

## Safety

Autec designs and manufactures certified industrial radio remote controls whose safety level meets the strictest standards. All of the radio remote control design criteria (functional, electrical, environmental, radio) meet the current state of the art.

For the customer, the use of certified radio remote controls is a guarantee that safety, quality and reliability have been tested and checked by a competent, recognised and independent third party.

Radio frequency communication is made via a "proprietary Autec system", certified and suitable for "Safety Critical" applications. Each radio remote control uses a code that is unique (different from all the others) and univocal (not reproducible).

## Reliability

All the electronic and mechanical parts are designed, manufactured and tested to resist heavy duty usage in extreme working conditions: temperatures from -20°C to +55°C/+70°C, shocks and vibrations, chemical exposure (i.e. oils, varnishes and diluents), electromagnetic disturbance, dust and water (IP65).

100% of our radio remote controls are subject to functional tests in climatic chambers, carried out with testing instruments that ensure that construction specifications are respected.



DIMENSIONS  
202x381x91 mm

WEIGHT  
max. 3.5 kg

Type B



DIMENSIONS  
(160+72)x110x75 mm

WEIGHT  
max. 900 g

Type C



DIMENSIONS  
180x230x95 mm

WEIGHT  
max. 2.6 kg

Type D

Receiving units: AC and DC (type B and D) power supply, with cable gland output or optionally with 16, 24, 32 (compact size) and 40 pole plugs; excellent internal accessibility to ease wiring and maintenance. The "Data Feedback" models are available with DIN rail receiver suitable for panel mounting.

## Technical data

General	
Frequency band	433-434 MHz (32 channels) / 869.7 - 870 MHz (12 channels) / 915 MHz (32 channels)
ACS frequency band	863-870 MHz (256 channels)
Hamming distance	≥ 8
Typical operating range	100 m
Safety category for the Stop protection (EN ISO 13849-1)	PL d / cat. 3
Safety category for the protection against unintended movements from standstill UMFS (EN ISO 13849-1)	PL c / cat. 3
Number of available on/off commands	MK: max. 28 + Start and Stop; MJ: max. 20 + Start and Stop
Command response time	~ 100 ms
Stop command response time	~ 100 ms
Transmitting unit	
Power supply	7.2V - 750 mAh (NiMH battery)
Autonomy with fully charged battery (continuous use at 20°C)	15 hours
Autonomy with fully charged battery (continuous use at 20°C) - Data Feedback	8 hours (12 hours with ACS)
Operating and storage temperature	(-20°C)-(+55°C) / (-40°C)-(+70°C)
Low battery warning time	3.5 minutes
Protection degree	IP65
Receiving unit B	
Power supply	24/48/55/110/230 Vac ± 20% - 12/24 Vdc ± 25%
Antenna	integrated or dedicated
Operating and storage temperature	(-20°C)-(+70°C) / (-40°C)-(+70°C)
Protection degree	IP65
Receiving unit C	
Power supply	10-30 Vac/dc
Antenna	dedicated
Operating and storage temperature	(-20°C)-(+70°C) / (-40°C)-(+70°C)
Protection degree	IP20
Mounting	DIN rail EN 60715
Receiving unit D	
Power supply	25/35/50/110/230 Vac ± 20%
Antenna	dedicated
Operating and storage temperature	(-20°C)-(+70°C) / (-40°C)-(+70°C)
Protection degree	IP65
Data Feedback transmitter	
Compatibility	serial protocol RS232 - RS485
Digital input for signals/alarms	max. 16

Products comply with the R&TTE Directive (99/05/EC), the LVD Directive (2006/95/EC) and the Machinery Directive (2006/42/EC), as applicable



# MJ joystick controllers and MK pushbutton handsets

MODULAR  
SERIES



Autec remote control systems keep your people safe in challenging environments

**autec**  
safety remote control

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Cert. UNI EN ISO 9001:2008 No. 50 100 2877 - Rev. 03  
Design, manufacture and service of remote control systems for safety industrial application



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MODULAR DEPLIANT ENG\_5\_06/12

**autec**  
safety remote control

*Proven protection for your people*

## Modular, Fail Safe radio remote controls

MK pushbutton handsets and MJ joystick controllers are "Fail Safe": their safety functions are always available, even in the event of radio remote control failure. The neutral position of movement actuators is controlled by the **SNP (Safe Neutral Position) safety system** which prevents dangerous situations caused by their breakage; this means that, in the event of a failure, no unintended movement is carried out and the pushbutton's or joystick's release always results in the interruption of the operation. The Stop function is protected against single failure. The system fully meets the protection requirements of EN 60204-32 and EN 13557, as established for lifting devices.

