RADIO REMOTE CONTROLS FOR

TOWER CRANES

IMET

RADIO REMOTE CONTROL

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Since 1988 we design and manufacture industrial safety radio remote controls for every kind of tower cranes. Solidity, ergonomics, safety and quality of the materials used, make of it a cutting edge product, of the innovative design.

ADVANTAGES:

WORKING COMFORT AND COST REDUCTION

The operator, free from the bond of the cable or of the fixed station, can take place in the most safe and suitable position to control the machine and the load, without the aid of other operators.

SIZE AND WEIGHT

They are vey compact and thus, allow the operator to have a higher freedom of movement.

CONTACTLESS OPTICAL JOYSTICKS

Designed and manufactured by IMET; thanks to their wide inclination angle (+/-40°) they guarantee a precise handling, like no other, that will continue throughout the remote control's life. Stepless and stepped joysticks available (1X1, 3X3, 3X5, 5X5).

COMFORTABLE PUSH BUTTONS

Extra-large printed pushbuttons equip WAVE2 S and WAVE2 L for a comfortable use, even when wearing gloves and for long work shifts.

ERGONOMIC CARRYING BELTS

Practical waist belts or shoulder straps, allow the operator to completely free his hands in order for him to follow operations better, like hooking/unhooking a load on a crane.

EXTREME ENVIRONMENTS

The boxes are designed and manufactured with materials highly resistant to impacts.
Operating temperatures from -25°C to +70°C.

CERTIFIED SAFETY

The STOP circuit ensures the maximum level of safety in accordance with the European and international standards.

LOGGING OF EVENTS

IMET Radio remote controls log every event causing a failure or an abnormal stop, as well as the number of hours done by the remote control.

THE DIAGNOSIS TOOL

It Interfaces the PC to the radio control, allowing to check all the operating parameters and to see the list of the most significant events that have taken place.

AUTOMATIC FREQUENCY CHANGE

The radio remote control is autonomously able to position itself on the best radio transmission channel. Manual changes of channel change are no longer required.

M880
WAVE2 S

ROBUST HANDHELD TRANSMITTER, SMALL AND POWERFUL

WAVE2 S is the proud successor of the much appreciated WAVE S being the ideal controller for small two speeds tower cranes. It is available in the following configurations:

- 6 functions (2 speeds buttons) + Start/Horn + Stop + DF display
- 8 functions (2 speeds buttons) + Start/Horn + Stop

In addition, room is available for one auxiliary command (rotary switch, toggle switch, key switch, potentiometer, pushbutton).

DIMENSIONS

72 x 42 x 190 mm

WEIGHT

235 g

AUXILIARY COMMANDS

M880
WAVE2 L

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RADIO REMOTE CONTROL

ROBUST HANDHELD TRANSMITTER, LARGE AND POWERFUL

This pushbutton unit extends the possibilities of the compact version, WAVE2 S, to:

- 10 functions (2 speeds buttons) + Start/Horn + Stop + DF display
- 12 functions (2 speeds buttons) + Start/Horn + Stop

In addition, room is available for one auxiliary command (rotary switch, toggle switch, key switch, potentiometer, pushbutton).

DIMENSIONS

72 x 42 x 255 mm

WEIGHT

315 g

M880
ZEUS2 B2

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SOLID AND VERSATILE

A perfect mix of reliability and versatility reunited in a single control station;
ZEUS2 B2 is the synthesis of the best ergonomic and functional features. The compact size of the panel, having rationalized space, makes it an easily customizable transmitter, according to the specific needs.
It is available with stepless or with up to 5 speeds joysticks for the control of all types of tower cranes.

M880 OPTIONS

ADD BOX DISPLAY

AVAILABLE ON MODEL ZEUS2

The ADD BOX expands the number of commands present in the transmitting unit, allowing to insert additional push-buttons, potentiometers, switches, etc .., according to specific requests. It is also used as housing for a large display (also available with a 128x64 or TFT QVGA 3,5" graphic display) or by LEDs, to visualize data and/or alarms coming from the crane.

LEDs

Feedback information can be reported on the transmitter by colored LEDs.

RONFLEUR

Feedback information can also be reported as an acoustic alarm. Note that DF can be given by the combination of Display/Led and Buzzer.

WAVE DISPLAY / LEDs

WAVE2 S and L can be equipped with a 64X102 pixels Display and 4 LEDs.

