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 **ravioli** SpA



Industrial Radio Remote Controls type JOYsys

Joystick radio remote control Type JOYsys and JOYplus

Main features

The JOYsys range of radio remote controls has been designed to satisfy different operating requirements in various fields.

The transmitter, available with 2 joysticks - 1 or 2 axis - can be used to move a large number of machines.

Many functions have been included and can be activated directly by the transmitter, in order to increase versatility of the different models.

The working frequency, passive emergency time and battery saver application can therefore be modified.

A space has been provided on the transmitter, to enable the installation of additional commands, available on request, such as push-button and selectors which can be used for accessory functions.

The receiver is available in 20 relay version, with a.c. and d.c. power supply.

The dip-switches on the receiver allow a series of special, programmable functions to be set up, ensuring maximum flexibility of installation.

The completely modular composition of the product facilitates rapid replacement of components by Ravioli after sales service team.



Reliability

All the JOYsys electronic components undergo sophisticated operating tests carried out in our laboratories.

The devices are tested for shock and chemical resistance, atmospheric agents and temperature changes.

After-sales service

Buying a JOYsys radio remote control device means having at your disposal a high technology, quality product as well as being able to rely on the RAVIOLI after-sales service network, covering most of Italy and numerous European countries.

The staff in our after-sales service network have been trained directly by RAVIOLI and constantly attend technical up-dating courses.

The network centres also have spare parts on stock in order to carry out rapid repairs on our radio remote controls.

Assembly and Maintenance

Kindly refer to the USER'S MANUAL provided with all our devices.

Applications

Tower cranes, bridge cranes, jib cranes, derricks, winches, hoists, road rescue services and automated industrial machinery in general.

The range
of radio remote controls
is completed by:



See catalogues 2 / 2.1 / 2.2

Joystick radio remote control Type JOY_{plus} two-way version

Main features

The JOY_{plus} radio remote control is the two-way version, by which the transmitter unit can receive feedback from the radio commanded machine.

The transmitter with 2 joysticks - 1 or 2 axis - are equipped with an LCD display with 24 alpha-numeric characters and a number of icon symbols.

Immediate information regarding weight, distance, working conditions, errors, etc. can therefore be easily shown on the display.

If the operating machine is provided with an intelligent serial connection, the type and quantity of feedback are virtually unlimited.

In this case the message construction is governed directly by the machine, using a number of simple software functions.

If no serial interface is available, a series of OFF/ON inputs is provided in any case, which can be used to visualise specific messages pre-set into the device.



JOY_{sys} Types and Codes

- L JOY 32 3 axis JOY_{sys} radio control, 2 aux
Kit: 1Tx, 1Rx, 1Cb, 2Pb, Technical Sheets
- L JOY 35 3 axis JOY_{sys} radio control, 5 aux
Kit: 1Tx, 1Rx, 1Cb, 2Pb, Technical Sheets
- L JOY 42 4 axis JOY_{sys} radio control, 2 aux
Kit: 1Tx, 1Rx, 1Cb, 2Pb, Technical sheets
- L JOY 45 4 axis JOY_{sys} radio control, 5 aux
Kit: 1Tx, 1Rx, 1Cb, 2Pb, Technical sheets

JOY_{plus} Types and Codes

- L JOY 32 PLUS 3 axis JOY_{plus} radio control 2 aux
Kit: 1Tx, 1Rx, 1Cb, 2Pb, Technical Sheets
- L JOY 42 PLUS 4 axis JOY_{plus} radio control 2 aux
Kit: 1Tx, 1Rx, 1Cb, 2Pb, Technical sheets



For Your Safety

Safety has always been a priority at RAVIOLI, and that is why all our radio remote controls are designed with redundant signals and double control channels.

The receiver operates using a double microprocessor circuit. In addition to receiving the commands from the transmitter, each of the two microprocessors carries out a continuous check on the functioning of the other.

The exit circuit is provided with two self-checking safety relays for the STOP function.

This equipment offers a higher degree of safety than that available on other systems using a single micro-processor.

In addition, a 48 bit identifying code key feature offers a unique communication system operating between the transmitter and its designated receiver.

Guaranteed Quality Product

JOY_{sys} radio remote controls are guaranteed under our CE Certificate of Conformity, in which we state that the product has been manufactured by RAVIOLI in accordance with specific and recognised Safety Standards and in compliance with the Quality Standards indicated in our ISO 9001:2000 Quality System Certificate.

