

Twister 2X

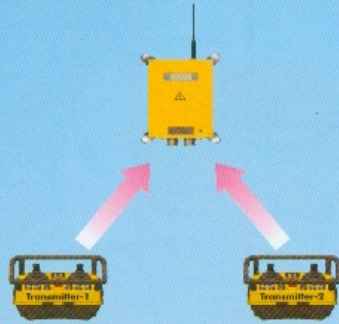
Industrial Radio Remote Control System



QUALITY YOU CAN COUNT ON !

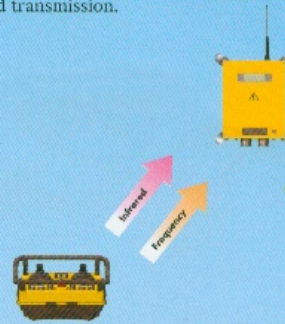
Pitch & Catch Feature

This feature allows two operators controlling one crane system from opposite ends of a long or cross travel.



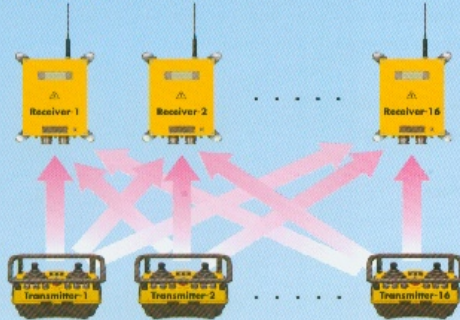
Infrared Initial Startup Feature

This feature restricts initial system activation beyond 20~30 meters from the crane or receiver unit by means of infrared transmission.



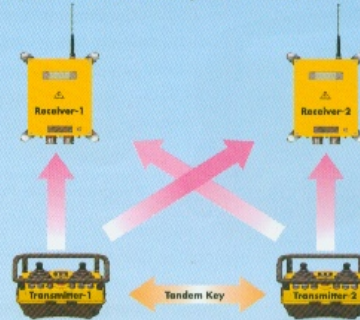
Random Access Feature

This feature allows for up to 16 operators randomly accessing up to 16 crane systems via a 16-position selector switch.



Tandem Feature (Dual-Crane Operation)

This feature allows two operators controlling two crane systems independently or one operator controlling two crane systems simultaneously (Crane A, B, A+B).



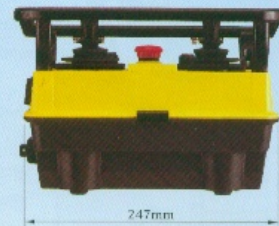
System Specifications

TRANSMITTER

Frequency Range: PLL 433 MHz.
 Transmitting Range: 100 Meters / 300 Feet
 Continuous Operation: 16+ Hours (600mA)
 ID Code: 65,536 Sets
 Channel Spacing: 25KHz.
 Hamming Distance: ≥ 6
 Frequency control: Synthesizer (PLL)
 Frequency Drift: $< 3\text{ppm} @ -25^{\circ}\text{C} \sim 75^{\circ}\text{C}$
 Frequency Deviation: $< 1\text{ppm} @ 25^{\circ}\text{C}$
 Spurious Emission: $> 60\text{dBc}$
 Transmitting Power: 0.3 ~ 1.0mW
 Emission: F1D
 Antenna Impedance: 50 Ohms
 Enclosure: IP-66
 Source Voltage: 7.2V (600mA or 1400mA)
 Current Drain: $\sim 80\text{mA}$
 Operating Temperature: $-25^{\circ}\text{C} \sim 75^{\circ}\text{C}$
 Dimension: 247mm x 154mm x 182mm
 Weight: 1,600g (include battery pack)

