Quick reference sheets for MGG

After installing the magnetic flowmeter, set the parameters and confirm the position of detector. Refer to the following procedure.

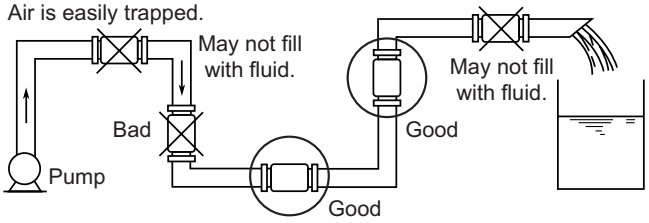
I Confirm the installation site

Criteria for Selecting the Installation Site

Detector position

- Position the detector so that its internal detector passage is continuously filled with the fluid being measured. Figure 1-1 shows examples of positions that fulfill this condition.

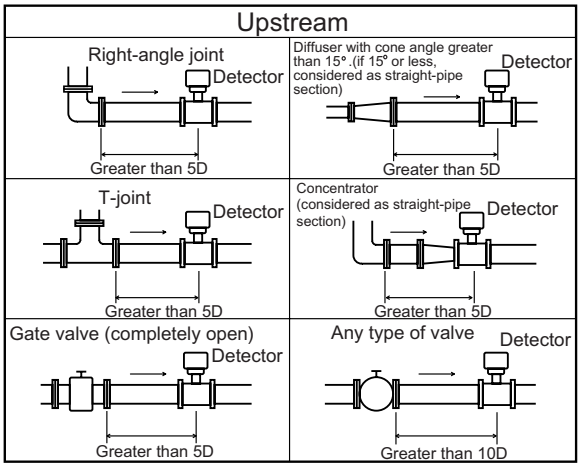
Figure 1-1 Proper placement of the detector.



Caution

- Fill the pipe with liquid and install the detector in a location that satisfies the conditions circled above. If the pipe is not filled it can cause an output error.
- When the fluid to be measured is of high viscosity, connecting the detector to a vertical pipe is recommended (in order to secure an axial symmetrical flow). The fluid must flow from the top down.
- Install a straight pipe section between the upstream and downstream positions. For the length of the straight pipe section, refer to the figure below.

Figure 1-2 Straight pipe section on the upstream side of the detector.(D = nominal bore diameter of the detector)

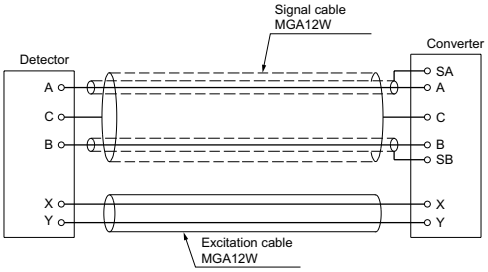


Electrical Wiring

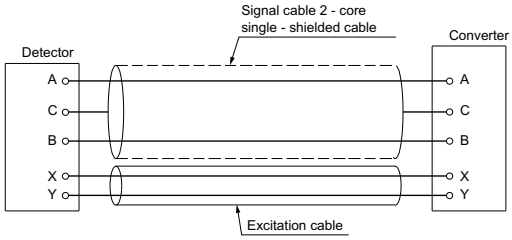
Detector-to-converter connection

Figure 1-3 Detector-to-converter connection

Wiring of dedicated cables (Model : MGA12W)



- Commercially - available cable

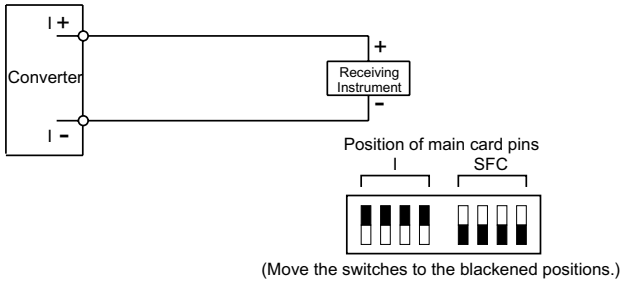


Current outputwiring

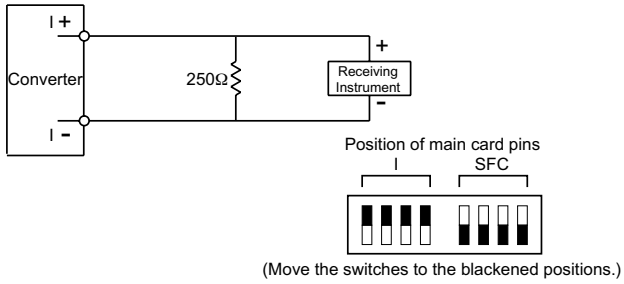
The current output wiring method depends on whether or not communication with the SFC is used. An external power supply is required to communicate with the SFC. (Switch the main board pins after turning the power supply OFF.)

