APOLLO SYSTEM

INDUSTRIAL REMOTE CONTROLLER

English Version

To satisfy various requests in remote controller, we are now finally researched a high quality, industrial grade remote controller --- APOLLO system. Provided from 4 to 12 push buttons, further on you can decide if taking with reserved functions or not, and really feel the convenience!

APOLLO system, a reliable, durable remote controller, which can be instead of the original wired control when the environment is too dangerous, something as electroplate field, steel factory, or the field temperature is too high. Of course, you can also raising the producing efficiency!

Except the dust / water / oil proof casing, APOLLO can even resists strong shock, or the extreme weather. Our professionalism surpass the original design, improved possible faults, the section assembled push button parts save lots of pennies from unnecessary spend, which can also easily up-grade to different models.

Your equipment does not have to adapt the remote controller, but it can really become an accessory! Once the transmitter housing has to be renewed, you can just exchanging the damaged section, but not the whole one. Only the reasonable spend can be accepted, in this point, we have considered thoroughly in APOLLO system.

Take instant fix holder, APOLLO receiver makes installation steps much faster and easier. The internal diagram / components scheme are hundred percent precision but not complex, easy to understand and repair, specially save time in periodic maintenance. Components have been placed into a tough control box, protection ups to IP65, contains dust / water / oil and ultraviolet, light weight, easy carry on, save energy and time in device installation.

Specification ☺

- Take dual-security design, equipment protected thoroughly, every output will automatically break when CPU out of work.
- Take common mode non-earth ground EMI noise-rejection circuit, which can against receiver malfunction occurred by operator's error connection, also releasing the installation complex.

APOLLO System Transmitter

Frequency range: 480.000~480.250MHz
Channels separation: 50KHz
Transmitting power: < 1mW
Antenna: Internal type, impedance as 50Ω
Security codes: 256 sets
Operation temperature: -10°C ~ +75°C
Enclosure: IP65
Source voltage: 4 × 1.5V alkaline batteries, or nickel rechargeable batteries
Consumption: < 7mA
Size: 217×70×49 mm (C1-6PB)
Weight: 480g (C1-6PB)

APOLLO System Receiver

Frequency range: 480.000~480.250MHz
Channels separation: 50KHz
Antenna: Internal type, impedance as 50Ω
Relay: 5A, 250V AC
Operation temperature: -10°C ~ +75°C
Enclosure: IP65
Source voltage: 220V AC, 50 / 60Hz (STD)
Consumption: < 12W
Size: 200×120×75 mm (C1-6PB)
Weight: 860g (C1-6PB)

How to install ☺
It would be very easy to install APOLLO receiver, the necessary tools are as following:

Sharp mouth shape nipper Oblique mouth shape nipper ′+′ Head driver

Spanner (8mm) Electric multimeter Electric drill Cable and feeder

Steps:
(a) Ensure the original wired control of crane is correct.

(b) Ensure shut down the main power source of crane before installation.

(c) Mount in a firmed site where the receiver can be easily seen by operator.

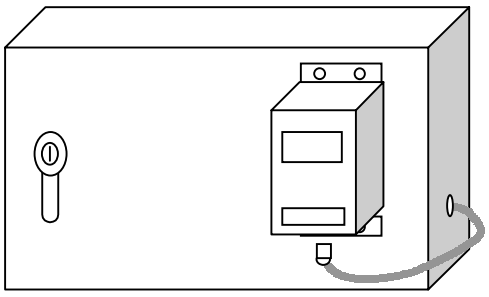
(d) Keep away the mounted site from motors, relays, cables, high voltage wiring and devices, or the protrusion of building where crane moves. Select a firmed site without metal shielding around.

(e) Do not install the other same channel remote controller within 50 meters.

(f) Ensure the wiring layout correctly and safely.

(g) Test each motion / function after installation, ensure transmitter output have the same motion as the original wired control.

(h) Fix the wired pendant in safe position.



Take 4pcs of 8mm self-attack screws, screw tightly by electronic tools.

