

Remote Radio Control

M880 WAVE2 Push Button Radio Control

Application

Push Button Radio Remote Controls offer a competitive solution for the control of many different types of machines where a high level of safety is required, including electric hoists, overhead cranes, tower cranes, concrete pumps, sewer cleaners, vacuum pumps and many others. The lightweight and easy to use M880WAVE2 radio transmitters enable safe and secure operation of all these machines by allowing the operator to move freely around the work site and carry out his operations from the safest and most convenient location.



M880 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 on all WAVE2 transmitters for ease of use even when wearing industrial gloves.

Extreme Environments - Transmitters & 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.

Certified Safety - The STOP circuit on all M880 units complies with the highest European and International standards (ISO13849-1 PLe / SIL3 / Cat 4).

M880 WAVE2 Transmitter Range

The WAVE2 Transmitter is available in two sizes, WAVE2 S with 4, 6 or 8 functions + start + E-Stop, and WAVE2 L which features 10 or 12 functions + start + E-Stop.

M880 WAVE2 S

The M880 WAVE2 S transmitter has been introduced to build on the huge success of its predecessor, the M550 WAVE S and is the ideal solution for control of a wide range of industrial equipment and machinery. The function buttons (4,6 or 8) are all double pressure as standard, in addition a green start button and red, mushroom head E-Stop button are fitted as standard.



M880 WAVE2 L

The M880 WAVE2 L transmitter increases the possibilities of the smaller WAVE2 S with additional function buttons. WAVE2 L is available with either 10 or 12 double pressure buttons in addition to the standard start and E-Stop buttons.



Other standard features on all WAVE2 transmitters include LEDs to report on status of radio link and battery condition, these LEDs are also used to transmit error codes for fault diagnosis enabling us to help get you working again quickly in the unlikely event of a system failure.

Please see the following pages for more information on standard and optional features on M880 WAVE2 radio transmitters.

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M880 WAVE2 Standard Features

Extractable Li-ion Battery

Extractable rechargeable Li-ion batteries for extra long operating duration with up to 22 hours continuous use between charges.



Status LEDs

Coloured LEDs report the status of the radio link, battery charge level and error diagnostics.



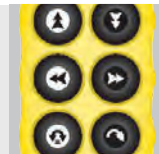
Pin Code

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



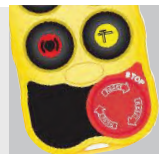
Legends

Large, clear push button legends with the possibility of fully customised symbols or text.



Emergency Stop

Mushroom head E-STOP button featuring functional safety level PLe/SIL3/Cat4.



Carrying Strap

Comfortable carrying straps are fitted to all WAVE2 transmitters.



M880 WAVE2 Options

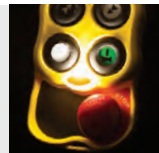
Auxiliary Command

In addition to the standard function buttons, all M880 WAVE2 transmitters have space for an additional auxiliary command (rotary switch, toggle switch, key switch, push button or potentiometer).



Keypad Illumination

Keypad illumination for use in the darkness, can be combined with a light sensor for automatic activation. Can also be used as a torch.



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.



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M880 WAVE2 Options (continued)

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



Diagnostic Tool
Allows cable connection from transmitter to receiver overriding radio for situations where radio transmission is not allowed. Data can be viewed and saved on a PC in editable format. Available in 2 versions: cable connection only and wireless connection.



Batteries & Battery Chargers

Rechargeable Li-ion Batteries
The M880 WAVE2 Transmitters benefit from the latest battery technology with 3.7V Li-ion 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 battery 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

	WAVE2-S	WAVE2-L
Dimensions	190x72x42mm	255x72x42mm
Dimensions with display	190x72x42mm	255x72x42mm
Weight (inc. battery)	235g	315g
Operating Range	100m	
Max number of On/Off commands	32	32
No of Service & Safety commands	3 (Start / Klaxon / Stop)	
Casing Material	Charged Nylon UL94 HB	
Supply Voltage	3.7 Vdc	
Absorption	95 "mA"	
Max supply power	0.35 W	
Battery	3.7v Li-ion	
Battery Life @ 20 deg C in cont. use	22 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 16 channels	
Alphanumeric LCD display (Optional)	2 rows (16 char)	2 rows (16 char)
Graphic Display (optional)	-	-
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
Dimensions	230x140x65mm	280x205x130mm
Weight	1.7kg	3.5kg
Supply Voltage (AC)	24 – 240Vac (50–60Hz) 30VA 1.2A max @ 24Vac	24Vac (50–60Hz) 68VA 2.8A max 45 – 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	
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

	CB3722
Supply Voltage (AC)	110 / 240v AC
Supply Voltage (DC)	11–30Vdc
Absorption	300mA max
Battery Type	Li-ion 3.7V
Charging Current	640mA
Max Charging Time	2 hrs 45 mins
Recommended Charging Temp	0– +35 deg C
Dimensions	130x70x25mm
Weight	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)