



RADIO REMOTE CONTROLS FOR
DRILLING, MINING, QUARRY



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Since 1988 we have been designing and manufacturing safety industrial radio controls for every type of drilling machine. Solidity, ergonomics, safety and quality of the materials used make it a cutting-edge product with an 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. For example, it is the safest way to control the dangerous trailer unloading and loading operations of heavy machinery.

SIZE AND WEIGHT

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

CALIBRATION VIA RADIOFREQUENCY

The "proportional outputs calibration mode" allows you to program and save each joystick and potentiometer response, while you are operating the machine, thus adapting the speed of all movements and reaching the best possible result. (PIN code required).

CONTACTLESS OPTICAL JOYSTICKS

Designed and manufactured by IMET; thanks to their wide inclination angle ($\pm 40^\circ$), guarantee a precise handling, like no other, that will continue throughout the remote control's life.

ERGONOMIC CARRYING BELTS

The practical waist belts or shoulder straps allow the operator to completely free his hands to better follow the operations like the hooking/unhooking of a crane load.

EXTREME ENVIRONMENTS

The boxes are designed and manufactured with materials highly resistant to impacts. Operating temperatures from -25°C to $+70^\circ\text{C}$.

THE DSC FUNCTION

The DSC function performs instant corrections of the speed (low-speed mode), thus allowing the operator to handle the high precision movements in the smoothest way.

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 is a rugged and compact remote control, ideal for the control of rod loader-cranes, installed on big drilling machines.



DIMENSIONS

72 x 42 x 190 mm

WEIGHT

235 g



M880 KRON M2



ROBUST AND INNOVATIVE

The new model from IMET, built to obtain maximum performance and minimum overall dimensions, it is ideal to drive crawler machines on the job site, guaranteeing the maximum safety during the dangerous trailer unloading and loading operations of heavy machinery. Featuring practical clip for quick attachment to the waist belt or pocket, KRON impresses with its easy handling and ease of use thanks to the design of its handle, which will render comfortable every work situation.



M880 ZEUS2

SOLID AND VERSATILE

perfect mix of reliability and versatility reunited in a single control station; ZEUS2 is the synthesis of the best ergonomic and functional features. The compact size of the panel, having rationalized space, make an easily customizable transmitter, according to the specific needs. Suitable for the full control of small rigs (crawlers movement, mast positioning, drilling,...), crushers, screeners and so on. It is a masterpiece of technology that will transform you into a director of operations.



WORKING PHASE SELECTION



M880 THOR2

STRONG AND COMPLETE

With up to 9 single-axis joysticks on the main panel, comfortable width and double battery for non-stop working shifts, THOR2 is aimed at medium and high complexity machines, fully radio controlled.



M880 G4 S BJ

BIG JOYSTICKS

The most compact wireless solution that maintains the feeling of the big "crane chair" joysticks. Switches and trigger lever options are available when dead man function or extra commands are required.



M880 G4 L

MAXIMUM PERFORMANCES AND UNLIMITED FUNCTIONS

When the complexity of the machine and the quantity of commands are challenging, G4L is the ideal solution. Practically "no limits of application". Suitable for the most complex machines with a large number of radio control functions.



WORKING PHASE SELECTION



M880 OPTIONS

ADD BOX DISPLAY

AVAILABLE ON MODELS
ZEUS2 AND THOR2

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.

BUZZER

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



FURTHER M880 OPTIONS

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.

TILT SENSOR



SERIAL CABLE

The transmitting units of models ZEUS2 and THOR2 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.