The "Data Feedback" function allows to receive and visualise on the display and/or LEDs data coming from the sensors installed on the controlled machine (load cells, anemometers, PLC, limit switch, alarms). Texts, measurements and graphic icons can be displayed (dimensions 20x38 mm).



## ACS function (Automatic Channel Search)



ACS (Automatic Channel Search) electronics is a cutting-edge radio technology available for remote controls of the Modular series. It works in a very easy way: when powering the transmitting unit, it chooses a free working frequency. If radio interference occurs during normal operation, the radio communication automatically moves to a free channel, while operation is not interrupted.

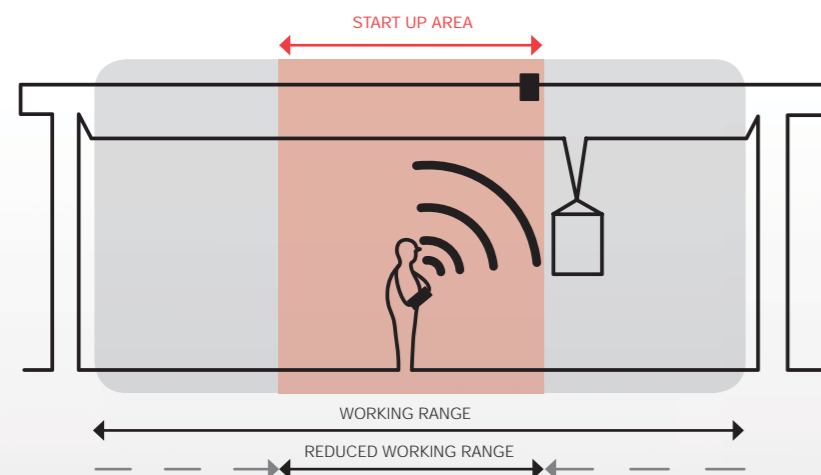
Advantages:

- safety: continuous radio link, control over the machine is constant;
- simplicity: no need to remember frequency change procedures; no need to plan frequency usage;
- reliability: high resistance to interference;
- new European standard: wider radio spectrum (up to 256 available frequencies).

## Range Limiting and Low Power functions

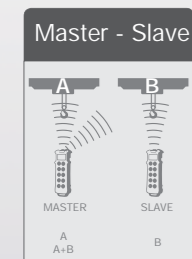
The Range Limiting function allows to limit the area within which the transmitting unit can start up the system. The Low Power function enables transmission at a reduced power. By enabling the two functions at the same time, it is also possible to reduce the radio remote control working range.

Such functions are available in radio remote controls with ACS technology.

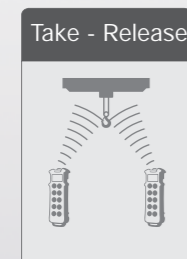


## Multiple systems

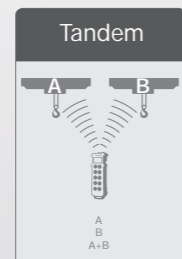
These radio remote controls share the control of more than a machine through an Autec safety system.



Used to control two machines simultaneously or individually with the Master transmitter; another transmitting unit, called Slave, can only control the second machine.



It is used when the transfer of the transmitting unit between two different working positions is difficult; the system consists therefore of two transmitting units and one receiver.



Used whenever two machines are operated independently and coupled (A, B, A+B) by the same user; it consists of one transmitting unit and two receivers.



## Gallery

**Transmitting units:** pushbutton handsets with 10/12 main pushbuttons and the option to add up to 4 different actuators (pushbuttons, toggle switches, rotary and removable key switches). The automatic frequency change can be easily carried out from the transmitter. Housing is resistant and waterproof (protection degree IP65, fall test from more than 150 cm). 2 NiMH batteries and a battery charger are supplied.



## Gallery

**Transmitting units:** available with 12 to 20 main commands, plus Start and Stop; the command legends can be customised, even with the customer's logo (upon request); the MJ 02-DF model, "Data Feedback", displays the data coming from the machine on the backlit LCD or LED array (special pushbuttons for setting and scrolling); frequency change quick and easily performed. 2 NiMH batteries and a battery charger are supplied.