Figure 1-4 Wiring diagram for current output

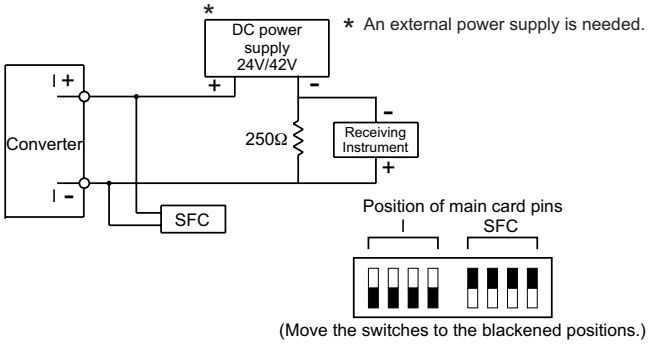
- No SFC communication



- Hart communications



- With SFC communications



Note:

Miswiring of polarity may cause damage to the equipment. Recheck the wiring position carefully.

II Set parameters

1. Set the range and engineering units

Step	Procedure	Screen
1.	The screen at right shows an example of display of 10 m3/h,100% in the Measuring Mode. Touch the MODE key for about three seconds.	100.0 % 10.0 m3/h 0000032542 TOTAL
2.	Complete the following operations within eight seconds (the screen at right will be displayed for about eight seconds only): 1)To enter the Operator's Mode, move the cursor under "Y" by touching the ⇨ key twice, and then touch the ⇧ key. 2)To return to the Measuring Mode, move the cursor under "N" and touch the ⇧ key.The screen will automatically return to the Measuring Mode (screen shown in step1) eight seconds later.	100.0 % ENTER IN OP. MODE YES OR NO 100.0 % ENTER IN OP. MODE YES OR NO
3.	The operation mentioned under 1) in the above step will make the screen on the right be displayed for about two seconds.	100.0 % * OPERATOR'S MODE
4.	The Damping Setting screen will be displayed about two seconds later.	100.0 % * DAMPING 003.0s
5.	Touch the ⇧ key several times and open the Engineering Mode section screen.	12.3 % * MODE ENTER ENGINEERING
6.	Touch the ⇨ key once.	12.3 % * MODE ENTER ENGINEERING
7.	Touch the ⇧ key, and the display will change to the Engineering Mode.	12.3 % # ENGINEERING MODE
8.	Two seconds later, the display shown at right will appear.	12.3 % # ID SET XXXXXXXX
9.	Open the range set-up screen by following the steps to enter the Engineering Mode.	12.3 % # 1.4147 m/s SPAN 10.000 m³/h
10.	Touch the ⇨ key to move the cursor to the desired digits.	12.3 % # 1.4147 m/s SPAN 10.000 m³/h
11.	Use the ⇧ and ⇩ keys to change the numbers.	12.3 % # 2.8294 m/s SPAN 20.000 m³/h
12.	Touch the ⇨ key to move the cursor to the time unit. Use the ⇧ or ⇩ key to select the desired unit.	12.3 % # 2.8294 m/s SPAN 2000.0 l/h
13.	Touch the ⇨ key to move the cursor to the flow rate unit. Use the ⇧ or ⇩ key to select the desired unit.	12.3 % # 2.8294 m/s SPAN 333.33 l/min
14.	Touch the ⇨ key to move the cursor to the "#", and touch the MODE key finally.	12.3 % # 2.8294 m/s SPAN 333.33 l/min

2. Set the pulse scale

Open the pulse scale setup screen by the previous range and engineering units setting steps. Complete the steps from 1 to 8.

Step	Procedure	Screen
1.	Open the pulse scale set-up screen by following the steps to enter the Engineering Mode.	12.3 % # PLS 27.780 Hz SCL 100.00 l/p
2.	Use the ⇨ key to move the cursor to the desired numbers.	12.3 % # PLS 27.780 Hz SCL 100.00 l/p
3.	Use the ⇧ and ⇩ keys to change the figures.	12.3 % # PLS 13.890 Hz SCL 200.00 l/p
4.	Touch the ⇨ key to move the cursor to the "#",and touch the MODE key finally.	12.3 % # PLS 13.890 Hz SCL 200.00 l/p

3. Confirm the detector data

Open the detector data setup screen by the previous range and engineering units setting steps. Complete the steps from 1 to 8.

