACKUP LITHIUM BATTERY (9V)

### 1.1 MANUFACTURER

Manufacturer with respect to Machinery Directive 98/37 BIFFI ITALIA as specified on the motor label.

### 1.2 BACKUP LITHIUM BATTERY MODULE FUNCTIONALITY

<b>Warning:</b>	Biffi will not accept any responsibility for any damage or deterioration that may be caused due to improper installation of the module.
	

The OM2 BACKUP LITHIUM BATTERY MODULE is supplied as an OPTION on BIFFI F02 actuators.

It is possible to have the actuator already equipped with the OM2, ordering it with the basic feature. Alternatively, it is possible to order the OM2 as a separate kit and install it on the basic actuator in the factory or in the field.

The OM2 module functionality is used to update the remote indications on actuator position (completely open, completely closed, intermediate position) in case of lack of main power supply. No other parts of the circuits or other optional modules are fed by the OM2 module in case of lack of main power supply.

The battery, working in sleep mode to save power, updates the information received from the position sensor every 5 seconds.

When the last position detected changes, the battery feeds the relay coil, and the contact relay for the remote position indication changes its status (from NO to NC or from NC to NO).

The OM2 is provided with a 9V Lithium battery with average duration of maximum 1 year in continuous duty, depending in particular on environmental conditions.

**Warning:**



The standard Lithium Battery has a working temperature range from  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  and storage temperature range from  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$ . Check the “ambient temperature range” specified in the present document, for the correct utilisation with respect to the ambient temperature. Installation in ambient with temperature ranges outside the specified values will invalidate the warranty. Biffi will not accept any responsibility for any damage or deterioration that may be caused due to improper installation of the module.

**Warning:**



F02 actuators must be electrically insulated before all disassembling and reassembling operations. Before any disassembling or reassembling operations, please follow closely the relevant paragraph of the Basic Instruction and Operating Manual MAN 652 (latest revision available).

**Warning:**



The electronic parts of F02 actuators and all the options can be damaged by a discharge of static electricity. Before you start, touch a grounded metal surface to discharge any static electricity.

**Warning:**



It is assumed that the installation, setting, commissioning, maintenance and repair works are carried out by qualified personnel and checked by responsible Specialists.

**Warning:**



Repair work, other than operations outlined in this manual, is strictly reserved to qualified BIFFI ITALIA personnel or authorized by the Company itself.

## 2 INSTALLATION

To assemble the OM2 module onto the F02 actuator, proceed as follows:

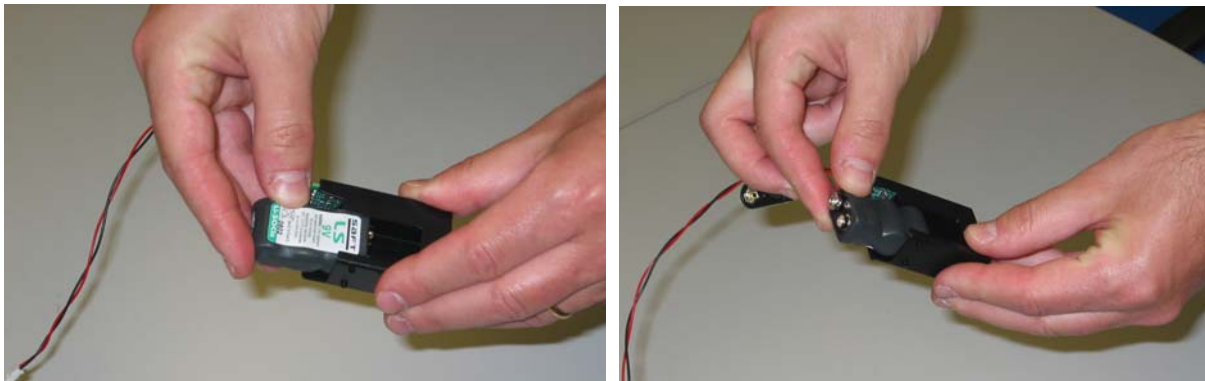
- a. Ensure that all the parts received with the OM2 are available (see Picture 1):



Picture 1: OM2 kit for F02 actuator

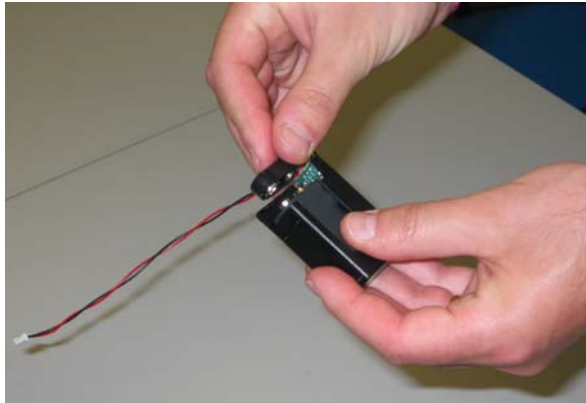
(Please note that the battery is housed with the electrical connections inside the housing, in order to avoid battery switch on). The clip and the 2 screws are only necessary to install the OM2 kit onto models 250/500/1000/2000.