BEACON

Useful for operations in the darkness; this option is a keypad illuminator and at the same time, a torch. Can be combined with a light sensor.

FURTHER M880 OPTIONS

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TILT SENSOR

TILT SENSOR

This device is able to recognize emergency situations caused by:

- Fall and tip over of the radio remote control
- Loss of balance by the operator

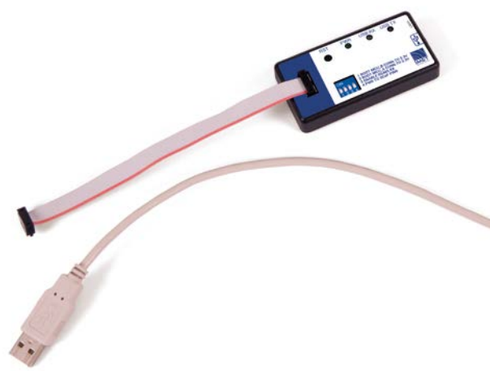
The functioning of the TILT SENSOR can be customized according to customer requirements and to the level of safety required: you can set the simple activation of predefined functions (eg. buzzer), up to the suspension of all functions of the radio control.

SERIAL CABLE

The transmitting units of models ZEUS2 can be equipped with a socket for the serial connection to the receiver. The direct cable connection excludes the radio transmission, thus overcoming any issues related to signal noise or use of the product in areas where the radiofrequency is not permitted, or due to the exhaustion of the battery.

PITOOL

Produced by IMET, it allows to connect the transmitter or the receiver to be diagnosed to a PC. The data can be viewed through an easy and intuitive graphic interface and then saved directly on the PC in editable format.



M880
TECHNICAL DATA

TRANSMITTING UNITS

		WAVE2	ZEUS2
Dimensions (L.W.A.)		S: 72 x 42 x 190 mm L: 72 x 42 x 255 mm	205 x 150 x 150 mm
Dimensions with display (L.W.A.)		Same	205 x 205 x 150 mm
Weight (battery included)		S: ≃ 0,235 Kg max L: ≃ 0,315 Kg max	≃ 1450 g Max.
Range		100 m	
Max number of ON/OFF commands		Up to 32	56 Max.
Max number of analog commands (optional)		Up to 4	16 (19) Max.
Joystick commands UMFS [a] = Unintended Movement From Standstill (ISO 13849-1:2006 6.2.6 architecture)		/	Fino a 16
Number of service and safety commands		3 (Start, Clacson, Stop)	
Casing material		Charged Nylon UL94 HB	
Tensione di alimentazione		3,7 Vdc	3,6 V cc
Absorption		≃ 80 mA	95 mA
Max supply power		0,3 W	0,35 W
Battery		3,7V 2000 mA Li-Ion Batteries	NiMh 3,6V-2,2A/h accumulator
Autonomy at 20°C with charged battery in continuous service		≃ 25 ore	≃ 22 ore
Notice time of low battery		≃ 15 min	
Character visualization speed on the display		100 char/s	
Command	STOP	PL e Cat.4 (ISO 13849-1:2006 6.2.7 architecture)	
	WITHOUT MUSHROOM BUTTON	PL e Cat.1 (ISO 13849-1:2006 6.2.4 architecture)	
	JOYSTICK	PL e Cat.3 (ISO 13849-1:2006 6.2.6 architecture)	
	LEVER - BUTTON	PL e Cat.2 (ISO 13849-1:2006 6.2.5 architecture)	
Operating frequency 1		I.S.M. Band 433.050-434.790 MHz Number of programmable channels: 69, AFA mode (Adaptive Frequency Agility) or on fixed channel. Max power: 1 mW e.r.p	
Operating frequency 2		I.S.M. 434.040-434.790 MHz Number of programmable channels: 30, AFA mode (Adaptive Frequency Agility) or on fixed channel. Max power: 10 mW e.r.p	
Operating frequency 3		2,405-2,480 GHz, 16 ch DSSS	
Alphanumeric LCD display (optional)		102x65 (raws x columns), 2 rows 16 char. / 4 rows 20 char.	
Graphic display (optional)		128x64 pixel monochromatic / TFT QVGA 3.5" [b]	
Buzzer		Available	
Operating temperature		-25°C - +70°C	
Storage temperature		-40°C - +85°C	
Power supply		Single battery on WAVE2, ZEUS2	
Radio transmission		Double (Single MTRS)	
Output calibration		Via calibrating procedure of proportionals	
LEDs		Link TX, Link RX, Error code	
Degree of protection		IP 65	

