| Reliability Creativity Service | Product Specifications | FZ01-046i0 | 1/3 |
|---|---|---|---|
| | Compact Flow Sensor | Model | NDV10-STD□R |

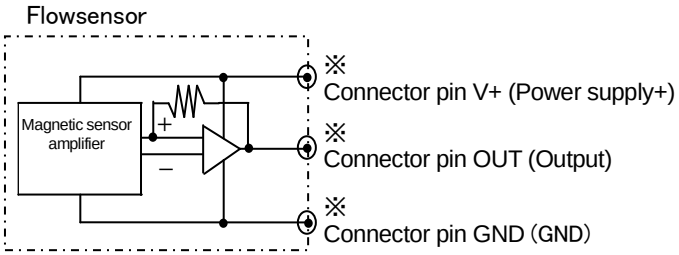
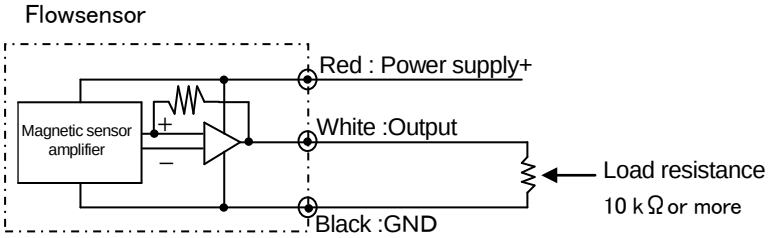
1. Specifications

| Model | | NDV10-STD0R | NDV10-STD1R | NDV10-STD2R |
|---|---|---|---|---|
| Nominal diameter | | 10mm | | |
| Accuracy guaranteed flow-rate range | | 1 to 10L/min | | |
| Accuracy | | ±7%RS (in the recommended installation position) | | |
| Fluid to be measured | | Tap water *1 | | |
| Fluid viscosity range | | 0.5 to 1.5 mPa·s (equivalent to water) | | |
| Fluid temperature range | | 0 to +40ºC (No freezing) | | |
| Working ambient temperature/humidity range | | 0 to +40ºC35 to 85%RH (No dew condensation) | | |
| Maximum working pressure | | 0.75MPa (at the fluid temperature of 20ºC) | | |
| Pressure drop (at the accuracy guaranteed maximum flow-rate) | | 27kPa or less | | |
| Output Signals | Output | Voltage pulse<br>Load resistance 10kΩ or more<br>Pulse ON time<br>Approximately 1.3msec or more<br>Duty ratio 2:8<ON:OFF<8:2 | Applied voltage / High / Low<br>3VDC / 2VDC or more / 1VDC or less<br>12VDC / 10VDC or more<br>30VDC / 27VDC or more | |
| | Wiring | Pin connection method (without cable)<br>Refer to the External View Drawing for the details. | Red: Power supply + White: Output Black: GND | |
| | Lead wire | | Lead wire length: Approximately 300mm 3-wire AWG26 | |
| | Connector | | J.S.T. MFG. Co., Ltd.<br>Socket contact: SPH002T-P0.5S<br>Connector housing: PHR-3 | |
| Pulse constant | | 1.12mL/P | | |
| Installation Position | | Horizontal or vertical (bottom to top) to the ground is recommended.<br>(Air bubble shall not be intruded) | | |
| Flow direction | | Arrow direction indicated on the product | | |
| Pipe connection | | R 1/4 | Tube connection method *2 | |
| Protection grade | | Indoor specification (Equivalent to IP X4) | | |
| Power supply | | 3 to 30VDC | | |
| Current consumption | | 20mADC or less | | |
| Weight | | Approximately 9g | Approximately 12g<br>(including lead wire and connector weight) | |
| Main materials of wetted parts *3 | Casing | GF-ABS(milky white) | | |
| | Vane wheel | CF-POM | | |
| | Shaft | SUS303 | | |
| | Magnet | Sa-Co | | |
| Others | | RoHS directive compliant | | |

*1: Consult with us in case of measuring a fluid other than tap water.
*2: Tube and O-ring are not supplied. Prepare them by yourself.
Recommended tube: Inner diameter Φ 14 Recommended O-ring: JIS B 2401 Nominal diameter P10A Inner diameter 9.8mm Thickness 2.4mm
*3: Material symbols

| | |
|---|---|
| GF-ABS | Glass fiber reinforced ABS resin（Glass-Fiber-reinforced Acrylonitrile Butadiene Styrene） |
| CF-POM | Carbon fiber reinforced Polyacetal or Polyoxymethylene |
| SUS303 | Stainless |
| Sa-Co | Samarium-Cobalt |

2 .Wiring technique

| | |
|---|---|
| NDV10-STD0R |  <br>※Applicable housing: J.S.T. MFG. Co., Ltd.×HP−3<br>Contact: S×H −001T−P0.6(AWG#28～22)<br>S×H −002T−P0.6(AWG#30～26) |
| NDV10-STD1R<br>NDV10-STD2R |  <br>Be sure to connect the load resistance of 10 kΩ or more between white and black. |

3. Precautions for handling

3-1.Working environment, fluid to be measured

(1)Ensure that the wetted parts' materials have corrosion resistance against fluid to be measured.

(2) Keep the product away from a strong magnetic field or a source of electric noise.

(3)The product is not explosion-proof specification. Do not use the product in an explosive atmosphere such as flammable gas, etc.

(4)In case flow in the pipe has pulsation, the measurement accuracy is to be affected. When feeding the fluid with a constant rate pump, etc., which causes pulsation of flow, cancel the pulsation using an accumulator, etc.

(5)Avoid installation at a place exposed to direct sunlight and/or rain (Indoor specification).

3-2.Precautions for piping

(1)No air shall be in the fluid to be measured. The measurement accuracy is to be affected.
Do not install the product at a place where air accumulation can easily occur (e.g. upstream side of a falling pipe. Also, before start measurement, remove air sufficiently.

(2)Devices such as a flow-rate adjusting valve, etc., which disturb flow shall be installed in the downstream of the flowsensor.

(3)Avoid installing the product where it is exposed to excessive pressure, such as water hummer, etc.

(4)In case foreign substances, oil, etc., exist in the piping, install the flowsensor after cleaning inside of the pipe.

(5)Make sure to align the flow direction of the fluid with the flow direction indicated by the arrow on the main body.

(6)Provide straight pipe portion of 5D or more at the upstream and 3D or more at the downstream of the flowsensor.

(7)Around the place of installation, provide enough space for maintenance.