Remote Radio Control

M880 Joystick Radio Control

Application
Joystick style Radio Remote Controls offer a perfect solution for Standard cranes and machines requiring proportional or variable speed control and also for large high integrity applications with multiple functions which can not be accommodated by standard push button transmitters. Our large range of joystick style radio transmitters includes solutions fo almost every application imaginable so please contact us with your requirements.

M880 Joystick Radio Advantages

Compact transmitters – All M880 transmitters are compact and lightweight making life more comfortable for the operator and allowing greater freedom of movement.
Large push buttons – extra large push buttons where fitted for ease of use even when wearing industrial gloves.
Extreme Environments – Transmitters and Receivers are constructed from high impact resistant materials and are suitable for operating temperatures from –25 up to +70 deg C.
Automatic Frequency change – New 'AFA' technology effectively kills off the problem of interference as the M880 system continuously searches for, and logs on to the 'cleanest' channel within the operating frequency band.
Contactless optical joysticks – Designed and manufactured in–house, our joysticks guarantee precise handling throughout the life of the radio system, available in both stepless and stepped format.
Certified Safety – The STOP circuit on all M880 Joystick units (except ARES C) complies with the highest European and International standards (ISO13849–1 PLe / SIL3 / Cat 4)

M880 Joystick Transmitter Range

ARES

A recent addition to our comprehensive range of radio transmitters, the ARES is a compact unit available in two versions. ARES 'C' which features a lower category of stop circuit suitable for many standard non load handling applications such as winches and industrial doors and ARES 'E' which in its standard format features four toggle switches on the top panel together with a mushroom head E–STOP button complying with ISO13849–1 PLe / SIL3 / Cat 4. The toggle switches can be replaced with buttons, rotary switches, key switches or potentiometers if required.
A green start button is fitted as standard on one side of the transmitter and space is available for up to five additional buttons or switches.

Details of the ARES 'C' model which is similar in all respects to ARES 'E' but with a lower category (PLc / SIL 1 / Cat 2) stop circuit can be seen on a separate data sheet.

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M880 Joystick Transmitter Range (continued)

The latest model to be introduced, KRON is a compact joystick transmitter which will accommodate two twin axis joysticks which can be either multi step or proportional (KRON B2) or a maximum of four single axis proportional joysticks (KRON M4). Both these formats also have space for a small number of additional commands in the form of push buttons, toggle switches, rotary switches or potentiometers. This flexibility makes the KRON transmitter a competitive solution for many applications such as standard overhead cranes and 4/5 function hydraulic cranes. Also available is the KRON NJ transmitter format which can be fitted with any combination of push buttons, toggle switches, rotary switches, key switches and potentiometers providing a solution for machines requiring control of multiple digital and analogue functions.

KRON M4 (also available as M2 or M3)

Basic : Rabbit / Snail
Standard : DSC IN–SLOW, Rabbit / Snail, RPM +/–, Motor On/Off,
Plus : DSC IN–SLOW, Rabbit / Snail, RPM +/–, Motor On/Off, Lights On/Off, Load Indication 90/100% by LED.

KRON B2

KRON NJ

ZEUS2 Joystick Transmitter Range

ZEUS2 is the successor to the popular ZEUS transmitter with improvements such as 'AFA' continuous frequency hunting technology, extended battery life and additional status LED's now included as standard. The ZEUS2 range of transmitters offers all the advantages and configuration possibilities of the KRON unit but with additional space for more auxiliary commands. ZEUS2 also offers the flexibility of the new 'ADD BOX' which can be used either as a digital display to project information via a digital feedback from the radio receiver, or to house even more auxiliary commands. ZEUS2 is available in various formats as shown below

ZEUS2 M6 (also available as M4 or M5)

Standard : – DSC IN–SLOW, Rabbit / Snail, RPM +/–, Motor On/Off,
Plus :– DSC IN–SLOW, Rabbit / Snail, RPM +/–, Motor On/Off, Lights On/Off, Load Indication 90/100% by LED.