RECEIVER

Frequency Range: PLL 433 MHz.
 Sensitivity: -125dBm
 Decoding Reference: FSK
 ID Code: 65,536 Sets
 Channel Spacing: 25KHz.
 Hamming Distance: ≥ 6
 Frequency control: Synthesizer (PLL)
 Frequency Drift: $< 3\text{ppm} @ -25^{\circ}\text{C} \sim 75^{\circ}\text{C}$
 Frequency Deviation: $< 1\text{ppm} @ 25^{\circ}\text{C}$
 Decoding Reference: Quartz Crystals
 Responding Time: 100mS ~ 300mS
 Output Contact: 250V @10A
 Antenna Impedance: 50 Ohms
 Enclosure: IP-66
 Source Voltage: 100-240VAC @ 50/60Hz.
 Power Consumption: 36VA
 Operating Temperature: $-25^{\circ}\text{C} \sim 75^{\circ}\text{C}$
 Dimension: 417mm X 309mm X 167mm
 Weight: 8,800g



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Twister

The Twister 2X is a highly sophisticated industrial radio remote control system. The versatile features of Twister 2X permit its usage in a wide range of industrial applications. The system can be used to control all types of industrial cranes, tower cranes, building construction equipment, automatic control systems, mining equipment, and many others...

The Twister 2X incorporates numerous advanced safety features and software programming that will ensure maximum security and safety in the work place.

Advanced Software Programming

The system is equipped with highly evolved software that has redundant error checking and correcting capabilities to ensure 100% error-free transmission, decoding and control of all output relays. This highly evolved software includes CRC (Cyclical Redundancy Check) and Hamming Codes (Error Recovery).

Advanced Encoding System

The encoding system utilizes advanced microprocessor control for 100% error-free data transmission. The availability of 65,536 sets of unique security ID codes will ensure that only commands from a matching control transmitter can be carried out without any interference from other radio systems.

Advanced Decoding System

The decoding system utilizes dual-microprocessor control, which will ensure 100% error-free calculation, bit checking and correction of all incoming data.

Central Microprocessor

A unique central microprocessor is used for data comparison and cross-checking among the two decoding microprocessors. When faults are detected via this central microprocessor, for maximum safety, the entire system will be shut down immediately to avoid possibility of any accidents occurring.

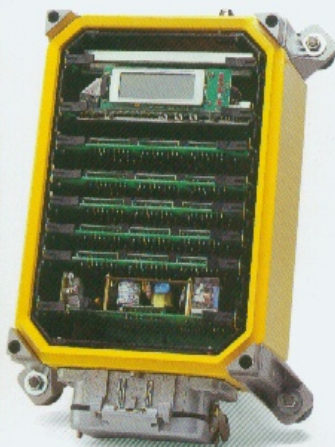
PLL Transmission

The system utilizes advanced PLL synthesized RF transmission. It allows the user to select from a wide range of RF channels best suited for the environment. The RF channel is selected via simple dip-switch settings inside the transmitter unit. The RF channel for the receiver is selected via simple button setting on the receiver LCD control panel. The receiver also has the ability to auto-scan from a wide range of RF channels. The receiver will search and locked on to the intended matching control transmitter.

Full Compliance

The Twister 2X is designed and manufactured in accordance with FCC Part-15 Rules, European Directives (CE/CB), Industry Canada specifications (IC) and ISO 9001 guidelines. No site license is required.

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System Self-Diagnosing Functions

The Twister 2X is equipped with numerous self-diagnosing functions, which include transmitter low-voltage detection, faulty pushbutton and joystick detection, faulty MAIN contact relay detection, faulty relay card detection, faulty EEPROM detection, faulty RF module detection, and many others...

Programmable Pushbutton Functions

Numerous pushbutton functions can be programmed via an in-house designed programmer unit.

Durable and Lightweight Joysticks

The in-house designed mini joysticks are made from variety of composite materials, which include metal, stainless steel, zinc alloy, magnesium alloy and aluminum alloy. The combination of these materials make the joysticks extremely durable, reliable and ultra lightweight.

Photo-Interrupter Sensors

The system incorporates advanced photo-interrupter sensors for the joystick contacts. These photo-interrupter sensors are extremely reliable and durable, which last many times longer than the conventional brush or coil-type contacts.

BUS Structured Receiver

The BUS structured receiver unit with removable flex cards provides easy service maintenance and inventory of spare parts.

Intelligent Charger

All systems are equipped with a single-slot battery charger with voltage, temperature and overcharging protection. The charger is also equipped with discharging/auto-charging function to prevent any battery memory buildup.