- b. Remove the battery from the housing and fix it in the battery holder in order to connect it easily.



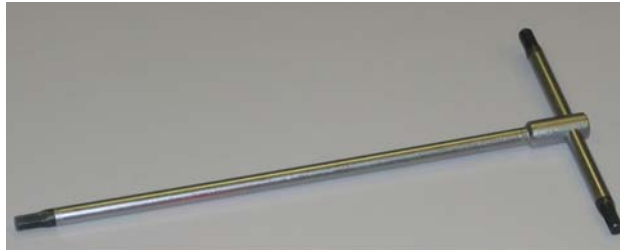
Pictures 2a and 2b: **turning the battery**

c. Connect the battery



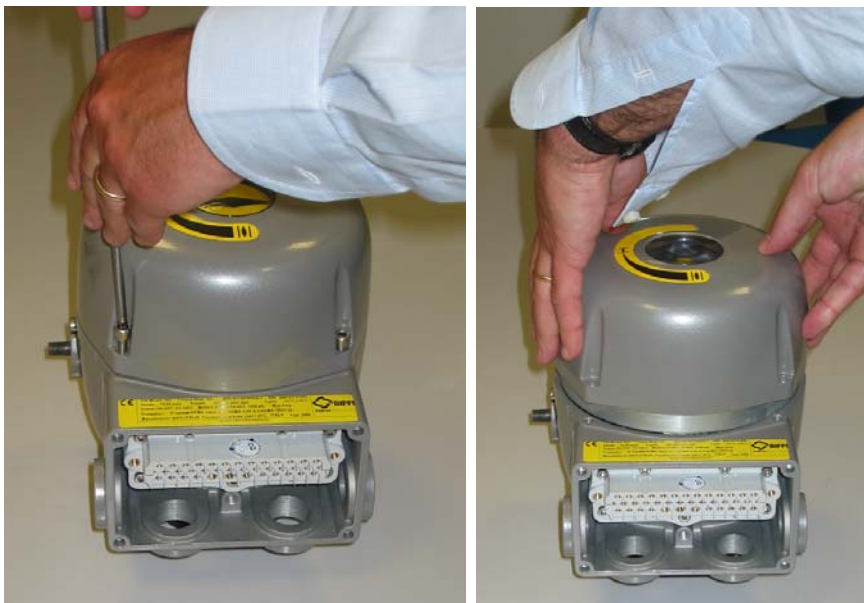
**Picture 3: Connecting the Battery**

d. Gather a 5 mm Allen key (Picture 4) for the installation;



**Picture 4: Tools for installing OM2 kit**

e. Loosen the 4 cover screws and remove the actuator enclosure (see Pictures 5 and 6).



**Pictures 5a and 5b: Removing F02 Actuator Enclosure**

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Picture 6: Actuator Cover and Screws



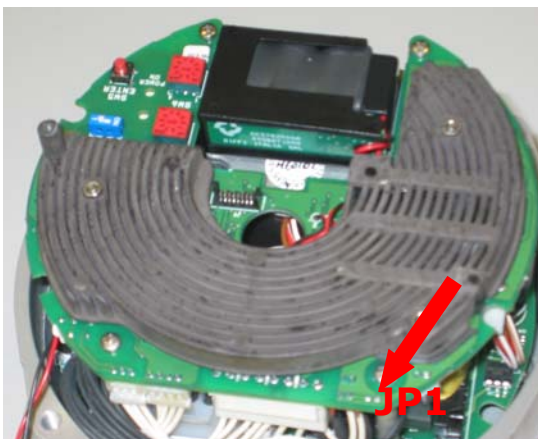
Picture 7: Actuator inside

### Warning:



Pay attention not to damage the joint surfaces of the cover and the cover gasket.