Note:
- When you purchase the converter and detector in combination, your converter will contain the detector data that was set during actual flow calibration. Take care not to change the data, or the flowmeter output will be incorrect.

Step	Procedure	Screen
1	Open the detector data set-up screen by following the steps to enter the Engineering Mode.	12.3 % # EX 300.0 MGG DIA 050.0
2	Touch the ⇨ key to set the detector constant. Use the ⇧ and ⇩ keys to input the numerical value printed on the EX column of the detector nameplate.	12.3 % # EX 320.0 MGG DIA 050.0
3	Touch the ⇨ key to select the type of detector. Use the ⇧ and ⇩ keys to select the model number printed on the nameplate of the detector to be used.	12.3 % # EX 320.0 KID DIA 050.0
4	Touch the ⇨ key to select the diameter. Use the ⇧ and ⇩ keys to select the diameter of the detector to be used.	12.3 % # EX 320.0 KID DIA 100.0
5	Use the ⇨ key to move the cursor to the "#", and touch the MODE key finally.	12.3 % # EX 320.0 KID DIA 100.0

mm	inches	mm	inches
2.5	0.1	125	5.0
5	0.2	150	6.0
10	0.4	200	8.0
15	0.5	250	10.0
25	1.0	300	12.0
40	1.5	350	14.0
50	2.0	400	16.0
65	2.5	450	18.0
80	3.0	500	20.0
100	4.0	600	24.0

Detector bore diameter mm <---> inches table

III Perform zero adjustment

Adjust the flowmeter so that the measured instantaneous flow rate will be zero when the fluid stands still in the detector.

Notes:
- Zero adjustment is very important for accurate flow mea surement. Before operating the unit for the first time, be sure to zero the flowmeter.
- Before zero adjustment, make sure the detector has proper less than 100 Ω grounding and that the fluid to be measured is filled in the detector and is standing still. Zero adjustment is possible when the flow speed is 0.2 m/s or below, but wait until the fluid completely stops (flow speed: 0.0 m/s) for accurate adjustment. Otherwise, output errors may result.

Step	Procedure	Screen
1.	The screen at right shows an example of display of 10 m3/h,100% in the Measuring Mode. Touch the MODE key for about three seconds.	100.0 % 10.0 m3/h 0000032542 TOTAL
2.	Complete the following operations within eight seconds (the screen at right will be displayed for about eight seconds only): 1)To enter the Operator's Mode, move the cursor under "Y" by touching the key twice, and then touch the ⇧ key. 2)To return to the Measuring Mode, move the cursor under "N" and touch the ⇧ key.The screen will automatically return to the Measuring Mode (screen shown in step1) eight seconds later.	100.0 % ENTER IN OP. MODE YES OR NO 100.0 % ENTER IN OP. MODE YES OR NO
3.	The operation mentioned under 1) in the above step will make the screen on the right be displayed for about two seconds.	100.0 % * OPERATOR'S MODE
4.	The Damping Setting screen will be displayed about two seconds later.	100.0 % * DAMPING 003.0s
5.	Touch the MODE key for three seconds or more. Note: The screen at left will be displayed for eight seconds. Complete the following operations within eight seconds.	0.0 % ENTER IN OP. MODE YES OR NO
6.	Touch the MODE key for one second or longer.	0.0 % * OPERATOR'S MODE
7.	Touch the MODE key on the data-setting device for one second or more to enter the Operator's Mode. Touch the ⇧ key to open the screen shown at right. Note: The figure shows the screen when the main display is set at %.	0.0 % * AUTO ZERO READY
8.	Touch the ⇨ key once.	0.0 % * AUTO ZERO READY
9.	Touch the ⇧ key to start zero adjustment. When the large 7-segment display shows the flow rate in percent, "0.0" will flash during adjustment. When zero adjustment is completed, the flashing will stop and the "ON" message will return to "READY." It takes about thirty seconds for zero adjustment.	0.0 % * AUTO ZERO ON
10	Touch the ⇨ key once. After flashing the screen, touch the MODE key finally.	0.0 % * AUTO ZERO READY

If you set the other parameters and confirm the detailed information, please refer to MagneW3000 PLUS user's Manual.

IV Setting data information memo

Model No.	Converter	
	Detector	
Product No.	Converter	
	Detector	
Range		
Pulse scale		
Detector data	EX	
	Diameter	
	Detector type	
Additional information		

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