a = depends on the command configuration / *b* = to be implemented

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RECEIVING UNITS

	H AC / H DC	L AC / L DC	S AC / S DC	M AC
Supply voltage	H-AC: 45-240 Vac (50-60 Hz); H-DC: 11÷30 Vdc and 24 Vac (50-60 Hz)	L-AC: 24-240 Vac (50-60 Hz); L-DC: 11÷30 Vdc	S-AC: 24 Vac (50-60 Hz) / 12÷30 Vdc (Optional 24-440 VAC [50-60 Hz]) S-DC: 12÷30 Vdc	12÷30 Vdc / 24 Vac (50-60 Hz)
Safety commands	STOP, Safety-Enable (up to 8)	STOP, Safety-Enable	STOP, Safety-Enable	STOP, Safety-Enable
Commands	73 [a] relays or MOS, 32 [a] Analog (PWM, current, voltage)	16 relays or 20 MOS, 8 Analog (PWM, current, voltage)	S-AC: 14 relays (N.O.); S-DC: Max 14 MOSFET (N.O), Max 4 Proportional, 2 Digital IN	24 relays (20 N.O. and 4 N.C./N.O.) (Current, voltage)
Service commands	Start, Horn, Timed-Relay	Start, Horn, Timed-Relay [b]	Start, Horn, (configurable)	Start, Blinker (Among the 24 relays)
Input port	CAN, Serial RS232/RS485	CAN, Serial RS232/RS485	S-DC: CAN, Serial RS232 RS485	CAN, Serial RS232/RS485
STOP relay category [a]	PLe Cat 4, ISO 13849-1: 2006 6.2.7 architecture	PLe Cat 4, ISO 13849-1: 2006 6.2.7 architecture	PLe Cat 4, ISO 13849-1: 2006 6.2.7 architecture. PLc Cat 1, ISO 13849-1: 2006 6.2.3 architecture, (With ARES2 C and WAVE2 C)	PLe Cat 4, ISO 13849-1: 2006 6.2.7 architecture
Field BUS	CAN (ID 11-29 bit) CANOpen (ID 11-29 bit) RS232 / RS485	CAN (ID 11-29 bit) CANOpen (ID 11-29 bit) RS232 / RS485	S-DC: RS232 / RS485 (115200 Baud max) CAN_Bus (ID 11-29 bit) (1Mbit/s max) CANOpen (ID 11-29 bit) (1Mbit/s max)	CAN (ID 11-29 bit) CANOpen (ID 11-29 bit) RS232 / RS485
Integrated flashing light	/	/	Only AC version	/
Operating temperature	-25°C - +70°C	-25°C - +70°C	-25°C - +60°C	-25°C - +70°C
Degree of protection	IP 66	IP 66	IP 66	IP20
Dimensions	205 x 130 x 280 mm	140 x 65 x 230 mm	127 x 147 x 70 mm	180 x 120 x 73 mm
Weight	3500 g	1700 g	630 g	910 g

a : depends on the configuration
b : only L DC

BATTERY CHARGER

	CB36NIMH	CB37LION
Supply voltage	11÷30 Vdc	11÷30 Vdc
Absorption	400 mA max	300 mA max
Batteries type	3,6V NiMH	3,7V LiPo
Charging current	900 mA	540 mA
Max charging time	about 2 hours and 20 minutes	about 2 hours and 30 minutes
Recommended operating temperature with battery in charge	0°C to +35°C (+32°F to +95 °F)	0°C to +45°C (+32°F to +113 °F)
Storage temperature when off and without battery	-40°C - +85°C (-40°F - +185 °F)	-40°C - +85°C (-40°F - +185 °F)
Dimensions (L.W.H.)	80 x 30 x 120 mm	70 x 25 x 130 mm
Weight	250 g	110 g
Degree of protection	IP 20	IP 20

COMPLIANCE TO THE REGULATIONS

- IEC/EN 60950-1
- EN 50371
- EN 60204-32
- EN 60529:1991+A1
- ISO 13849-1
- EN 13557/A2
- EN 61000-6-2
- EN 301 489-1
- EN 301 489-3
- EN 300 220-1
- EN 300 220-2
- 1999/5/CE (Directive R&TTE)
- 2006/42/CE (Directive Machines)
- RED Directive (2014/53/EU)

REG. N. 457-A
UNI EN ISO 9001:2015

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