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* HJ-K series *
* Relay contact option *
* User s manual *
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Introduction

This option is an output of relay contact signal corresponding to judgment results of the HJ-K balance, which can classify into maximum 5 ranks, obtained through D type 25 pin connector. Signal for "On measurement" and error are available, too.

1. Specification

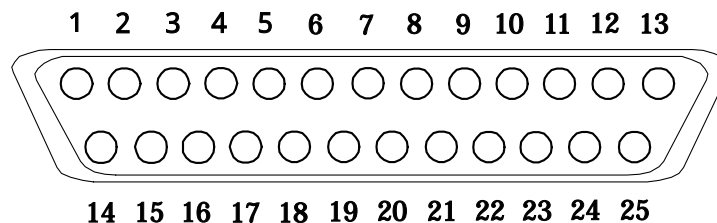
1-1 pin assignment at connector and the functions(connector :D-SUB25P)

1-1-1 Pins assignment and functions

Pin #	Signal	Input · Output	Functions · remarks
1	Rank1(LO) NO	Output	ON when judged as Rank1(LO)
2	Rank1(LO) NC	Output	OFF when judged as Rank1(LO)
3	Rank1(LO) COM	-	Rank1(LO) contact common
4	Rank2(OK) NO	Output	ON when judged as 2(OK)
5	Rank2(OK) NC	Output	OFF when judged as 2(OK)
6	Rank2(OK) COM	-	Rank2(OK) contact common
7	Rank3(HI) NO	Output	ON when judged as 3(HI)
8	Rank3(HI) NC	Output	OFF when judged as 3(HI)
9	Rank3(HI) COM	-	Rank3(HI) contact common
10	Rank4 NO	Output	ON when judged as 4
11	Rank4 NC	Output	OFF when judged as 4
12	Rank4 COM	-	Rank4 contact common
13	Rank5 NO	Output	ON when judged as Rank5
14	Rank5 NC	Output	OFF when judged as Rank5
15	Rank5 COM	-	Rank5 contact common
16	ERR NO	Output	ON when ERR is displayed
17	ERR NC	Output	OFF when ERR is displayed
18	ERR COM	-	ERR contact common
19	“ On measurement ” NO	Output	ON when displayed value is more than 5 times as readability
20	“ On measurement ” NC	Output	OFF when displayed value is more than 5 times as readability
21	On measurement COM	-	“ On measurement ” contact common
22	Buzzer NO	Output	ON when buzzer sounds
23	Buzzer COM	-	Buzzer contact common
24	External signal (+)	Input	Contact output control(+)
25	External signal (-)	Input	Contact output control(-)

* NO : Normal Open (A contact)

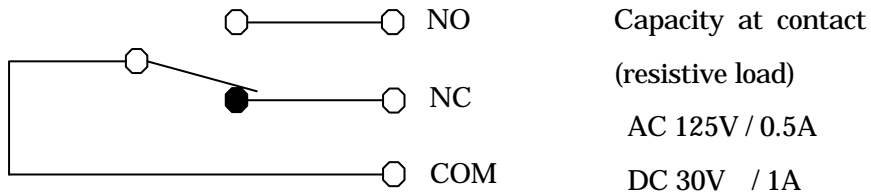
NC : Normal Close (B contact)



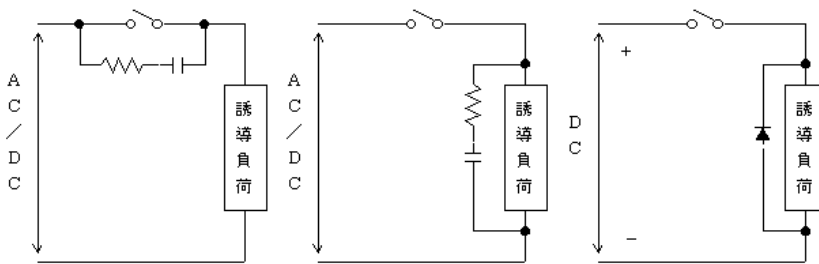
D-SUB25P male connector : view from rear

Caution Always unplug the AC adaptor before connecting.

