

Itowa

Radio Remote Control Systems

COMBI

Remote control for cranes



COMPLETE CONTROL IN YOUR HANDS

The COMBI range is ideal for the remote control of building and industrial cranes, bridge cranes and all electro-mechanical machinery. It provides greater safety, as it enables the operator to be optimally located in the hardest working conditions. Greater profitability is also achieved, saving in time and staff.

Its exclusive design combines strength, class and easy-handling incorporating the latest technology. One of its advantages is that several manoeuvres can be carried out simultaneously.



COMBI

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Combi remote controls have two versions of the operating commands: digital up to 6-step joysticks, or analogical and proportional step-less joysticks, so that it can control digital or analogical manoeuvres. Analogical manoeuvres can be adjusted by the operator from the transmitter, independently for each manoeuvre.

The receiver has an LCD display reporting system status, providing greater safety and agility if anomalies are detected. It also has an RS-485 serial port to connect to PLCs, robots, variators or any peripheral equipment that requires information through the serial port.

It incorporates a multi-frequency, synthesized radio system that enables the operator to automatically change the working channel.

These units accept several operation configurations depending on each application.
 MASTER/SLAVE: Two transmitters control two receivers.
 PITCH & CATCH: Two transmitters control one receiver.
 DATA FEED BACK: Bi-directional equipment.
 TANDEM: One transmitter controls two receivers.



TECHNICAL DESCRIPTION Combi

Number of commands	DIGITAL: 12 / 20 / 28 + Start - Stop - Horn DIGITAL/ANALOGICAL: 14-4/22-8 + Start - Stop - Horn
Responding time	< 50 ms
Active emergency responding time	< 50 ms.
Passive emergency responding time	1.900 ms
Operating range distance	200 m / 656 ft

TRANSMITTER

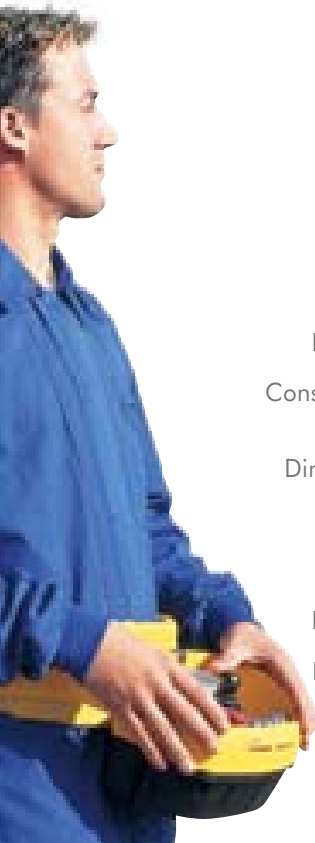
Operating frequency range	Standard : UHF 433.050 MHz -434.775 MHz, others available
Channel spacing	25 kHz
Modulation	FM
RF power output	10 mW A.R.P.
Coding key	FFSK
Transmitting power consumption	80 mA
Standby power consumption	< 800 µA
Operating working time (20 °C/68 °F)	11 hours + 30 minutes after low-battery led flashes
Battery capacity and type	Ni-MH battery 7,2V , 1500 mAh
Battery weight	200 g / 0,44 lb
Operating temperature	-10 °C to 55 °C / 14 °F to 131 °F
Casing material	Polyamide 6-6 reinforced with 15% fibreglass
Transmitter weight	1,5 kg / 3,30 lb
Protection rating	IP 65
Operating commands	Two dual-axis fully proportional and analogical step-less joysticks or digital up to 6-step (combinations available)
Indicator leds	Transmission indicator and low-battery on separate leds

RECEIVER

RF Sensitivity	0'3µV at 12 dB S/N
Outputs	DIGITAL: by relays 5 A 30 Vdc / 5 A, 250 Vac with resistive load (cosφ=1) Comm. Port. RS-485 ANALOGICAL: by tension: bipolar (0-5 V, ±5 V, 0-10 V, ±10 V) and unipolar (2/4/6 V, 3/6/9 V, 6/12/18 V), other values adjustable from the transmitter by the operator.
Power requirements	48 Vac / 115 Vac / 230 Vac (available 24 Vdc / 12 Vdc)
Consumption	Display LCD display matrix 2x16 reporting system status 16 relays 0,14 A at 230 Vac / 0,29 A at 115 Vac / 0,7 A at 48 Vac 32 relays 0,18 A at 230 Vac / 0,35 A at 115 Vac / 0,9 A at 48 Vac
Casing material	Polyamide 6-6 reinforced with 30% fibreglass
Dimensions	16 relays 255x200x95 mm / 10,04x7,87x3,74 in 32 relays 315x235x120 mm / 12,40x9,25x4,72 in
Weight	2'8 kg (6,17 lb) (16 relays) / 4'2 kg (9,48 lb) (32 relays)
Protection rating	IP 65

BATTERY CHARGER

Power requirements	230 Vac (optional 110 Vac)
Dimensions	73x69x72 mm / 2,87x2,71x2,83 in
Battery charging time	8 hours
Temperature charging range	0 °C to 40 °C / 32 °F to 104 °F
Weight	200 g / 0,44 lb



AMPI

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