- f. Remove the yellow indicator shaft.
- g. Weld the two pins JP1 (when present) highlighted in the following picture:



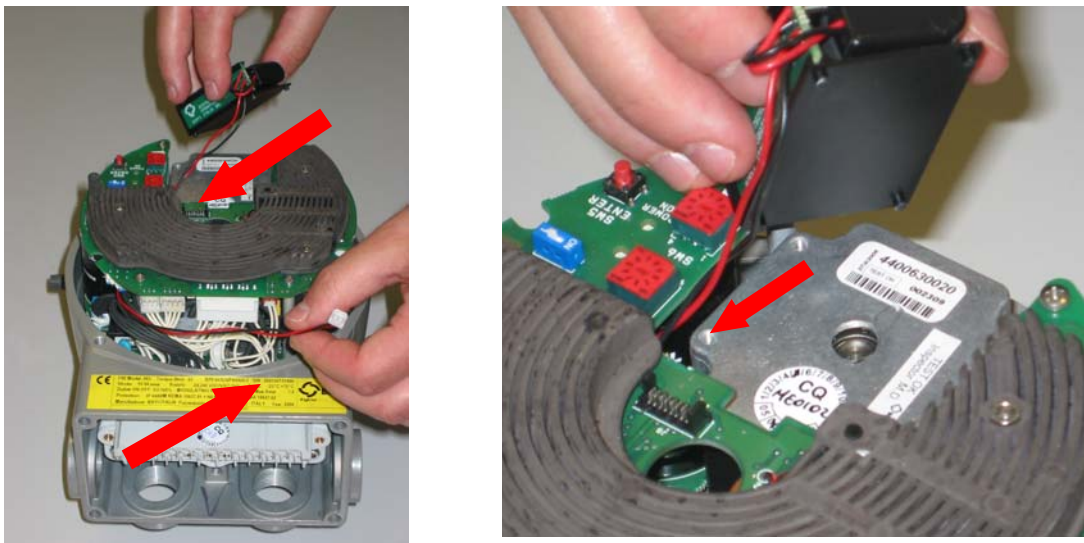
Pictures 8a and 8b: JP1 pins welding

h. Place the battery holder onto the actuator:

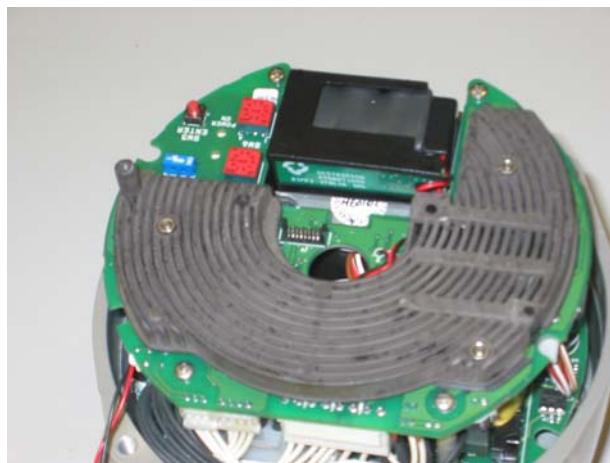
Procedure for F02 models 063/125 models: insert the 4 pins (on the battery holder) in the 4 holes on the actuator motor (one of them is pointed out by a red arrow in Picture 9b), and press so as to fix it onto the motor.

The connecting cable must pass below the actuator electronic card (see Picture 9a), in order to lead the connector near to its attachment on the electronic card, in front of the F02 actuator.

Picture 10 shows the battery holder assembled onto the F02 motor.



**Pictures 9a and 9b: Fixing the Battery Holder onto the F02 Actuator(063/125 models)**



**Picture 10: Battery Holder Fixed onto the Actuator**

Procedure for the F02 250/500/1000/2000 models: insert the 4 pins (on the battery holder) in the 4 holes on the heat exchanger (see Picture 11), in order to correctly position the battery holder (see Picture 12). Fix the clip onto the heat exchanger with the 2 screws supplied in the kit, as shown in Picture 13.

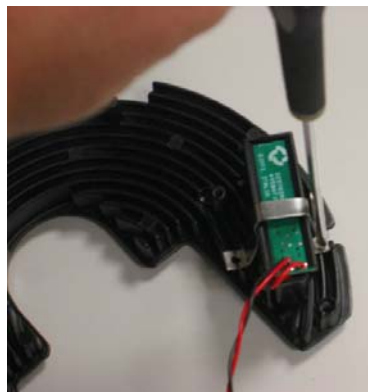




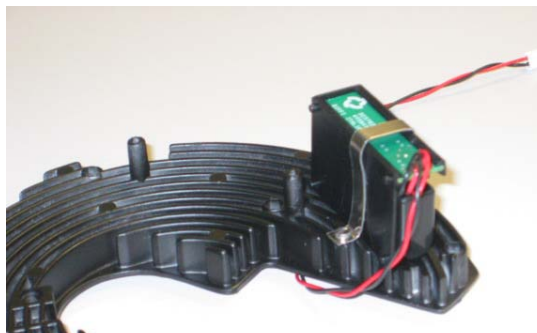
**Picture 11: Position of the battery housing on the Actuator's heat exchanger**



