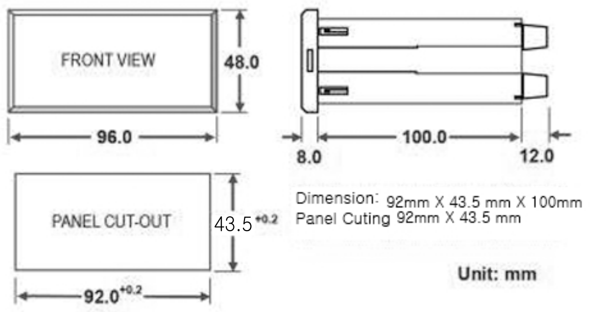
KS800-P DISPLACEMENT INDICATOR MANUAL

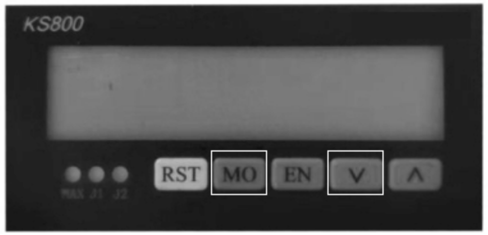
1.TECHNICAL CHARACTERISTIC

KS800-P is a six-digit displayed table for displacement, which has functions of control, display, transformation, RS485 Protocol, etc.

The high counting frequency is a outstanding feature of KS800, which is up to 500KHZ.



- International size: 96mm×48mm×115mm, six-digit of 0.56 inches nixie tubes.
- Input A and input B make up two-sides input, which can recognize signal with 90°phase difference from encoder.
- There are "reset" terminal outside the table, which allows zero data.
- There are two control values in two relays, it can be used for controlling or warning.
- Standards: Two relays, four kinds of relay output.(There are four relays type for choose).
- Setting the time of automatic reset-delay to use the function of automatic reset-delay.
- Function of displaying peak value.
- When power off, don't lose current value and set value.
- Allows setting resolution.
- Connected with sensors: power sensors with 5V(100mA),12V(100mA) Accept customized power type.
- Counting magnification: Quadruple frequency.
- 4-20mA output(Optional).
- RS485 Protocol(Optional) 115200bps communicating baud rate, sending display-value every 5 seconds actively.



MO 3초간 클릭시 설정 모드 V 클릭시 최대값만 표기

2.TECHNICAL PARAMETERS

Power supply	220V AC	
Input impedance	5KΩ	
Pulse frequency	≤500KHz	
Counting magnification	0.000 ~ 999.999	
Display-value range	-99999 ~ 999999	
Level of pulse	Low level	-50V ~ 0.5V
	High level	3.5V ~ 50V
Contact capacity	AC250V3A DC30V3A	
Installation method	Snap-in type	
Hole size	92 × 43.5mm	
Environment temperature	-10℃~ 50℃	

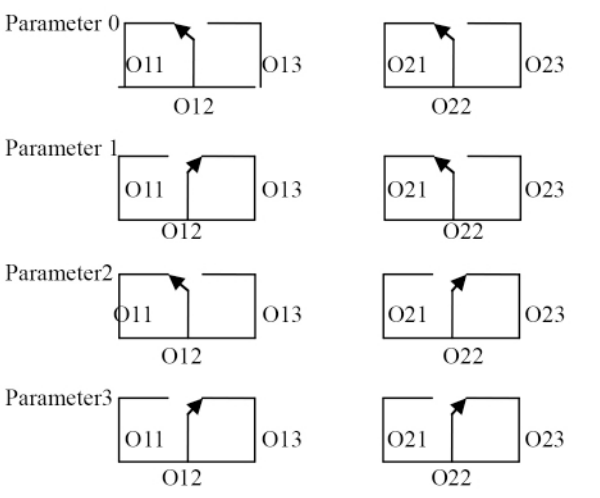
3.INTRODUCTION OF PARAMETERS

	Function	Setting Value
FN00	소수점 자릿수 설정	Default 2
Fn01	resolution 설정	Range: 0.000~999.999 Default: 1.000 ex) 소수점 1자리(0.0) 경우 0.01mm/pulse = 0.01로 셋팅 소수점 0자리 경우 0.01mm/pulse = 0.001로 셋팅 소수점 2자리(0.00) 경우 0.01mm/pulse = 0.1로 셋팅
Fn02	relay 상한값 설정	Default: 1000
Fn03	relay 하한값 설정	Default: -1000
Fn04	offset 설정	Default: 0

