



MDB

- Select analog 1 output, analog 2 output, or analog + communication output (RS485).
- 5-digit monitor for arbitrary scaling display
- RoHS directive-compliant product
- 2-wire 4-20 mA output type or 3-wire 1-5 V output type sensor distributor
- Withstand voltage 2000 VAC/minute
- The compact converter can be attached to and detached from the DIN rail through one-touch operation.

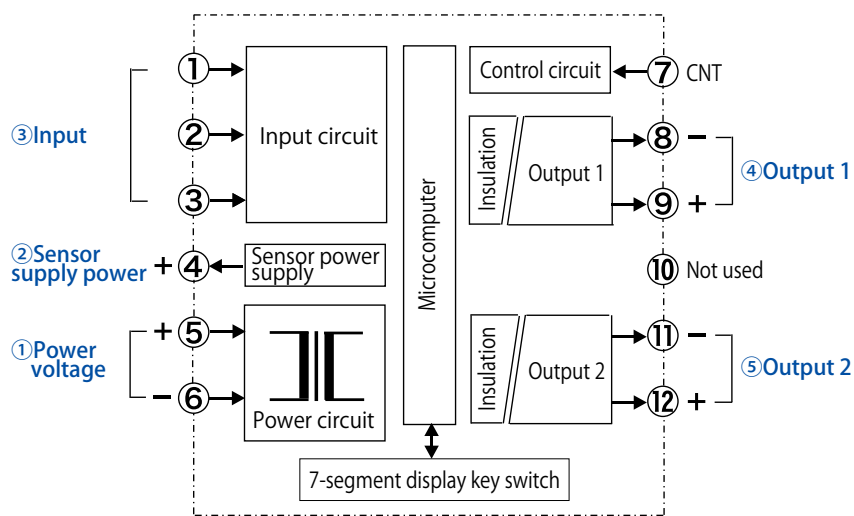


Model

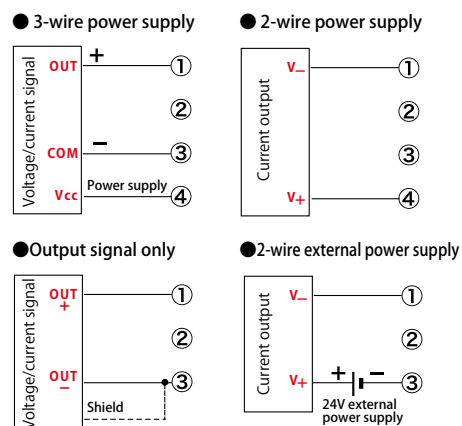
M D B - ① ② ③ - ④ ⑤

① Power voltage	② Sensor supply power	③ Input	④ Output 1	⑤ Output 2
A AC85V to 264V	1 DC24V/30mA	1 1 - 5V (0 - 5V)	1 1 - 5V	- None
D DC11V to 30V	2 DC12V/50mA (standard)	2 0 - 10V	2 0 - 5V	1 1 - 5V
	3 DC5V/30mA	3 0 - 1V	3 0 - 10V	2 0 - 5V
		4 0 - 100mV	4 4 - 20mA	3 0 - 10V
		5 0 - 50mV	5 RS485	4 4 - 20mA

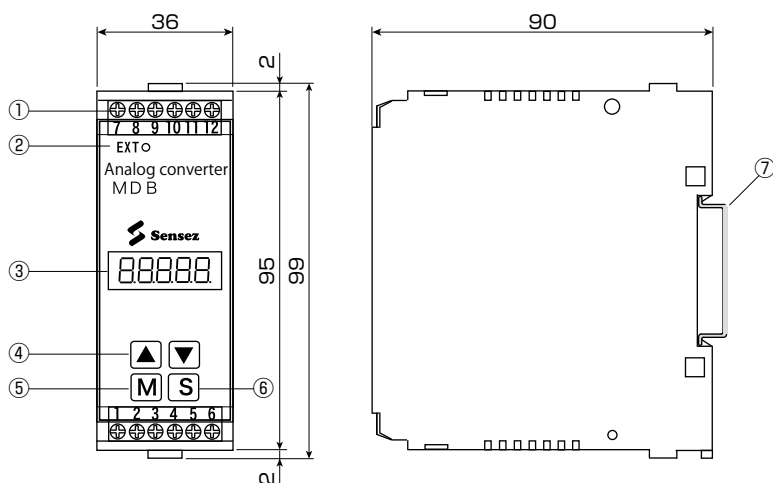
Block diagram / terminal connection diagram