**Picture 12: Positioning of the Battery Holder onto the heat exchanger**



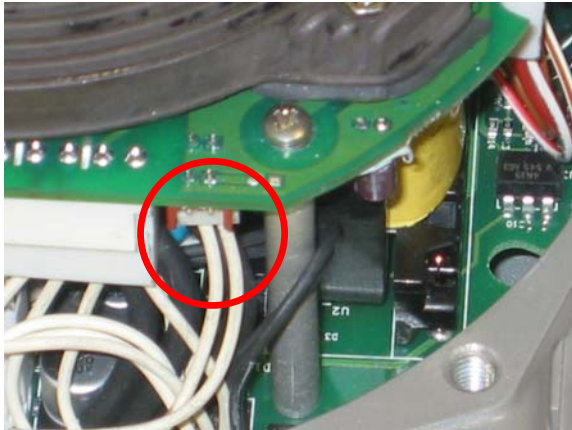
**Picture 13: Screwing of the battery holder clip**



**Picture 14: Battery Holder Fixed onto the F02 (250/500/1000/2000)**

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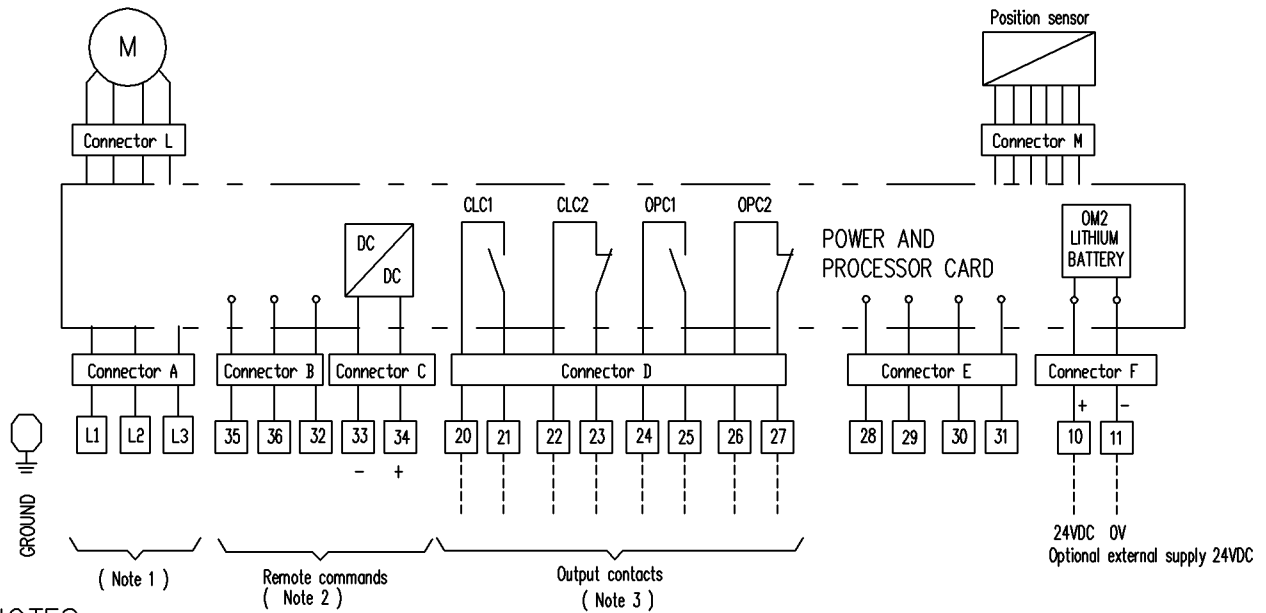
- i. Connect the connecting cable to connector J5 positioned in the lower side of the electronic card. The LITHIUM battery is now installed onto the F02 actuator.



**Pictures 15a and 15b: Fixing the Battery Holder onto the F02 Actuator**

- j. Re-assemble the Indicator Shaft and the Enclosure Cover.
- k. The installation of the OM2 backup LITHIUM battery module onto the F02 actuator is now complete.
- l. Switch off and then on the actuator in order to reset the logic card.

### 3 OM2 WIRING DIAGRAM



NOTES :

- 1) Connection L1–L2 FOR VDC or VAC single phase motor supply from 24 to 240 Volt  
Connection L1–L2–L3 for 3 phase motor supply from 208 to 575V ( Check on the actuator label the correct voltage to be applied.)



**tyco** *flow control*

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