## User Manuel for Linkage module

Linkage module is connected to Engineering host(HB-G250), which used for detect each defense zones' status. If any zone triggered, LED light or Relay will indicate the triggered zone ( it says: one defense zone triggered, LED light will lighten up, meanwhile, ON/OFF the relative relay's Normally on/off.

## Product Feature:

1. Linkage module (HB-LDZD-120) can link with 120 LED indicator (From No.000---119), each LED indicator represent nominated defense zone.
e.g. Defense zone 001 triggered, 001 LED indicator will light up. Light keeps lighten until re-arm the host unit.
2. Linkage module (HB-LD-32) can link with 32 on-off output (From No.0---31), one on-off interface can connect one or more defense zones. Various defense zones in one same on-off output triggered will change status only one time.
e.g. defense zone" $1,5,20$ "connect to switching value " 0 ",no matter which zone (either of zone 1 , zone 5, zone20) triggered, switching value " 0 " will change its status only one time. Until after the setting time, switching vale " 0 " will turn to its original status.
3. One on-off output can connect to many defense zones, while one defense zone only can connect with one switching value.
4. Special command is used for check defense zone and switching vale is OK or not.
5. Period for on-off output: from 1 seconds to 5999 seconds, 1 seconds by faulty.
6.Self-chek: once upon start the device or reset, LED indicator and switching value will change its status one time in turn to check the system is ok or not.

## Instruction for module interface : :

Connector for Linkage module (See picture 1)


## 1. LED flash link:

a. LED flash located at the top part, there're 6 push pin, marshalling sequence as follows:

$$
\begin{aligned}
& \text { JB1(upper right, LED flash No.000-019) } \\
& \text { JB2(low right, LED flash No.020-039) } \\
& \text { JB3(upper position, LED flash No.040-059) } \\
& \text { JB4(low position, LED flash No.060-079) } \\
& \text { JB5(upper left, LED flash No.080-099) } \\
& \text { JB6(low position, LED flash No.080-099) }
\end{aligned}
$$

b. each push pin can link 20 LED flashes, marshalling sequence from right to left(see picture 2 below), first one in right side is the first LED flash(LED flash No.000), first one in left side is the twentieth LED flash(LED flash No.019)
c. on top of each push pin is positive pole for LED flash, below position is negative pole for LED flash .Push pin in same line, positive pole and negative pole consists of one LED flash, two wire is needed. Kindly attention: Connecting 000 to 001 is prohibited.


## picture2

d. LED flash output Voltage should be DC 1.8 V , current output should be about 3 mA .

## 2. ON-OFF output port:

a. ON-OFF output is at the bottom position. There's 8 insert plugs, marshalling sequence from right to left(JC1-JC8).Each insert plug has 4 groups of switching value ( from right to left, see picture below, right side, $1 \& 2$ interface for first group, $3 \& 4$ for second group, then ....etc.)

b. switch output normally open or normally closed can be adjusted by push pin,push pin at 1-2 named normally open, at 2-3 named normally closed.

c. switch output terminal, External AC output:AC220V,1A ,DC output:DC30C 2A .

## 3. 485 Contact Port:

a. 485 interface used to link Engineering Host(HB-G250), located on the right side of module board, structure as follows:

b. when link to Engineering Host(HB-G250), "485A"\& "485B" on module board should match with 485A \&485B of host unit accordingly.

## 4. Power Link

Linkage module support power supply: a. AC13V-AC20V b. DC12V
We have two power Link, but only one is OK.
a. DC Power link : directly link to HB-G250 +12 V and negative pole, power link as follows(picture 5);
b. AC Power link: can be link AC13V---AC20V power supply. Its located on the upper right side of module board, structure as picture 6.There's 4 binding post, left 2 terminals is for negative pole, right 2 terminal is for positive pole, negative pole and positive pole can random link.
c. standby current : 50 mA attracting current for one relay :on or about 20 mA


Picture 6

## Operation Instruction:

Set the linkage module by keyboard of HB-G250
a. Press "B" to enter into setup, to ensure accurate setting status, press "B" several times.
b. if false operation, press " $B$ " to reset.

1. Set defense zone with switching output:

Command:*57*ABC*EF\#
States:
A----------LED number: hundreds digit
B----------LED number: tens digit
C---------LED number: units digit
E----------Switch output: tens digit
F-----------Switch output :units digit
e.g. set LED No. 20 with No. 3 switch value, command as follows:

$$
\text { * } 57 * 020 * 03 \text { \# }
$$

Set LED No. 101 with No. 27 switch value, command as follows:

$$
\text { * } 57 * 101 * 27 \#
$$

2. Clear single defense zone and Switch value

Command:*57*ABC*\#*\#
States:
A----------LED number: hundreds digit
B----------LED number: tens digit
C----------LED number: units digit
e.g. clear LED No. 20 with relative switch value, command as follows:
*57*020*\#*\#
3. clear all defense zones with relative switch value, command as follows:
4. Check relative link
a). check by LED flash.

Command: *58*ABC***\#
A----------LED number: hundreds digit
B----------LED number: tens digit
C---------LED number: units digit
e.g.check LED No. 31 with relative switch value, command as follows:
*58*031***
b) check by switch value.

Command:*58*****BC\#
B----------Switch output: tens digit
C----------Switch output: unit's digit
e.g. check switch value No. 17 with relative LED flash, command as follows:
*58*****17\#
5. How to set ON-OFF output keeping time

Period available: 1 seconds---------5999seconds, 1 seconds by default
Command:*59**ABCD*\#
States:
A----------Set the ON-OFF time: thousands digit
B----------Set the ON-OFF time: hundreds digit
C----------set the ON-OFF time: tens digit
D----------Set the ON-OFF time: units digit
e.g.set ON-OFF time 50 seconds, command as follows:
*59**0050* \#