(example for fix / install receiver)

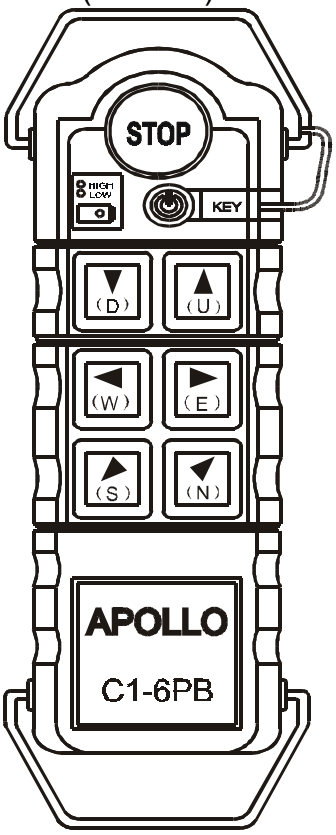
PLEASE NOTE ☺

(a) Ensure the output contact as Main / Up / Down / East / West / South / North / Rev. 1 / Rev. 2 can not over 5A.

(b) Check exactly the wiring layout after receiver's installation, then turn the power on.

Operation steps ☺

Transmitter
(C1-6PB)



How to operate APOLLO device:

1. Send the power source to receiver.

2. Insert the transmitter power-on key.

3. Press ″Down″ & ″West″ two buttons synchronized (no matter if it is single step or two steps) to power on and operate transmitter.

4. About two steps push button: Press lightly to reach 1st step motion output, press to the end (harder) to reach 2nd step .

5. Transmitter will automatically power off after 3 min. without operation, re-activate the device ONLY by following steps.

How to turn off APOLLO device:

1. Press the international standard ″Turn-to-On″ EMS-stop push button. (At this moment, the internal Main contact will be broken).

2. Pull out the transmitter power-on key.

Rev.1 / Rev.2 push buttons' control:
R1 is controlled by ″East″ and ″West″ two buttons, work as toggle style, i.e. press once ″East″ and ″West″ synchronized to make R1 ″On″, re-press two buttons again to make R1″Off″.

R2 is controlled by ″North″ and ″South″, operation is the same as R1. Operator may be set these push buttons as ″Light″, ″Alarm″ or others, however, do remember one thing:

※ **R1 & R2 contact will break automatically when EMS-stop push button be pressed, design shall be done carefully.**

Functions setting ☺
APOLLO transmitter has a dual-color indicator, generally without operation the indicator will not blink. Under the normal operation the indicator will be blinked as 0.3 sec. every 2 sec. When the light is green means the battery power is sufficient, if the light turns to red means the battery power low. Please renew 4pcs of AA3 (1.5V) alkaline batteries, or nickel rechargeable batteries immediately, or transmitter will be automatically shut off after 10 sec.

Every APOLLO receiver has a SQ indicator, while power on the indicator shall be lighted continuously, when using his own transmitter the SQ will not be lighted, it means the transmitted signal has been received by receiver and decoded correctly.

If the SQ indicator blinking fast, it means the address codes between transmitter and receiver switched different. Please check the codes on both transmitter and receiver, switch to the same positions.

If the SQ indicator blinking slowly with or without operation, it means the receiver has been interrupted by unidentified signal. Please contact your supplier for changing to another clear channel.

Main, Up, Down, East, West, South, North, R1 or R2 has its own indicator. When indicator is light, it means the relay contact is ″On″, vice verse.

APOLLO Coder ☺
For the different and various requests, an optional writer, APOLLO Coder has been prepared. You may set to other special functions according to the need by this writer.

Caution ☺
✡ For security consideration, complete training can only be offered / authorized to the operator.

✡ Please read thoroughly the operation manual before using APOLLO system.

✡ Regular maintenance / testing can extend the components' life, malfunction will also be found prior.

✡ Before operating the transmitter please check by power-on key, see if the battery power is sufficient.
If not, please change a whole set of new battery. For a long term period without operation we suggest you to take out of the batteries.

✡ Do not try to change or move the internal components without authorization, please contact your supplier, or the professional engineer who has the experience in industrial remote controller for maintenance / repairs.

✡ When the remote controller be struck by lightning, please stop operation and contact your supplier as soon as possible.

Trouble shooting ☺
When malfunction occurs, please check APOLLO system step by step, or contact your supplier if device still can not be operated normally.