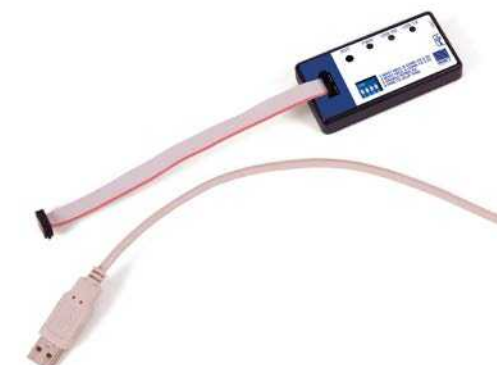
TWIN B

This feature is available on THOR2 and consists of a twin battery compartment. Once the first accumulator enters the "low battery" status, the transmitter automatically switches on the second accumulator. This process takes place without power supply interruption, hence, without transmitter shut down. It is the ideal option when the radio controlled machine has to operate continuously or for very long periods.



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.

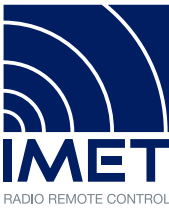


M880
TECHNICAL DATA

TRANSMITTING
UNITS

	WAVE2	KRON	ZEUS2	THOR2	G4
Dimensions (L.W.A.)	S: 72x42x190 mm L: 72x42x255 mm	180x107x160 mm	205x150x150 mm	295x180x160 mm	S: 265x185x165 mm L: 430x225x520 mm (with accessories)
Dimensioni con display (L.P.A.)	Same	/	205x205x150 mm	295x250x165 mm	/
Weight (battery included)	S: ≈ 0,235 Kg max L: ≈ 0,315 Kg max	≈ 880 g max	≈ 1450 g max	≈ 2300 g max	S: ≈ 1,950 Kg L: ≈ 4 Kg
Max number of ON/OFF commands	Up to 32	56 Max	56 Max	56 Max	Up to 96
Max number of analog commands (optional)	Up to 4	16 (19) Max	16 (19) Max	16 (19) Max	Up to 32
Joystick commands					
UMFS ^a = Unintended Movement From Standstill (ISO 13849-1:2006 6.2.6 architecture)	/	Up to 16	Up to 16	Up to 16	Up to 16
Range			100 m		
Number of service and safety commands			3 (Start, Clacson, Stop)		
Casing material	Charged Nylon UL94 HB	Charged Nylon UL94 HB	Charged Nylon UL94 HB	Charged Nylon UL94 HB	Charged Nylon / Fiberglass reinforced plastic
Supply voltage	3,7 Vdc	3,7 Vdc	3,6 Vdc	3,6 Vdc	3,6 Vdc
Absorption	≈ 80 mA	95 mA	95 mA	95 mA	160 mA
Max supply power	0,3 W	0,35 W	0,35 W	0,35 W	0,3 W
Battery	NiMh 3,6V-2,2A/h accumulator, G4: 3,6V 2100 mA Ni-Mh Batteries				
Autonomy at 20°C with charged battery in continuous service	≈ 25 hours	≈ 22 hours	≈ 22 hours	≈ 22 hours	≈ 13 hours
Notice time of low battery			≈ 15 min		
Character visualization speed on the display			100 char/s		
Command	STOP JOYSTICK LEVER - BUTTON	PL e Cat.4 (ISO 13849-1:2006 6.2.7 architecture) PL e Cat.3 (ISO 13849-1:2006 6.2.6 architecture) 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)	2 rows 16 char. / 4 rows 20 char., G4: 128x64 (rows x columns), 160x104 (rows x columns)				
Graphic display (optional)	128x64 pixel monochromatic / TFT QVGA 3.5" ^b				
Buzzer	Avaible				
Operating temperature	-25°C - +70°C				
Storage temperature	-40°C - +85°C				
Power supply	Battery single su ARES, KRON, ZEUS2 (Double battery optional on model THOR2) ^b				
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



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

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

CB36NIMH

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

CB37LION

Supply voltage	11÷30 Vdc
Absorption	400 mA max
Batteries type	3,7V LiPo
Charging current	900 mA
Max charging time	about 2 hours and 30 minutes
Recommended operating temperature with battery in charge	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)
Dimensions (L.W.H.)	70 x 25 x 130 mm
Weight	110 g
Degree of protection	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 300 220-1
- EN 300 220-2
- 1999/5/CE (Directive R&TTE)
- 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)

NOTE

NOTE



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