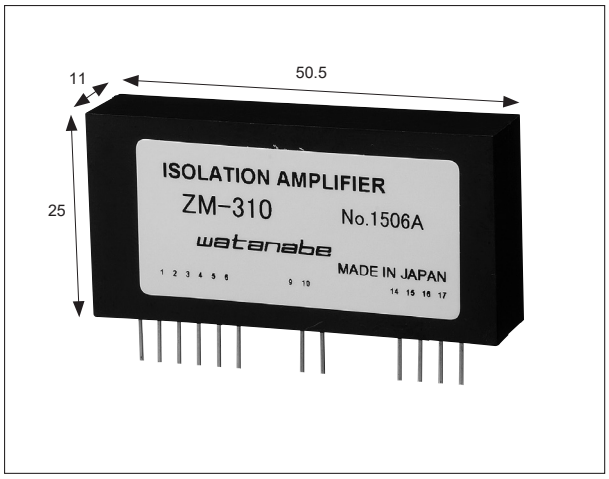
3 port Isolation Amplifier (High gain)

ZM-310



This device is a high gain type 3-port isolation amplifier, and supports minute input (mV). In addition, since a transformer with a high coupling coefficient is used, loss is small and linearity is extremely excellent. Although it is a small transformer, it has a high withstand voltage and high airtightness due to the case filling structure, making it ideal for isolating various signals such as transducer signal isolation and instrumentation signal isolation. Board mounting type with 2.54mm pitch allows for easy board layout.

Features

- High gain
- Compact and lightweight
- Low current consumption
- High CMR (common mode noise rejection ratio)
- High insulation, high withstand voltage

Ordering code

ZM— 3 1 0

310	3-port isolation amplifier (high gain)

Main Use

- Signal isolation for various transducers
- Instrumentation signal isolation
- Ground loop isolation
- Other signal isolation

Specifications

Input

Input voltage range	DC±10V（Min input voltage range DC0～10mV）
Input offset voltage	max DC20mV（25℃）
	max DC30mV（0～70℃）
Offset temp. drift	70ppm/℃ max（0～6 0℃）
C M R	110dB（CMV＝AC1500Vrms）

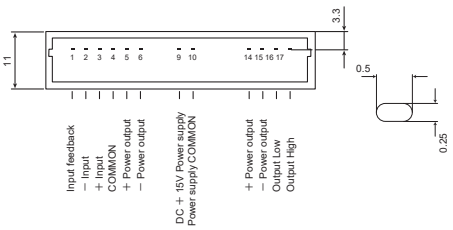
Output

Output voltage range	DC±10V
Output impedance	300Ω or less
Ripple	20mV（TYP）

Standard Specifications

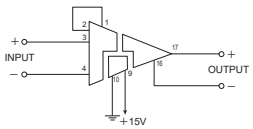
Amplifier gain	G＝0～1000（V/V）
range	±0.5%（TYP）
Reference	±30ppm/℃（TYP）
Accuracy	±0.05% max（G＝1）
temperature drift	1.5ms（0～90%）
Linearity	Current：DC1mA（MAX）
response time	Voltage：DC±15V ±20%
Power supply	Ripple：250mVp-p（TYP）
Dimensions	DC15V±10% 25mA（TYP）
Weight Operating	25（H）×50.5（W）×11（D）mm
temp. Withstand	Approx. 30g
voltage	0℃～70℃
	AC1500V1min Between input-output-power
Insulation resistance	100MΩ or more Between input-output-power

Pin function diagram

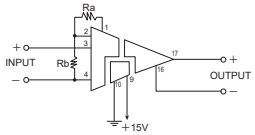


Standard application circuit

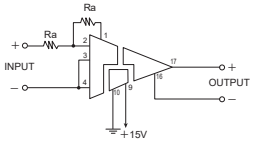
① Non-inverting amplifier circuit (G=1)



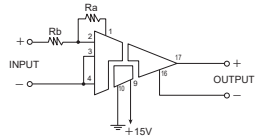
②Non-inverting amplifier circuit （G=1＋Ra/Rb）



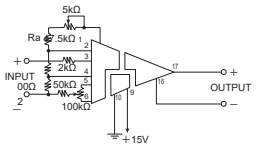
③ Inverting amplifier circuit （G=1）



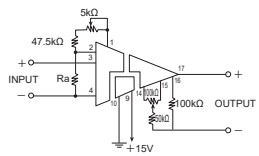
④ Inverting ampliofier circuit （G=－Ra/Rb）



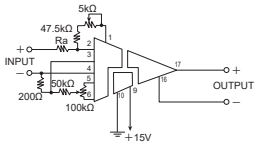
⑤ Input side offset and gain adjustment circuit of non-inverting amplifier circuit



⑥Output side offset adjustment circuit of non-inverting amplifier circuit



⑦Gain and offset adjustment circuit of inverting amplifier circuit



⑧Output side offset adjustment circuit of inverting amplifier circuit