✡ **IF: Press any push button in transmitter but there has no output, the indicator does not show…**
Possibility: Check if the power-key has been inserted.

✡ **IF: The power-key has been inserted, but still has no output, the indicator also does not show…**
Possibility: Check if the EMS-stop push button has been pressed, if so, turn to "On". Under the normal operation, EMS-stop push button shall not be pressed down.

✡ **IF: The EMS-stop push button has been turned to "On", the power-key is inserted, but still has no output, the indicator also does not show…**
Possibility: Check if batteries have been inserted, or the power is sufficient. Renew a whole set of batteries and place with correct poles directions. Press push button and see if indicator is blinking in green as 0.3 sec. every 2 sec. If no, contact your supplier immediately.

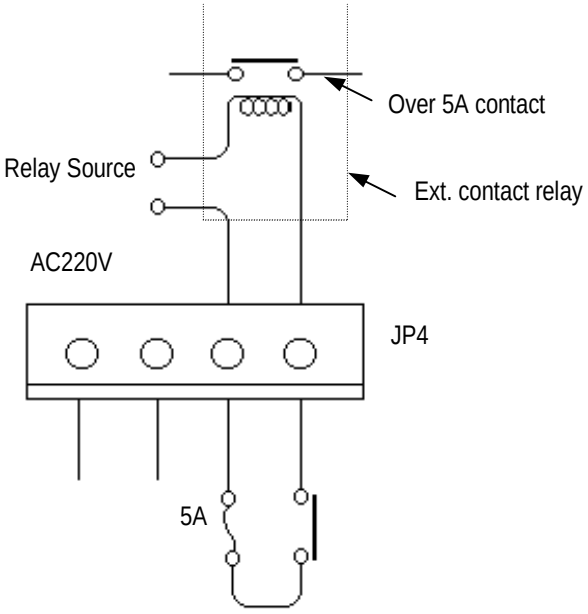
✡ **IF: Crane moves by itself, can not be controlled by both APOLLO and the original wired-control…**
Possibility: Malfunction occurs in crane. Please repair the crane.

✡ **IF: Power on the receiver, but SQ indicator does not light…**
Possibility: Power has not been sent to receiver. Check if F2 fuse is burn and renew a 0.25A fuse.

✡ **IF: Replaced a new 0.25A fuse, but still be burn after power on…**
Possibility: Receiver's internal circuit has some problems. Please contact your supplier.

✡ **IF: F2 fuse has not been burn…**
Possibility: The power input has some problems. Check if the input voltage is during AC220V±10%, if the input voltage has no problem, find out the reason of abnormal voltage, or contact your supplier.

✡ **IF: The indicator of output Main contact has light, but its relay has no output…**
Possibility: The fuse of Main contact, F1 is broken. Renew another 5A fuse.



Every fuse be taken shall not over 5A, if larger output contact current is requested, use another larger amp relay to control its relay. (see left diagram)

For example, if a fuse which over 5A be taken, it may cause Main output contact be melt as overheat, and can not break, this will cost much more in repairing.

Please do follow the trouble-shooting steps, or we shall have no direct/indirect duty for any of your property loss!

ID Label ☺

Every APOLLO system has its identification PC label, which defines the device's type, ID, service number, frequency and channel. For any inquiry please advise your supplier the service number for a faster solution.

Type ⇨

Channel / ID ⇨

Service No. ⇨

Frequency ⇨

Spare Parts List for C1-6PB ☺

APOLLO Transmitter	
Spare Part	Abbreviation
Top casing (incl. EMS-stop button, Power-key, stainless steel hook)	TOC
2 push buttons casing (incl. laser printed symbol & rubber cover)	2TH
4 push buttons casing (incl. laser printed symbol & rubber cover)	4TH
Bottom casing (incl. battery case, Stainless steel hook)	BOC
High frequency part	TFP
6 push buttons encoder board	ED62
Nylon shoulder strap	SB

