

## Technical data



General	
Frequency band	433-434 MHz (32 chan.) / 869.7-870 MHz (12 chan.) / 915 MHz
ACS frequency band	863-870 MHz (256 channels)
Hamming distance	≥ 8
Typical operating range	100 m
Stop safety category	category 3 EN 954-1
Safety category for the protection against unintended movements of the actuators from their resting position	category 3 EN 954-1
Number of available on/off commands	max. 20 + Start and Stop
Command response time	~ 100 ms
Stop command response time	~ 100 ms
Channel spacing	25 kHz
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)
Transmitting unit RF power	<10 mW ERP (433 MHz) / <5 mW ERP (870 MHz) / compliant with FCC part 15 (915 MHz)
Transmitting unit RF power with ACS	<25 mW ERP (870 MHz)
Low battery warning time	3.5 minutes
Protection degree	IP65
Housing material	PA6 (20% fg)
Receiving Unit B	
Power supply	24/48/55/110/230 Vac ± 20% - 12/24 Vdc ± 25%
Antenna	integrated or dedicated
Stop/Safety contact rating	4A (250 Vac) / 10A (30 Vdc)
Command contact rating	10A (250 Vac) / 10A (30 Vdc)
Operating and storage temperature	(-20°C)-(+70°C) / (-40°C)-(+70°C)
Protection degree	IP65
Housing material	PA6 (20% fg)
Receiving unit C	
Power supply	10-30 Vac/dc
Antenna	dedicated
Stop/Safety contact rating	4A (250 Vac)
Command contact rating	4A (250 Vac)
Operating and storage temperature	(-20°C)-(+70°C) / (-40°C)-(+70°C)
Protection degree	IP20
Housing material	Blend PC/ABS
Mounting	DIN rail EN 60715
Receiving unit D	
Power supply	25/35/50/110/230 Vac ± 20%
Antenna	dedicated
Stop/Safety contact rating	4A (250 Vac)
Command contact rating	6A (250 Vac)
Operating and storage temperature	(-20°C)-(+70°C) / (-40°C)-(+70°C)
Protection degree	IP65
Housing material	PA6 (20% fg)
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 (98/37/EEC), as applicable



**autec**  
safety remote control



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# joystick controller



**autec**  
safety remote control

MODULAR MJ DEPLIANT ENG 2\_11/08

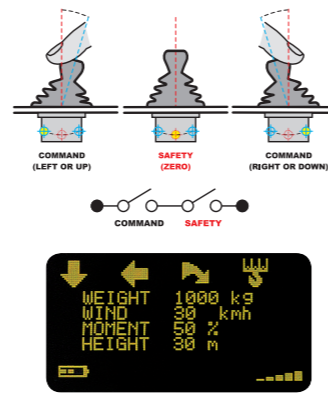


## MJ, Fail Safe radio remote control

The MJ joystick controller is "Fail Safe": its safety functions are always available, even in the event of radio remote control failure. The standstill position of the movement actuators is controlled by the SNP (Safe Neutral Position) safety system which prevents possible dangerous situations caused by their breakage; this means that, in the event of a failure, no unintended movement is made and the release of the joystick 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)



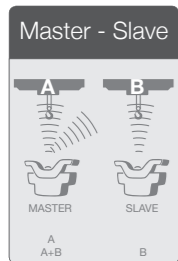
ACS (Automatic Channel Search) electronics is a cutting-edge radio technology available for remote controls of the Modular series. It works in a very easy way: when powering the transmitting unit, it chooses a free working frequency. While using the radio remote control, communication automatically moves to a free channel if radio interference occurs, 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).

## Multiple systems

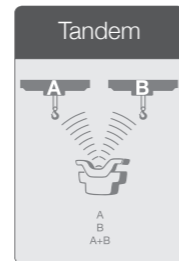
These radio remote controls share the control of more than a machine through an Autec safety system.



It is used to control two machines simultaneously or individually with the Master transmitter; another transmitter, called Slave, is also supplied, to control just the second machine.



Two transmitting units control one receiving unit. Control is transferred from one transmitter to the other to prevent simultaneous operation and when the passage from one to the other is not easy.



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 | Versions with 12 to 20 main commands plus Start and Stop are available; customizable panel serigraph, even with customer logo (on demand); MJ 02-DF "Data Feedback" model shows data collected on the machine on the back-lit LCD display or through the LEDs (special pushbuttons for setting and scrolling); prompt and easy frequency change. 2 NiMH batteries and a battery charger are supplied.

MJ 01

MJ 02

MJ 03

MJ 04

MJ 05

MJ Data Feedback



DIMENSIONS: 255X170X126 mm  
WEIGHT (including battery): ~ 1,3 Kg

## 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.

The MJ model is certified by TÜV Süddeutschland (n° Z10041220186025) according to EN 954-1: the protection of the Stop circuit, and that of the unintended movements of the actuators from standstill of the actuators meet the requirements of category 3 of such standard.

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

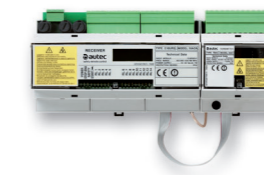
All the electronic and mechanical parts are designed, manufactured and tested to resist heavy duty usage in extreme working conditions: temperatures from -20°C to +55°C/+70°C, shocks and vibrations, chemical exposure (i.e. oils, varnishes and diluents), electromagnetic disturbance, dust and water (IP65).

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

Typo B



DIMENSIONS (160+72)X110X75 mm  
WEIGHT max 900 g

Typo C



DIMENSIONS 180X230X95 mm  
WEIGHT max 2,6 kg

Typo D

Receiving Units | AC and DC power supply (type B and D) and output connection via cable gland or 16, 24, 32 (compact) and 40 pole plugs (optional); excellent internal accessibility for reduced wiring and maintenance time. The "Data Feedback" models are available with DIN rail receiver suitable for panel mounting.