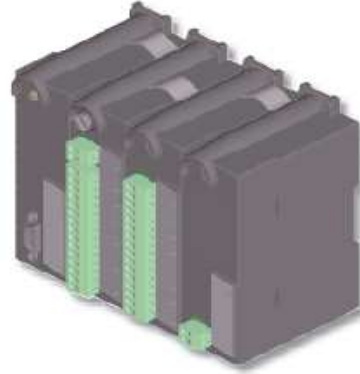




**İMAJ TEKNİK**  
ELEKTRİK ELEKTRONİK MALZ. SAN. VE TİC. LTD. ŞTİ



# BRAVO



Radio remote controls require no wiring between the control station and the machine, and thus give the operator freedom of movement within their range. This optimizes the control and accuracy of operations, limiting the risk of accidents and increasing productivity and efficiency.

Bravo is a radio remote control system for industrial machines, composed of a control station and a modular actuating unit that is directly connected to the machine to be controlled. Due to the modular construction of the actuating unit, Bravo can easily be adapted to meet different needs, depending on the type and characteristics of the machine.

The control station transmits the control signals from the machine to the actuating unit, which enables the associated functions via the relays.

The actuating unit is designed for easy installation inside an electrical panel by means of an Omega bar (DIN EN 50022). However, the radio remote control can also be installed inside an outdoor box (IP55), so that it can be used on any type of machine.

Bravo features a high degree of customisation, so that it can easily adapt to special devices that deviate from the standard available on the market.

The distinctive innovations of the radio remote control are the results of over 4 years of study and research by our mechanical, electronic and computer engineers, involving the science of materials, the most advanced technology for numerical simulation and the new electronic technologies.

This process has resulted in a control station featuring very high resistance and endurance in the heavy duty industrial environment.

The peculiar design of the product ensures great ergonomics and excellent protection against accidental impact to the normally exposed parts.

The accumulators, batteries and battery charger are standard parts easy to find on the market.

**BRAVO RADIO REMOTE CONTROL**



The Bravo project has been developed using the most modern signal processing technologies, integrating the hardware components as to reduce their number, and making extensive use of elements dynamically programmable by the system. The result is an extremely versatile system, capable of adapting simply and rapidly to different uses, so that the installer and user only have to deal with the basic installation and use operations. The countless technological innovations of the Bravo system are absolutely transparent and the advantages are evident, while no complex activating and programming procedures are required. The few settings that have to be made are those required to customise the radio remote control and they are carried out in a simple and intuitive way, without need for special programming knowledge. You only need to know what the radio remote control is supposed to do: the Bravo Interface programming software will guide the installer simply through the necessary settings, automatically adjusting all the technological resources that Bravo incorporates.

## FEATURES

- Reliability and safety in any working environment even under extreme climatic conditions.
- Several radio remote controls can be used in the same work area with no problems of interference and/or failures thanks to the automatic search of the best channel of communication and to the unique coding of each radio remote control.
- Very simple installation with no need of substantial modifications to the existing wiring on the machine.
- Two-way communication between control station and actuating unit for a complete information exchange between operator and machine.
- Availability of control station password to prevent its use by unauthorized personnel.
- High security control transmission, immune from interferences and with continuous self-diagnosis.
- Extensive customisation of the system operating modes.
- Visual programming mode via serial cable or Radio Interface (available on request).
- 7 setting levels of the range of action.

## FEATURES OF THE CONTROL STATION

- Control station available with 4, 6, 8, 10 or 12 buttons, stop pushbutton or mushroom pushbutton, and Start or Start/Alarm pushbutton. Furthermore, it is possible to assemble up to two selector switches.
- Enclosure in shockproof plastic material suitable for use in industrial environments and under extreme climatic conditions.
- Large double-speed pushbuttons, easy to use and with high tactile sensitivity.
- Easily removable, long-lasting standard batteries (4 x AAA).
- Visual signalling of low batteries.
- Customisation of controls through multiple-position selector switches.
- Upper enclosure made of plastic material protecting against oils, acids, solvents and gasoline.
- Integrated pushbuttons ensuring superior duration and perfect tightness against liquids and dust.
- Sealed battery cover.
- High capacity Ni-Mh batteries, immune from "charge memory"; in case of emergency, non-rechargeable AAA standard penlight batteries available on the market can be used.