ZEUS B2

ZEUS NJ

ADD BOX

We reserve the right to amend all technical details without prior notification

SIMBAL

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THOR2 Joystick Transmitter Range

THOR2 is our largest standard transmitter with space for four twin axis joysticks which can be either multi step or proportional or a maximum of nine single axis proportional joysticks . Both these formats also have space for a large number of additional commands in the form of push buttons, toggle switches, rotary switches or potentiometers. This flexibility makes the THOR2 transmitter a realistic solution for a wide variety of applications requiring multiple commands such as large, high integrity overhead cranes and 8–9 function hydraulic cranes. Also available is the THOR2 NJ transmitter format which can be fitted with any combination of push buttons, toggle switches, rotary switches, key switches and potentiometers providing a solution for machines requiring control of multiple digital and analogue functions.

THOR2 M8 (also available as M4, M5 M6 or M9)

Standard : – DSC IN–SLOW, Rabbit / Snail, RPM +/–, Motor On/Off,
Plus :– DSC IN–SLOW, Rabbit / Snail, RPM +/–, Motor On/Off, Lights On/Off, Load Indication 90/100% by LED.

THOR B4 (also available as B2 or B3)

THOR NJ (shown with optional add box)

ADD BOX

G4 L/ G4S–BJ

The G4–L transmitter is a custom built unit providing a remote radio control solution for almost any application imaginable, the transmitter panel can accommodate a very large number of commands which can be a combination of joysticks, push buttons, rotary switches, toggle switches, key switches and potentiometers making it ideal for the control of a wide range of highly complex machines in the drilling, mining and quarrying industries.. One popular variant is the G4S–BJ which is fitted with extra large joysticks providing the operator with the traditional feel of joystick control from a control cabin.

G4 L

G4S–BJ

Please see the following pages for more information on standard and optional features on M880 joystick style radio transmitters.

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M880 KRON / ZEUS2 / THOR2 / G4 – Standard Features

Rechargeable NiMh Batteries

Extractable, rechargeable NiMh batteries for extra long operating duration up to 22 hours continuous use between charges.

Status LED's

Coloured LED's report the status of the radio link, battery charge level and error diagnostics

PIN Code

Access PIN code can be programmed in to the transmitter to restrict use to authorised personnel

Legends

Standard arrow legends or fully customised legends with symbols or text

Emergency STOP

Mushroom Head E–Stop button featuring functional safety level PLe/SIL3/Cat4

Carrying Strap

Waist belts or shoulder straps are available for all joystick transmitters

M880 KRON / ZEUS2 / THOR2 – Options

Auxilliary commands

All KRON, ZEUS2, THOR2 & G4 joystick transmitters have space available to accommodate additional commands in the form off rotary switches, toggle switches, key switch, pushbutton or potentiometers. The number of commands which can be fitted depends on the transmitter type selected.

Load indication LED's

A standard requirement for many crane applications, particularly tower cranes, load indication LED's are a popular option, normally set to indicate 90% & 100% load status.

Add Box display

The add box display is available with all ZEUS2 & THOR2 transmitters and can be used to house additional commands or as a display screen to show load & status data received through a digital feedback link from the radio receiver.

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M880 KRON / ZEUS2 / THOR2 – Options (continued)

I–READY Infra Red Start up

An infra–red directional START operation, requires line of site between transmitter and receiver to start the system increasing safety by reducing the possibility of accidental operation.

MTRS Multi machine control

Communication between multiple transmitters and receivers allows classic tandem operations such as catch & release and pitch & catch plus many other configurations. Can be combined with our fixed radio to provide crane to crane or machine to machine communication.

Diagnostic Tool

This tool allows you to connect the transmitter or receiver to a PC to undergo status diagnostics. The data can be viewed by means of an easy and intuitive graphical interface, and can be saved to your PC in editable format.

There are two versions of the tool :

Standard – The transmitter can be connected to the tool only via cable

Plus – In addition to cable connection, the device can be connected in wireless mode allowing diagnostics to be carried out without removing the receiver from the crane

Batteries & Battery Chargers

Rechargeable NiMh Batteries

The M880 Joystick Transmitters benefit from the latest battery technology with 3.6V NiMh batteries providing up to 22 hours continuous use from a single charge. All new systems are supplied c/w 2 batteries and battery charger.

Battery Chargers

Battery chargers are available for 110V or 240V AC and 11–30V DC and can deliver a full charge to the batttery in 2 hours 45 minutes. DC chargers are also available with a 'cigarette lighter' style plug for in–vehicle charging.