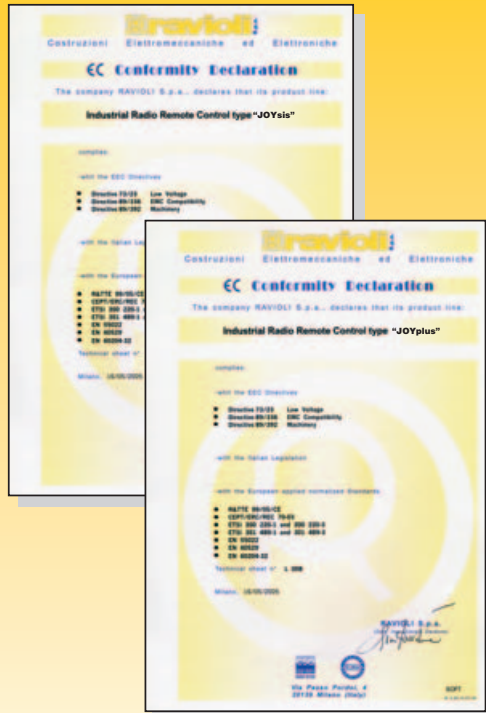
Compliance with Directives

JOY_{sys} radio remote controls:

Are CE marked

Comply with directives R&TTE 99/05 - 89/336/CE - 73/23/CE

Show the Identification Number 0678



TECHNICAL DATA

GENERAL

Operating frequency	433.05 ÷ 434.79 MHz
Distance of Hamming	6
Probability of wrong manoeuvre	4.7 x 10 ⁻¹¹
Programmable codes of address	with 48 bit key
Command response time	65 mS
Active emergency response time	65 mS
Passive emergency response time	< 1.6 S
Operating range	80 m
Working temperature range	-10C° ÷ +55C°
Protection degree	IP65

TRANSMITTER

R. F. Power	10 mW ERP
Power supply	3.6 Vdc
Power consumption	65 mA max
Accumulators	NiMh battery pack model NH650
Continuous operating autonomy	8 hours min.
Case	nylon-glass
Size	see page n. 5
Weight with batteries	1,1 kg aprox.

RECEIVER

Sensitivity	-110 dBm
Antenna	inside
AC power supply	48V 50-60Hz 5VA
DC power supply	12V 5W
Command relay range	8A/4A 250V~
Case	ABS
Size	See page n. 5
Weight	1,9 kg aprox.



Dimensions

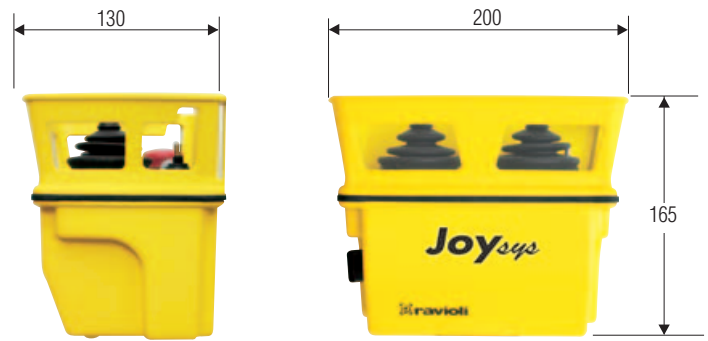
Transmitter

The lightweight transmitter, made of special, shock-proof material, features 2 joysticks - 1 or 2 axis for 4 positions and a special series of push buttons or levers for auxiliary commands.

Thanks to its ergonomic shape, it can be operated very easily.

In order to ensure maximum versatility of use, the radio remote control can be personalised with special executions and appropriate labels.

Emergency STOP button, produced and certified according to EN954-1 Standards has been installed to ensure maximum safety during operation.



Receiver

The water-tight receiver with incorporated antenna comes with a handle which can also be wall-mounted, allowing a quick removal after use without any need of tools.

Although the size is very small, the receiver is provided with a removable terminal board which allows an easy and fast cabling.

Thanks to a self-checking system, all the operating phases of the radio remote control, like setup, are shown and readable through 8 leds.



Battery charger and batteries

The CB500 rapid battery charger enables total re-charging of batteries in 4÷5 hours.