## ACCESSORIES

	Standard	Optional
External antenna for actuating unit	X	
Battery charger	X	
Software - Bravo Interface Professional		X
Radio Interface connecting cables		X

## TECHNICAL SPECIFICATIONS

Conformity to Community Directives	98/37/CE 1999/5/CE 2004/108/CE 2006/95/CE
Conformity to Standards	EN 300 220-1 EN 300 220-3 EN 300 330-1 EN 300 330-2 EN 301 489-1 EN 301 489-3 EN 60204-32 EN 60529 EN 60950 EN 61000-6-2 EN 61000-6-4 EN 954-1
Operating temperature	-25°C +70°C
Radio transmission	FM FSK
Transmission mode	Dual Way Half Duplex
Number of channels	12 (automatic selection)
Duty cycle	< 10%
Addresses available	> 16x10 <sup>4</sup>
Hamming distance	8
Transmission power	< 10 mW
Max. range of action	200 m
Operating band	433.05 MHz - 434.75 MHz
Max. number of relays	62
Power supply (actuating unit)	12-24 V AC/DC / 48 Vac / 110-220 Vac
Control response time	40 ms
Active emergency response delay	40 ms
Passive emergency time	500 ms
Programming connections	RS 232
Category	3 EN 954-1 4 EN 954-1 for STOP function

## TECHNICAL SPECIFICATIONS OF THE CONTROL STATION

Protection degree	IP 65
Weight with batteries	0.42 kg
Antenna	Internal
Key	Transponder
Buttons	8 x 2 speeds (max.) - programmables
Selector switches	2 x 1-0-2 (max.) - programmables
Max. number of simultaneous controls	40
Batteries	4 AAA Ni-MH 1.2V - rechargeable
Battery life	40 h
Programming connections	Radio

## TECHNICAL SPECIFICATIONS OF THE ACTUATING UNIT

Protection degree	IP 20 (when inside the electrical panel) IP 55 (when inside an optional box)
Antenna	External
Modules	Radio module Standard Control module Expansion Control module Power Supply module
Installation	Omega bar DIN EN 50022 (for electrical panel)
Max. number of control modules	8
Programming connections	RS232



# BRAVO RADIO REMOTE CONTROL

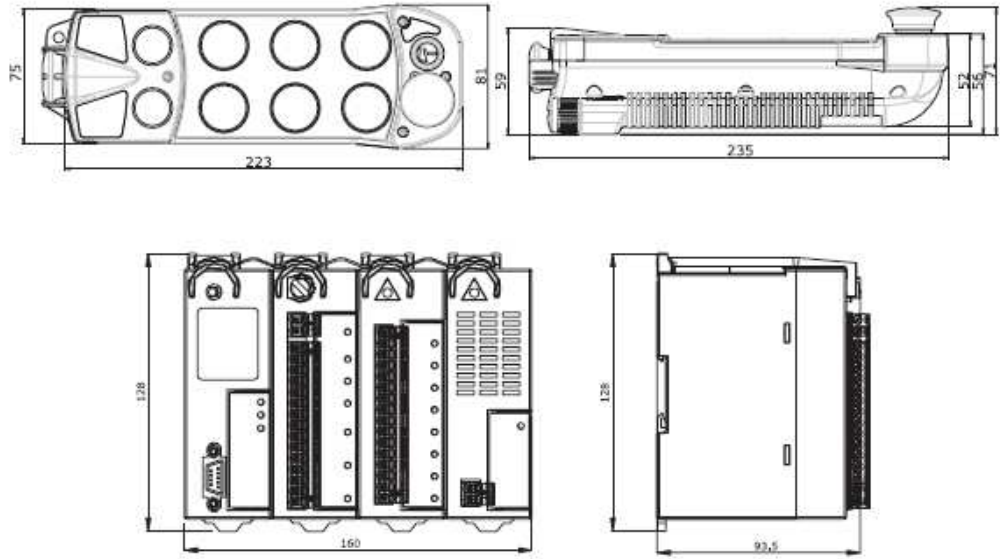
## SPECIFICATIONS OF THE SOFTWARE

Computer	Personal Computer W98/ME/2K/XP
Software	Bravo Interface Professional (optional)
Programming	Visual programming
Connections	RS 232
Settings	Automatic switching-off Password Range of action (7 levels) Key security level Match between actuators and relays

## TECHNICAL SPECIFICATIONS OF THE RELAYS

Start/Stop relays (2 relays)	6A 250V~
1no control relay	10A 250V~
1no/1nc control relay	10A 250V~

## OVERALL DIMENSIONS



adresimiz  
değiştirdi

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