Fn05	Relay 출력 모드 설정	Default: 0

PS:

The state in the reset state is as follows (see the terminal description below for the definition of each port signal)

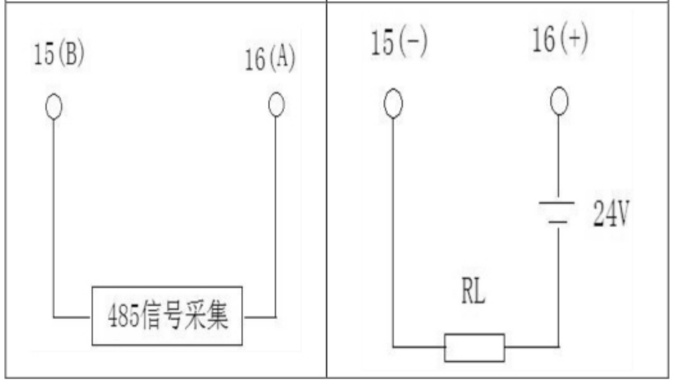


O11	Normally closed contact of relay 1
O12	Intermediate contact of relay 1
O13	NO contact of relay 1
O21	Normally closed contact for relay 2
O22	Intermediate contact of relay 2
O23	NO contact of relay 2

Fn06	Auto reset time	Default: 0(0설정시 사용안함) 시간 설정시, 설정시간 후 자동으로 리셋 (단, 릴레이 2개 신호시 동작시작)
		setting time. The default value is 0, which is disabled. Minimum setting time unit: 0.1S
Fn07	4mA Low Scale 설정	Default: 0
Fn08	20mA High Scale 설정	Default: 10000
Fn09	4mA current offset adjustment （0~1000）	Default value: 33
Fn10	20mA current regulation factor	800~1200 Default value: 820
Fn11	공장초기화(설정X)	Enter the value 111, press the En key, and then power on again after the power is turned off. The meter restores the factory default settings. The value of this parameter is not set to 111 by default. Otherwise, if the power is turned off again, all the setting parameters will be restored to the initial values after power on.
Fn12	비밀번호 설정 (사용X)	Enter the password and save it. When you press and hold the MO key again, a password input prompt will appear. At this time, press the En key to enter the password input interface. After entering the correct password, press En again to enter
		the parameter setting display Fnxx interface; Password error will return to working status directly

3.4-20mA AND 485 TRANSMISSION OUTPUT WIRING DIAGRAM

485	4-20mA



4.485 COMMUNICATION PROTOCOL DESCRIPTION

This machine adopts 485 communication. See the figure above for the wiring method. After turning on the power of the instrument and entering the normal working state, the unit will actively send the displayed value through the 485 interface. By default, the communication baud rate is 115200bps and the data transmission frequency is 20Hz. The protocol is as follows:

1) Data transmission serial port setting parameters: 115200, N, 8,1. That is, the baud rate is 115200, no parity bit, 8 data bits, 1 stop bit, and the data is a binary number.
2) A total of 10 bytes are sent for each communication. The agreement is as follows:

1st Byte	2nd-7th Byte	8th Byte	9th Byte	10th Byte
Start sign 0x02	Data Frame	Symbol flag	Decimal point position	Checksum

Explanation: Start flag is fixed 02

The data frame is ASCII code, which is the original data +48. The second byte is the most significant bit, and the seventh byte is the least significant bit.

The sign bit is ASCII code, 48 means positive number, 49 means negative number (that is, 0 means positive number, 1 means negative number).

