

PAIL

Radio remote control



Joystick radio remote control with belly-box transmitter, available in standard configurations for cranes and bridge-cranes or in customized versions. Sturdy, handy and user-friendly: each part is specifically designed to withstand accidental shocks and falls.

FEATURES

- Quick and easy installation: from the transmitter it is possible to change the frequency, visualizing it through the flashing led channel indicator, program automatic switch-off functions, enable low power start-up, program the auxiliary button functions to meet the operator's needs.
- Transmitter with professional joysticks, up to 5 steps, safe to handle even with work gloves.
- IP protection degree: Pail is classified IP65.
- Extreme temperature resistance: from -20°C to +70°C.
- Tough NYLON casing for protection against shocks and scraping, resistant to acids, oils and chemical agents.
- Wide range of analogue and serial connections.

OPTIONS

- Available in standard configurations for tower cranes and bridge cranes, or for all kind of cranes (up to 5 speeds hoisting, 4 speeds rotation, 4 speeds trolley, 2 speeds transverse, 3 auxiliary controls, data feedback display showing crane parameters) or in customized versions.
- Available with graphic display (on request), showing up to 15 screens with data and programmable alarms.

- Patented universal electromagnetic induction charging device: simply placing the transmitter on its base and the batteries inside are recharged by inductive energy transfer. A 20 minute charge is enough for a typical working day, while a full recharge covers a whole working week.
- Receivers are available for mounting inside the electric panel (RX DIN) or in an IP65 watertight case for outdoor installation (RX RubyBox).
- Operational data storage by the receivers (working hours, total amount of start-ups and shut-downs, number of lift or movements); the tester Monitor (on request) is available to display the data.
- Supplied with a sturdy and reliable waterproof antenna (Active 2 model) for the receiver mounted inside the electric panel (RX DIN) or with an internal antenna for the version with outdoor casing (RX RubyBox).
- Directional and high-gain antennas also available (aerial LogP model and panel Flat870 model).
- Special versions with DataFeedback functions also available.

CERTIFICATIONS

- CE Marking.
- Performance Level Category 3 PL d
- Performance Level Category 2 PL c

RECEIVER UNITS

RX DIN



RX RubyBox



CERTIFICATIONS

Conformity to Community Directives	R&TTE 99/05/CE (Annex III) Radio and Telecommunications Terminal Equipment Directive
	LVD (2006/95/CE) Low Voltage Directive
Conformity to CE Standards	EN 301 489-3 Electromagnetic compatibility and Radio spectrum Matters (ERM) - Electromagnetic Compatibility (EMC) standard for radio equipment and services - Part 3.
	EN 300 220-2 Electromagnetic compatibility and Radio spectrum Matters (ERM) - Short Range Devices (SRD) - Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW - Part 2.
	EN 60950-1 Information technology equipment - Safety - Part 1: General requirements.
	EN 60204-32 Safety of machinery - Electrical equipment of machines - Part 32: Requirements for hoisting machines.
	EN 13557 Cranes - Controls and control stations
Markings and homologations	EN 61000-6-2 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments.
	EN ISO 13849-1:2006 Performance Level of Safety Function Category 3 PL d Stop Protection Category 2 PL c Protection against unintended movements from the standstill position
Markings and homologations	CE

TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -20°C/+70°C
	Operational -20°C/+70°C
Frequency	869.700 – 870.000 MHz, 11 channels, 25 KHz
	433.050 – 434.790 MHz, 59 channels, 25 KHz
Hamming code	> 4
Maximum no. of simultaneous on/off controls	10
Response time	45 ms
Active Emergency/Stop response time	45 ms
Passive Emergency response time	1 s
Operating range	Approx. 100 mt
Stop control classification	Cat 3 PL-D

SPECIFICATIONS OF TRANSMITTER UNIT

Modulation	FM Manchester code
Output power	From 1 to 10 mW
Oscillator	Digital PLL
Antenna	Integrated
Power supply	3.6 Vdc
Power consumption	45 mA
Batteries	Integrated 3x1 x 1.2 V - 1800mA
Battery life	≈ 35 hours (20°C)
Low battery warning time	60 minutes
IP protection degree	IP 65
Overall dimensions	200 x 130 x 135 mm (LxWxD)
Weight	800 g

SPECIFICATIONS OF RECEIVER UNITS

Radio frequency receiver	Single Chip
Antenna	RX RubyBox: integrated (external antennas available) RX DIN: external
Control relay contact rating	4A /115 Vac
Stop relay contact rating	4A /115 Vac
Power supply	12-24 Vdc 1.0A 24-115Vac 0.4A 230Vac 0.2 A
IP protection degree	RX RubyBox watertight Nylon casing for outdoor mounting: IP 65 RX DIN for internal mounting on DIN bar: IP 20
Overall dimensions	RX RubyBox: 266 x 169 x 89mm (LxWxD) RX DIN: 158 x 90 x 75 mm (LxWxD)

SPECIFICATIONS OF EXTERNAL ANTENNAS

Model	Active 2	Flat870	LogP
Specifications	Robust, reliable, watertight and suitable for any application	Flat antenna with microstrip technology, boosts signal strength, designed for use in areas where reception may be compromised by signal disturbance or obstructions	Robust and reliable, for use on any application where increased performance is necessary due to interference by shielding sources
Configuration	$\frac{1}{4} \lambda$ amplified	Panel	Directional log-periodic
Working frequency	869.700 - 870.000 MHz (870 MHz version) 433.050 - 434.790 MHz (434 MHz version)	863.000 - 870.000 MHz	869.700 - 870.000 MHz
Gain	8 dB	14 dB	10 dB
IP protection degree	IP 65	-	-
Overall dimensions	128 x 72 x 50 mm (LxWxD)	240 x 25 x 240 mm (LxWxD)	175 x 60 x 515 mm (LxWxD)
Weight	140 g	800 g	580 g
Connection	Supplied with 1.5 m cable and SMA connector	Supplied with 3 m cable and SMA connector	Supplied with 3 m cable and SMA connector