APOLLO Receiver	
Spare Part	Abbreviation
Box.1 receiver casing (incl. Nylon cable glands, Rubber shock-proof nut, 2pcs of Instant fix holder)	BOX.1
High Frequency part	RFP
6 push buttons decoder & relay board	DD6
2nd step used relay board	RL2S
Transformer	TFM
Instant Connector	ISC
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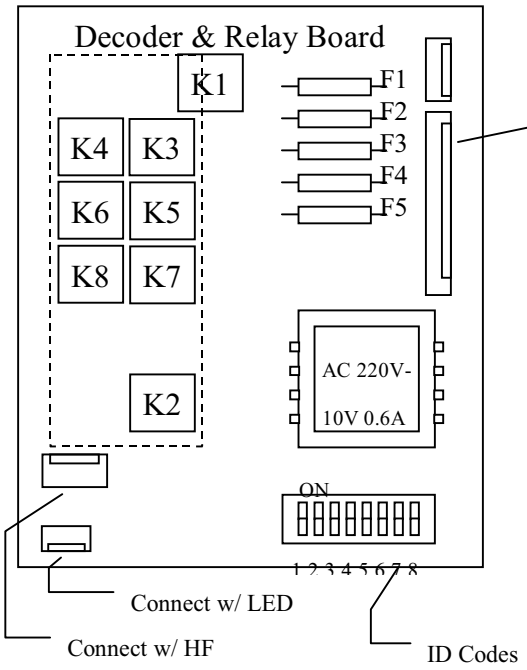
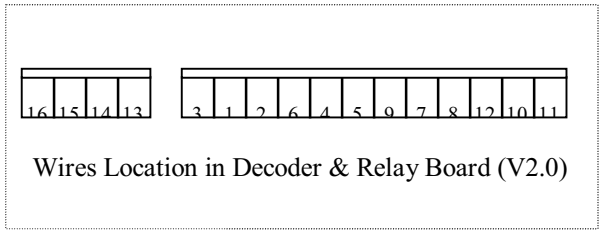
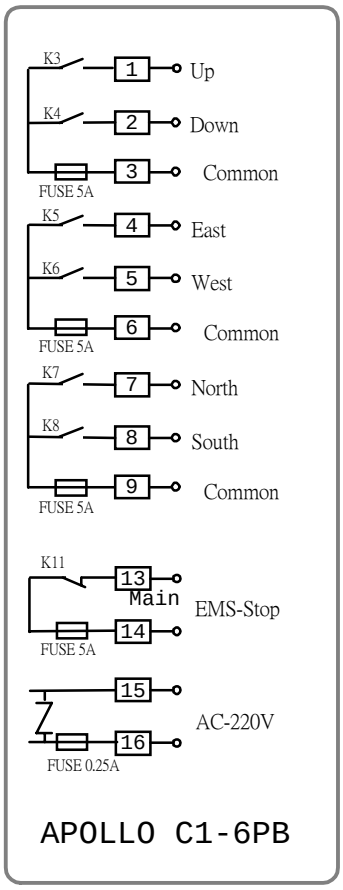
APOLLO C1-6PB Installation Wiring Diagram

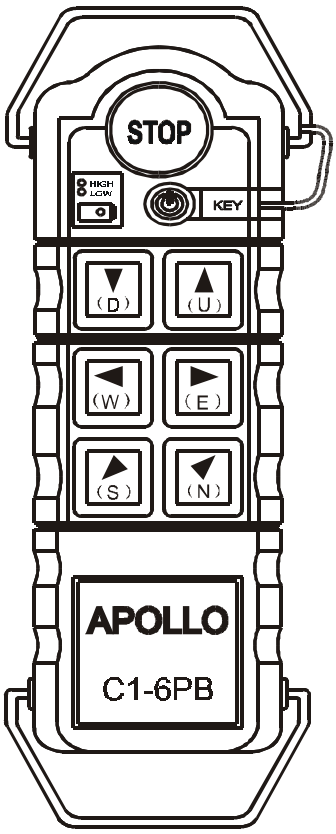




K1	Main
K2	CPU
K3	Up
K4	Down
K5	East
K6	West
K7	North
K8	South

F1	0.25A Power Fuse
F2	5A Main Fuse
F3	5A Up/ Down Fuse
F4	5A East/ West Fuse
F5	5A North/ South Fuse





Notice : The changes or modifications not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.