1-1-2 Relay contact circuit

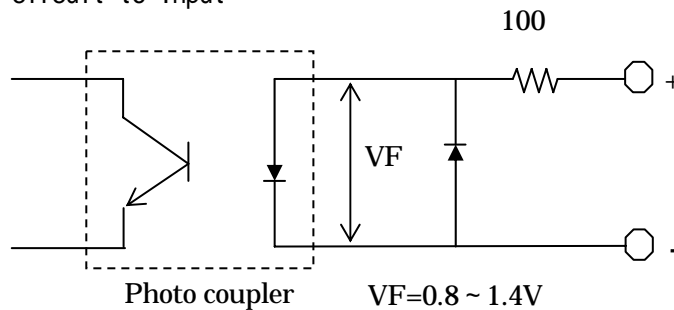


1-1-3 Remarks on inductive load in the contact

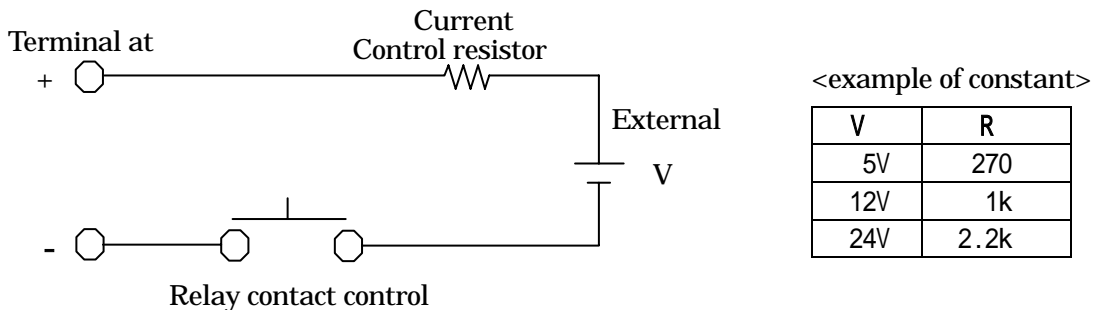


Supply spark-off circuit when inductive load (relay, solenoid etc) is connected

1-1-4 Equivalent circuit to Input



1-1-5 example of relay input



Be sure to apply specified current, by avoiding mistake of wrong connection, and using control resistor and so on. Wrong connection or excessive current supply may damage the internal circuit take at least 100ms for ON period.

2. Setting of the HJ-K balance

Activate the limit function for outputting the result of comparison through relay contact
 limit function should be activated even when ERR, on weighing signal only are used

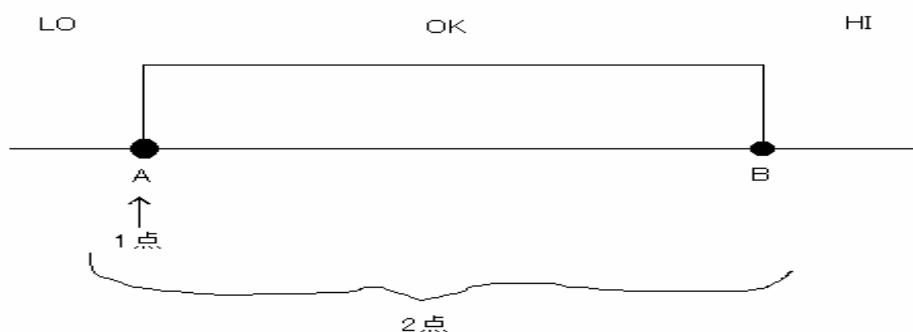
Condition of the function setting

This is a standard setting generally working. If it is not acceptable, apply your setting by referring to the operation manual of the balance.

Additional function	[25EL	2]	limit function effective
judgment condition	[21C0	1]	judgment at all times (including when unstable)
judgment range	[22L	1]	whole range above zero
Number of set points	[23P	2]	2points(upper & lower) (HI/OK/Lo judgment)
Judgment method	[24 tYP	1]	real value
Rank1 Buzzer	[25 bu 1	0]	No buzzer does not sound in Rank1(LO)
Rank2 Buzzer	[26 bu 2	0]	No buzzer does not in Rank2(OK)
Rank3 Buzzer	[27 bu 3	0]	No buzzer in Rank3(HI)
Rank4 Buzzer	[28 bu 4	0]	No buzzer in Rank4
Rank5 Buzzer	[29 bu 5	0]	No buzzer in Rank5
Rank] indication	[2RL0	1]	HI/OK/LO/ rank indication
Relay output control	[2b r.o.c.	1]	Output at all times (not controlled by external signal)

Setting upper and lower limits

refer to "limit function" in operation manual of HJ-K
 (example)



3. Operations

1. Plug the AC adaptor and press the [ON/OFF] key
2. Enter the set point values (upper & lower limits) to enable the comparator function
 (Refer to in the previous section and the operation manual of HJ-K in detail)
3. The Relay contact works as the comparator result is displayed

4. Status of the balance and the contact

Status of the balance	Display	Contact
Does not meet condition	No result is displayed	All OFF
Does not meet the range	No result is displayed	All OFF
Set points or values are invalid	Three ◀ on left side light	All OFF
o-Err/u-Err	o-Err/u-Err	* OFF in Rank 1~5 in "On measurement" * ON in ERR
During setting (not on measurement)	Setting display	All OFF
Waiting for stability with tare	『M』 flickers	The latest result is hold
Stand by	standby LED lights	All OFF
On sleep	sleep LED lights	Output to the judgment result
At start up until measurement starts	『88888888』 all lights	All OFF

5. Output control by external signal

1. Generally contacts and buzzers are controlled by judgment result, but can be controlled by external signal by control setting.
2. If power sources is connected to external signal input, While output is set to be controlled by external signal ([2b r.o.c. 2] control), judgment result is output for about 200ms after signal starts.
3. If you apply external signal in pulse wave, take ON period for at least 100ms.