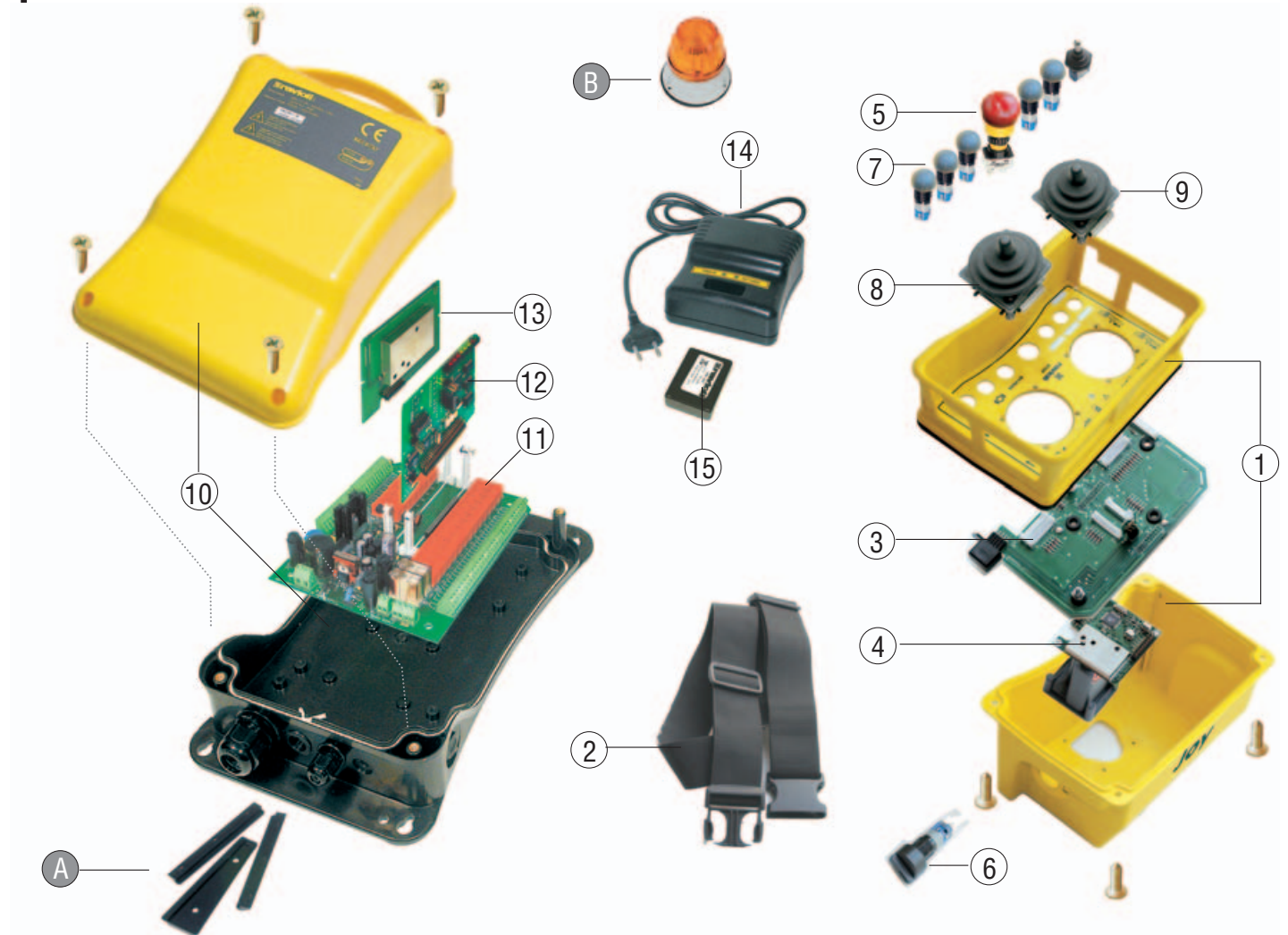
The NH650 nickel/metal-hydrate battery pack guarantees 8 hours autonomy on continuous duty of the device.

The complete recharging and the automatical switching off of the battery charger are shown through a led.

Every radio remote control device is provided with 2 batteries and a battery charger.



Spare Parts and Accessories



Spare Parts

Transmitter

Pos.	Code	Description
1	L J043144 L J043145	Joy ^{sys} kit: Case + Rubber gasket string Joy ^{plus} kit: Case + Rubber gasket string
2	L DU42930	Belt
3	L J043146	Radio - Joystick interface card
4	L SO43046 L SO43072	Joy ^{sys} receiver logic card Joy ^{plus} receiver logic card
5	L SO43040	Complete mushroom emergency button
6	L MI42908	Complete selector key
7	L DU42923	Kit 2 buttons
8	L J043134	Joystick 1 axis 4 pos.
9	L J043133	Joystick 2 axis 4 pos.

Spare Parts

Receiver and battery charger

Pos.	Code	Description
10	L SO43043	Complete receiver box
11	L SO43044	Receiver base card
12	L SO43056 L SO43073	Joy ^{sys} receiver logic card Joy ^{plus} receiver logic card
13	L SO43047 L SO43074	Joy ^{sys} radio module Joy ^{plus} radio module
14	L SO-CB500	CB 500 Battery charger
15	L SO-NH650	NH 650 Battery pack

Accessories

A	L AZ43061	Fixing kit for receiver box
B	L AZLAMP	Alarm Lamp