The decimal point position is ASCII code.

eg.:

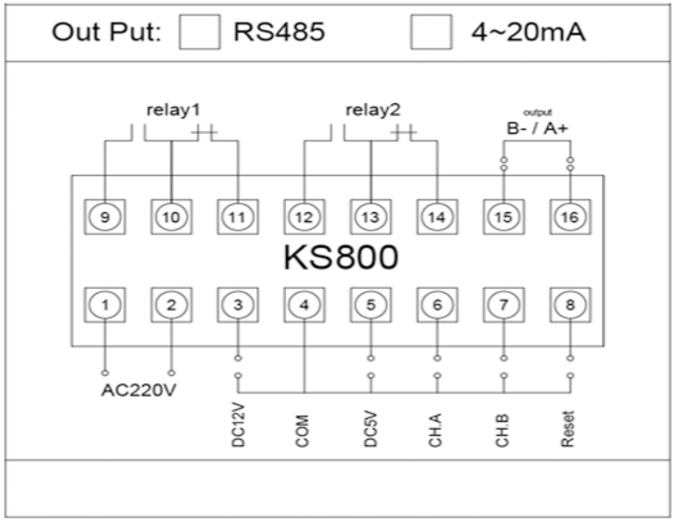
Digital display value is 1234.67

The sent data hex is 02 49 4a 4b 4c 4e 4f 48 4a 5b

Digital display value is -1234.6

The sent data hex is 02 48 49 4a 4b 4c 4e 49 49 54

5.TERMINAL DESCRIPTION



Signal Name	O11	O12	O13	O21	O22	O23	B/-	A/+
Upper Row Terminals	9	10	11	12	13	14	15	16
Lower Row Terminal	1	2	3	4	5	6	7	8
Signal Name	+	-	+12V	GND	+5V	A	B	Z

TERMINAL NAME	FUNCTION
O11	Normally closed contact of relay 1
O12	Intermediate contact of relay 1
O13	NO contact of relay 1
O21	Normally closed contact for relay 2
O22	Intermediate contact of relay 2
O23	NO contact of relay 2
B/-	B wire for 485 communication function, negative pole for 4 ~ 20mA current output
A/+	A wire for 485 communication function, positive pole for 4 ~ 20mA current output
A	Quadrature input signal A-phase terminal
B	B-phase terminal for quadrature input signal
Z	External clear signal terminal, active low
+5V	5V External supply terminal
GND	Instrument common ground terminal
+12V	12V External supply terminal
+	Positive power supply
—	Negative power supply

6.INSTRUCTIONS

1)Press the function key (MO) for more than 2 seconds to enter the parameter setting state. The first parameter Fn00 is displayed on the screen. If you want to set the subsequent parameters, you can press the function key (MO), the parameters will be incremented in turn and displayed cyclically The parameter you want to modify Fn0XX

2)After the parameter FnXX is displayed on the screen, press the OK key (En) to enter the parameter setting state of FnXX. The original setting value will be displayed on the screen, and the last digit will flash.

3)To modify the value, make sure that the current modified bit is a blinking bit. If not, you can change the position of the blinking bit by pressing the function key (MO) from right to left, and then change the value with the ↑ ↓ keys. cycle;

4)After setting the parameters, press the OK key (En) to exit the setting of parameter FnXX and return to the state of 1). When FnXX is displayed on the screen, press the reset key (RST) to exit the setting state and return to the working state.

7.PEAK FUNCTION

In the working state, press the ↓ key, then the MAX indicator lights up, and the displayed value always shows the count peak. Press the ↓ key again, the MAX indicator will go out and exit the peak state.

NOTE:

1※

The wiring diagram of the meter is incorrectly printed. The normally open and long closed points are reversed. The instruction manual shall prevail.

2※

Since the manufacturers of the A and B phase outputs of the encoder are different, if you connect the wires according to the meter wiring diagram, the displayed values have different directions. If they do not meet your needs, please exchange the A and B wires!

3※

It is necessary to provide a proper power supply strictly in accordance with the voltage instructions on the wiring diagram, otherwise it will bring safety or other serious consequences!

2013/9/18