

RCM

Radio remote control



Radio remote control station, sturdy and reliable, with modern and ergonomic shapes, it is designed for safe and userfriendly use in a variety of sectors.

FEATURES

- Quick and easy installation by wireless pairing procedure using the keyboard pushbuttons.
- Supplied as standard with a primary working frequency and a secondary working one: by Automatic Channel Switching (ACS), in case of radio interference, the radio communication automatically switches to the secondary frequency, allowing continuous operation for the user.
- Transmitter featuring 12 independent LEDs to give a visual real time feedback on STATUS of the battery and of each relay in the receiver. ("Data feedback" function).
- Receiver equipped with red and green LEDs to warn receiving - transmission status between the transmitter and the receiver unit by signaling via pulse code.
- Protection degree: RCM is classified IP65.
- Extreme temperature resistance: from -25°C to +55°C.
- Case in nylon PA66 (GF 30%).
- Featuring "Zero-G" function to prevent the uncontrolled input of commands in specific emergencies: the G sensor can detect if the transmitter receives a hard impact, drops or is thrown and deactivate either the complete radio system or only the safety-relevant function relays.
- Activation of the transmitter protected by an electronic key-code and by an auto shut-off programmable option..
- Featuring "My key" function to set restricted controlling mode settings depending on the user (i.e.: limit top speed, Multi-control System, transmitting power and "My drive" function to configurate and activate a spare transmitter quickly by inserting the original battery housing into the spare transmitter.
- Featuring "Black Box" function to collect the usage data of both transmitter and receiver.

OPTIONS

- Available in configurations with 2 biaxial joysticks, Start button and EMO mushroom (Stop), 1 AUX button or 2 selectors and 2 buttons.
- Receiver equipped with pull-out terminals for an easy wiring to any system by means of 4 corner brackets, or through fastening to the center nut.
- Receiving antenna easily suitable to be screwed onto the SMA type connector. On request it's possible to mount an external antenna with 2 or 5 meters cable with a magnetic base.
- Programmable to work with special functions that can be integrated via software (see table at page 4).
- Supplied with bag, pouch belt and shoulder strap, 1 set of 1.5 V alkaline batteries + 1 spare set and replacement standard button labels.
- Available on request with **Qi wireless charging pad**, programming cable, optional labels, 230 V battery charger with 2 sets 2600 mA rechargeable batteries and 230 V - 12/24 V battery charger with USB socket and 2 sets 2400 mA rechargeable batteries.

CERTIFICATIONS

- CE Marking.
- FCC Certification.
- Performance Level Category 3 PL d.

POSSIBLE ASSEMBLIES

Bridge crane



Simple tower crane



Advanced tower crane



CERTIFICATIONS

Conformity to Community Directives	2006/42/CE Machinery Directive
	2014/30/UE Electromagnetic compatibility (EMC)
	2014/53/EU Radio Equipment Directive (RED)
Conformity to CE Standards	EN ISO 12100 Safety of machinery - General principles for design - Risk
	EN ISO 60204-32 Safety of machinery - Electrical equipment of machines - Requirements for hoisting machines
	EN ISO 13849-1 Safety of machinery - Safety-related parts of control systems - General principles for design (Emergency Stop Function: PL d, Category 3)
	ETSI EN 300 220-1 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1000 MHz - Technical characteristics and methods of measurement
	ETSI EN 300 220-2 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1000 MHz; Harmonised Standard for access to radio spectrum for non specific radio equipment
	EN 301 489-1 ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Common technical requirements - Harmonised Standard for ElectroMagnetic Compatibility
	EN 301 489-3 ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz - Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
EN 62479 Assessment of the compliance of low-power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)	
Markings and homologations	CE FC