Input signal wiring



Dimensions (Units : mm)



① Terminal part	<ul style="list-style-type: none"> • Pitch : 5mm • Connected wire size: 26 to 14 AWG • Screw size : M2.5 • Tightening torque : 0.5Nm
② EXT lamp	On when the CNT terminal is operating.
③ Display part	Setting or measurement value display
④ Up and down keys	Used for parameter settings.
⑤ Mode key	Used for parameter settings.
⑥ Set key	Used when setting parameters or switching the display.
⑦ DIN rail	35 mm wide



Insulated Analog Converters

Specifications

Input method	Single-ended method	
Operation method	$\Delta - \Sigma$ conversion method	
Sampling rate	1 msec	
Display part	Display	7-segment red LED with decimal point display with zero suppression
	Character height	5.5mm
	Display range	5 digits (-19999 to 99999)
	Display period	0.1/0.2/0.5/1/2/3/4/5 seconds
Scaling function	Digital arithmetic operations based on parameter settings	
External control terminal	Negative logic input Minimum ON width: 30 msec Internal resistance: 1.5 k Ω	
⑦ CNT terminal	Hold function HOLD/MAX/MIN/P-P function selection	
Power voltage	AC power type	85 to 264 VAC Common to 50 and 60 Hz
	DC power type	11 to 30 VDC Ripple rate: Within 5%
Insulation resistance	Input - Output 1/2 - Power 100 M Ω /500 VDC	
Current consumption	Maximum: Approx. 6.5 VA (AC power) Maximum: Approx. 4.5 W (DC power)	
Withstand voltage	Input - Output 1/2 - Power 2000 VAC, 1 minute	
Noise resistance	AC power type	Between power terminals \pm 2000 V
	DC power type	Between power terminals \pm 1000V
	Square wave noise (pulse width: 1 μ s rising: 1 ns)	
Operating temperature range	- 10 to 50°C (no freezing allowed)	
Operating humidity range	25 to 85% RH (no dew condensation allowed)	
Protection structure	IP20	
External dimensions / weight	99 (H) \times 36 (W) \times 90 (D) mm Weight : Approx. 200g	

Linear output specifications

Insulation	Insulation of input signal, power, and output	
Output signal	1-5VDC	Load resistance 5 k Ω or more
	0-5VDC	
	0-10VDC	
	4-20mADC	Load resistance 500 Ω or less
Resolution	Approx. 1/40,000	
Conversion target	Sampling data or displayed value Scaling is possible.	
Response speed	5msec or less (0% \rightarrow 90%)	
Precision	\pm 0.15%FS (23 \pm 5°C)	

Communication output specifications

Insulation	Insulation of input signal, power, and output	
Communication method	2-wire half duplex, start/stop synchronization compliant with EIA RS-485	
Communication protocol	Our dedicated protocol (transmission code: ASCII) or MODBUS-RTU	
Transfer rate	1200/2400/4800/9600/19200/38400 bps	
Communication content	Display value read, linear output, setting value read and rewrite, etc.	

Input specifications

③ Type	Input signal	Input impedance	Instantaneous overload	Resolution	Approx. 1/20000 to the input range	
1	1-5V (0-5V)	1M Ω	250V	Precision	DC voltage input	\pm 0.08%FS \pm 1digit (23 \pm 5°C)
2	0-10V					
3	0-1V					
4	0-100mV	8M Ω or more	50V		DC current input	
5	0-50mV					
6	4-20mA (0-20mA)	10 Ω	200mA			
7	0-200mA	1 Ω	500mA			
8	0-100mA	2 Ω	500mA			
9	0-10mA	20 Ω	100mA			
0	0-2mA	100 Ω	20mA			