



# Mass Flow Controller MC-5000 series

MC-5000 Series

## Features

DeviceNet (ODVA) digital interface.  
High performance 1"1/8 digital MFC.  
New generation piezoelectric valve.  
Single power supply operation 11-25VDC.  
Surface mounting configuration.  
LINTEC Co., Ltd. patent pending ambient temperature compensated flow sensor (US and Japan).

## Piezoelectric Valve Advantages

The New Generation Piezoelectric Valve MFC's springless metal design offers :

- very fast response time,
- extremely low dead volume,
- great stability (to pressure variation),
- particle prevention.

## Metal Design Advantages

Combined with the new generation piezoelectric valve, metal seals and superior surface finishing within the MFC contribute to ultra clean performances.

## Digital Advantages

Dynamic control in the gas line.  
Optimized digital control.  
DeviceNet communication interface (SEMI E54 and ODVA SEMI SIG MFC profile).  
Up to 10 calibration curves of different gases stored in processor memory.

## Options

Small flow range from 1 to 5 sccm (NO valve).  
Wide range of control (0.5 to 100% F.S).  
Multi-calibration.  
Various calibration pressure.



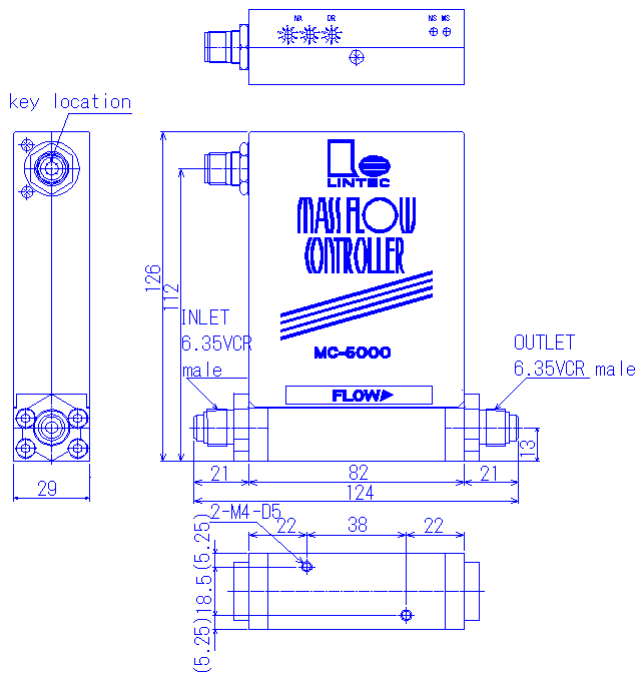
## Specifications

Flow Range (N <sub>2</sub> equivalent).....	5 sccm ~ 5 slm (NO valve)
.....	5 ~ 20 slm
.....	20 ~ 50 slm (NO valve)
Control Range.....	2 ~ 100% F.S.
Valve Actuator.....	Piezoelectric
Valve Seat.....	PCTFE
Valve Rest Position.....	Normally Open or Closed
Accuracy.....	< 5 slm : ±(0.25% SP+0.25% F.S.)
.....	< 20 slm : ±(0.45% SP+0.25% F.S.)
.....	< 50 slm : ±(0.75% SP+0.25% F.S.)
Linearity.....	±0.5% F.S.
Repeatability.....	±0.15% F.S.
Response Time (SEMI E17-91).....	≤ 1 sec (typical)
Operating Temperature.....	0 ~ 50°C (32 ~ 122°C)
Temperature Coefficient (zero).....	±0.02% F.S./°C
Temperature Coefficient (span).....	< 5 slm : ±0.02% F.S./°C
.....	< 20 slm : ±0.04% F.S./°C
.....	< 50 slm : ±0.08% F.S./°C
Calibration Pressure.....	standard 1.5 bar (21 psi)
Operating Pressure.....	< 5 slm : 0.5 ~ 3 bar (7 ~ 43 psi)
.....	< 10 slm : 1 ~ 3 bar (14 ~ 43 psi)
.....	< 20 slm : 1.5 ~ 3 bar (21 ~ 43 psi)
.....	< 50 slm : 1 ~ 3 bar (14 ~ 43 psi)
Maximum Inlet Pressure.....	10 <sup>6</sup> Pa (10 bar, 145 psi)
Wetted Materials.....	.316L stainless steel, PCTFE, Au
Surface Finish.....	LEP: 0.5 μm R <sub>a</sub> max
Leak Integrity.....	< 1.10 <sup>-10</sup> atm.scc/sec (He)
Standard Seals.....	Metal (Gold), Pt (option)
Fittings.....	1/4" VCR, W-Seal, C-Seal

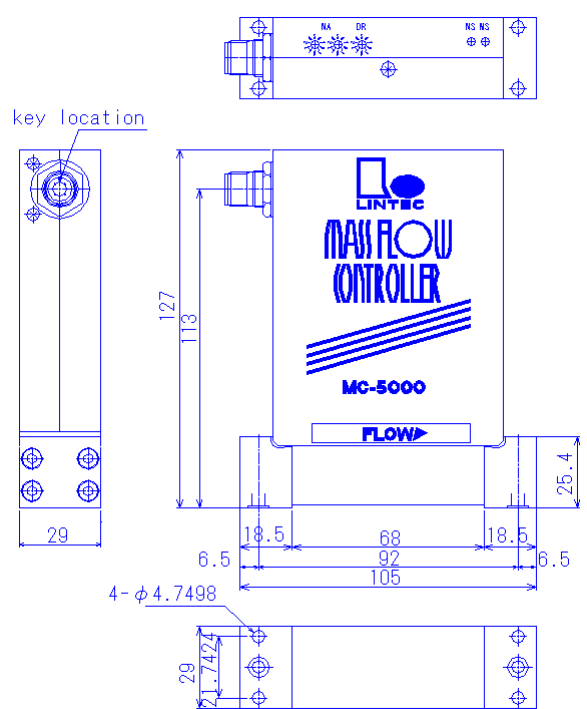
## Power Requirements

Mass Flow Controller.....	11 ~ 25 VDC (5 VA max)
Digital Control.....	DeviceNet
Electrical Connector.....	5-pin DeviceNet connector

# Dimensions

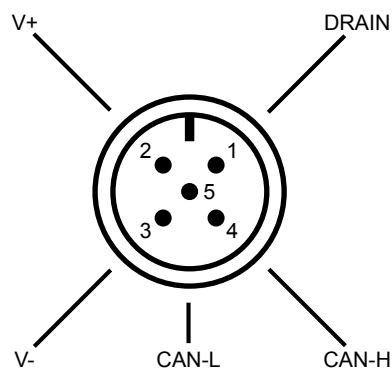


VCR configuration



C-Seal configuration

# Pinout configuration



5-pin DeviceNet connector