TECHNICAL SPECIFICATIONS OF THE TRANSMITTER UNIT

Type	Bridge crane	Simple tower crane	Advanced tower crane
Ambient temperature		Storage -40°C/+85°C Operational -25°C/+55°C	
IP protection degree		IP 65	
Pushbuttons configuration	<ul style="list-style-type: none"> - 1 Start push-button - 1 EMO (STOP) mushroom - 1 biaxial joystick (lift 2 speeds) - 1 biaxial joystick (bridge translation 2 speeds, trolley translation 2 speeds) - 2 switches (hoist choice, lights on/off) - 2 push-buttons (reset weight, AUX) 	<ul style="list-style-type: none"> - 1 Start push-button - 1 EMO (STOP) mushroom - 1 biaxial joystick (lift 4 speeds) - 1 biaxial joystick (rotation 3 speeds, trolley 3 speeds) - 1 AUX pushbutton 	<ul style="list-style-type: none"> - 1 Start push-button - 1 EMO (STOP) mushroom - 1 biaxial joystick (lift 5 speeds) - 1 biaxial joystick (rotation 5 speeds, trolley 5 speeds) - 2 switches (II rope / IV rope, enable double trolley) - 2 pushbuttons (slewing break control, AUX)
Number of available ON/OFF command		Max. 13 + Start & EMO	Max. 20 + Start & EMO
Command response time		~ 50 ms	
Frequency band		418 / 429 / 433 / 447 / 470 / 915 Mhz / 2.4 GHz	
Channel space		12.5 kHz	
Radio communication		Bi-directional	
Antenna impedance		50 Ohm	
Maximum operating distance		100 meters (free field)	
Hamming distance		≥ 15	
Power supply		LR6 (AA) 1.5 V / NiMH (AA) 1.2 V x 4	

POSSIBLE TRANSMITTER - RECEIVER COMBINATIONS

Transmitters	Receivers	
	HML	HS BLACK
Bridge crane	X	
Simple tower crane		X
Advanced tower crane	X	X

TRANSMITTER AND RECEIVER UNITS OVERALL DIMENSIONS



Bridge crane / Simple tower crane /
Advanced tower crane
200 x 141,3 x 139 mm
~ 1036 g



HS BLACK
184 x 190 x 64 mm
1795 g



HML
260 x 272 x 96 mm
2950 g

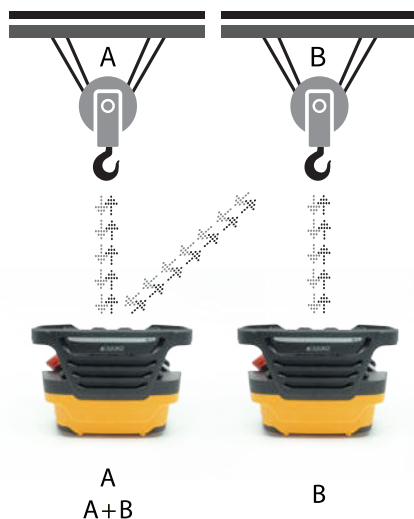
TECHNICAL SPECIFICATIONS OF THE RECEIVER UNITS

Type	HML	HS BLACK
Ambient temperature	Storage -40°C/+65°C	
	Operational -20°C/+55°C	
IP protection degree	IP 65	
Frequency	434.040 ÷ 434.790 MHz	433.0525 ÷ 434.7775 MHz
Modulation	4GFSK	
Sensitivity	-112 dBm at 1.2 Kbps	
Control system	PLL	
Antenna impedance	50 Ohm	
Command response time	50 ÷ 100 ms	
Power supply	24/48 Vac/dc	24/264 Vac/dc
	12 Vdc (optional)	12 Vdc (optional)
Power consumption	AC: 10.4 W / DC: 22.4 W	AC: 8.3 W / DC: 12.8 W
Antenna	External	
Standby current consumption	0,97 W	
Emission power	-	+ 10 dBm
Relays	2 stop + max. 20 function (1 NO 5 A 250 Vca)	2 stop + max. 13 function (1 NO 5 A 250 Vca)
Housing material	PA6 (30% GF)	Nylon and glass fiber

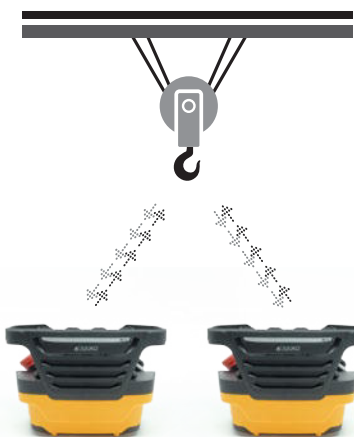
SPECIAL FUNCTIONS

Option	Operation
Multi-control option	Possibility to operate in combination with double transmitter or double receiver in modality: Master & Slave, Take & Release, Tandem.
Start area limit	Possibility to carry out the "Start" in safety by restricting it to a limited area near the radio control receiver.
Two-way radio transmission	Possibility to activate some LEDs positioned on the transmitter by the return signal of the receiver to visually check the activation of priority functions defined by the installer.
Pairing transmitter - receiver	Possibility to transfer the data saved on the transmitters and receivers by a push-buttons combination, creating copies transmitter → transmitter / transmitter → receiver / receiver → transmitter.

Master & Slave



Take & Release



Tandem