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M880 Receiving Units

'L'
Weight: 1700g
Dimensions: 140 x 65 x 230 mm

'H'
Weight: 3500g
Dimensions: 205 x 130 x 280

The new range of M880 Radio systems includes a total of four new receiver units, the M880 Lac and Ldc are the most popular and cost effective units, housing a maximum of 20 relays or MOSFETS they are suitable for use with the full range of joystick transmitters and flexible enough to cover a large percentage of applications.

Where the 20 relays of the type L receiver are not sufficient then the Hac and Hdc receivers come in to their own, configurable with a maximum of 73 relays or MOSFETS there are very few applications that can not be accommodated by a combination of the H receiver and one of our range of radio transmitters.

All receiving units in the M880 range are encased in solid and robust enclosures with a protection rating of IP66 making them suitable for indoor and outdoor use

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Technical Data

M880 Transmitting Units

	ARES2	KRON	ZEUS2	THOR2	G4
Dimensions	143x143x80mm	180x107x160mm	205x150x150mm	295x180x160mm	520x430x225mm
Dimensions with display			205x150x150mm	295x180x160mm	
Weight (inc. battery)	667g	880g	1450g	2300g	4000g
Operating Range	100m				
Max number of On/Off commands	32	56	56	56	96
No of Service & Safety commands	3 (Start / Klaxon / Stop)				
Casing Material	Charged Nylon UL94 HB				
Supply Voltage	3.6 Vdc				
Absorption	95 "mA"				160 "mA"
Max supply power	0.35 W				0.30 W
Battery	NiMh	NiMh 3.6v Li-ion 2.2A/h accumulator			
Battery Life @ 20 deg C in cont. use	22 hours				13 hours
Warning notice for low battery	15 mins				
Stop command safety category	(ISO 13849-1 2006.6.2.7 architecture) Pie / SIL3 / Category 4				
Operating Frequency 1	ISM band 433.050 - 434.790 MHz, 69 channels (max power 1mW e.r.p)				
Operating Frequency 2	ISM band 433.050 - 434.790 MHz, 30 channels (max power 10mW e.r.p)				
Operating Frequency 3	2.4 GHz 16ch				
Aiphanumeric LCD display (Optional)				4 rows (20 char)	
Graphic Display (optional)				128 x 64 pixel	
Buzzer	Yes				
Operating Temperature	-25 to +70 deg C				
Storage Temperature	-40 to +85 deg C				
Power Supply	Single NiMh battery (option for double battery on THOR2 only)				
Radio Transmission	Double Transmission (Single on MTRS systems)				
LEDs	Link TX, Link RX. Error code				
Degree of Protection	IP65				

M880 Receiving Units

	L-AC / L-DC	H-AC / H-DC
Supply Voltage (AC)	24 - 240Vac (50-60Hz) 30VA 1.2A max @ 24Vac	24Vac (50-60Hz) 68VA 2.8A max
		24 - 240Vac (50-60Hz) 45VA 1.1A max @ 45Vac
Supply Voltage (DC)	11 - 30Vdc 2A max @ 11Vdc	11 - 30Vdc 4A max @ 11Vdc 44W
Safety Commands	Safety enable relay, 2 stop relays	
Max number of On/Off commands	up to 20 relays or MOSFETS	up to 73 relays or MOSFETS
Max number of Analogue commands	8	32
Service commands	3 (Start / Klaxon / Stop)	
Stop command safety category	(ISO 13849-1 2006.6.2.7 architecture) Pie / SIL3 / Category 4 (except ARES2 C)	
Input port	CANBUS / Serial	
Proportional commands	0-20mA, 4-20mA 0Vdc with veemax - 28Vdc 0- +/-10Vdc	
Communication protocol	CAN (ID 11-29 bit) CANOpen (ID 11-29 bit) RS232 / RS485	
Operating Temperature	-25 to +70 deg C	
Storage Temperature	-40 to +85 deg C	
Degree of Protection	IP66	

M880 Battery Chargers

	CB3622	CB3722
Supply Voltage (DC)	11-30Vdc	
Absorption	400mA max	300mA max
Battery Type	NiMh 3.6V	Li-ion 3.7V
Charging Current	900mA	640mA
Max Charging Time	2 hrs 45 mins	
Recommended Charging Temp	0- +35 deg C	
Dimesions	120x80x30mm	130x70x25mm
Weight	250g	110g
Degree of Protection	IP20	

Compliance to Standard

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