

DK Series operating cautions

In operating the feeler with a vacuum pump, use such an air-pass system as shown in Fig. 1 to enable air driving. The optimum vacuum rate is 0.04 to 0.067MPa. Further, put such an orifice as shown in Fig. 2 on a tube from the air filter connector to control the air suction and discharge speed. The feeler is lifted at the air discharge to the vacuum pump.

Fig.1 Air-pass System

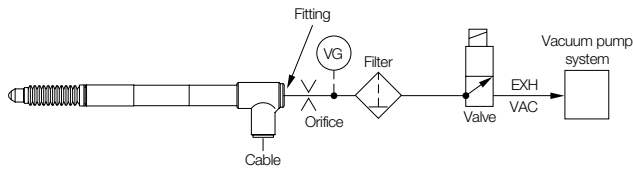
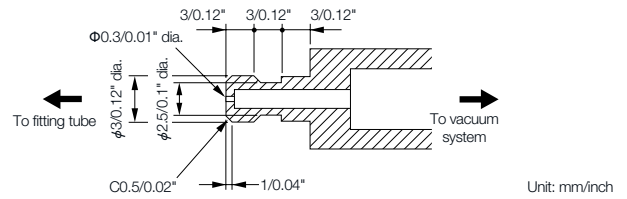
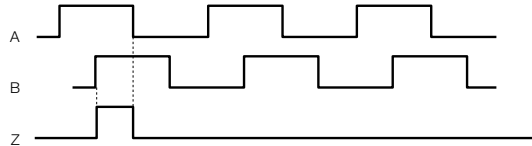


Fig.2 Dimensions of Orifice



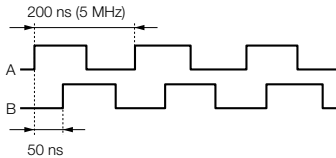
DK Series measuring unit output signals

The signals output from this measuring unit are A/B quadrature signal, Z signal in the form of voltage-differential line driver output compliant with EIA-422.

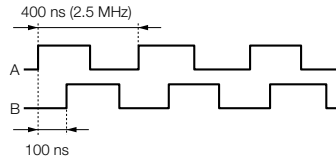


The reference point is the synchronized reference point that is at Hi impedance when the phase A and phase B are at the Hi level.

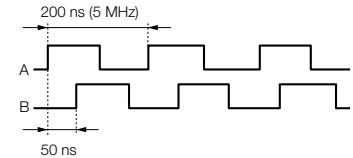
DK800A output signals at maximum response speed (at approx. 80 m/min)



DK800B output signals at maximum response speed (at approx. 42 m/min)



DK10/25/100/155/205/110 Output signals at maximum response speed (at approx. 42 m/min)



Before using, check that the minimum input phase difference of the control device connected to this measuring unit or the counter is smaller than 50 ns for the DK800A (A signal cycle: 200 ns, 5 MHz) or smaller than 100 ns for the DK800B (A cycle: 400 ns, 2.5 MHz).

*The minimum phase difference can be modified under special specifications.

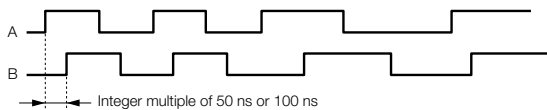
Before using, check that the minimum input phase difference of the control device connected to this measuring unit or the counter is smaller than 50 ns for-DK 10-110 series (A signal cycle: 200 ns, 5 MHz).

*The minimum phase difference can be modified under special specifications.

Output Signal Phase Difference

The travel amount of the measuring unit is detected every 50 ns for the DK800A and every 100 ns for the DK800B, and the phase difference proportional to the amount traveled is output. The phase difference changes in integer multiples of 50 ns or 100 ns. Also, the minimum phase difference for the A and B is 50 ns for the DK800A and 100 ns for the DK800B.

DK802A/B-812A/B

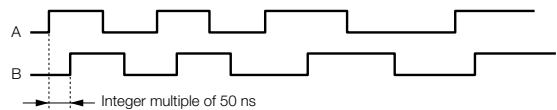


In maximum standard specifications, the minimum phase difference is fixed at 50 ns for the DK800A and 100 ns for the DK800B, but the minimum phase differences in the table below are available as special specifications.

A/B minimum phase difference	A signal cycle	Counter allowable frequency	Maximum response speed		Remarks
			Resolution 0.1 μm	Resolution 0.5 μm	
50 ns	200 ns	5 MHz	80 m/min	250 m/min	DK800A standard product
100 ns	400 ns	2.5 MHz	42 m/min	100 m/min	DK800B standard product
300 ns	1.2 μs	833 kHz	14 m/min	33 m/min	Special specifications
500 ns	2 μs	500 kHz	8.4 m/min	20 m/min	Special specifications

The travel amount of the measuring unit is detected every 50 ns, and the phase difference proportional to the amount traveled is output. The phase difference changes in integer multiples of 50 ns. Also, the minimum phase difference for the A and B is 50 ns.

DK10/25/100/155/205/110

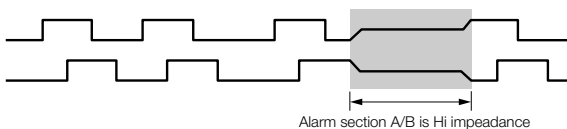


In the standard specifications, the minimum phase difference is fixed at 50 ns, but the minimum phase differences in the table below are available as special specifications.

A/B minimum phase difference	A signal cycle	Counter allowable frequency	Maximum response speed	Remarks
			Resolution 0.5 μm	
50 ns	200 ns	5 MHz	250 m/min	Standard product
100 ns	400 ns	2.5 MHz	100 m/min	Special specifications
300 ns	1.2 μs	833 kHz	33 m/min	Special specifications
500 ns	2 μs	500 kHz	20 m/min	Special specifications

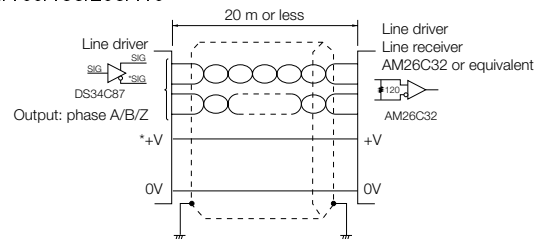
Output Signal Alarm

If the response speed is exceeded, the A/B output from this measuring unit changes to Hi impedance for about 400 ms to serve as an alarm.



Receiver

DK10/25/100/155/205/110



(*If extending the cable, the supply voltage is +5 V±5%.)

*Use the CE22 series extension cables for bare wires (optional accessories).