

MP-9820 Magneto-electric detector

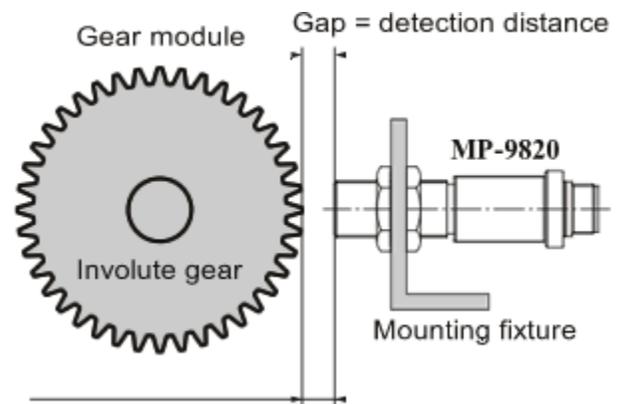
Features

- **Wide range of signal detection from 1 Hz to 100 kHz**
- **Achieve the highest level of frequency response. Can be used in wide range of applications from low to high speed and rotational measurement objects.**
- **Neither load on measurement objects nor worries about attrition or lubrication with non-contact detection method.**
- **Using an internal hall element and waveform processing circuit in its compact body.**
- **Adopting new type of cable greatly improves in tolerance performance against electrical noise**

Relationship between detection distance and gear modules

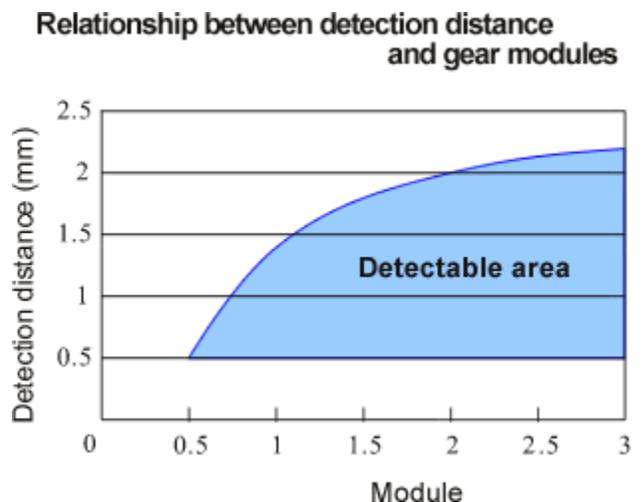
Please use the detective gear which is satisfied with the following specifications.

Shape of gear	Involute gear or equivalent
Module *	0.5 to 3
Tooth width	3mm or more
Material	Strong magnetic properties (e.g., S20C, SS400 etc.)



* Module = Pitch circle diameter / Number of teeth

The detection distance depends on the modules of detective gear, with longer distances being possible with larger modules. Also detection distance depends on temperature. In cases where the ambient temperature varies greatly, it should be mounted with minimum of detection distance. The detectable range shown in the right figure assumes an output waveform duty cycle of 50 % ±20 %.



Outline of specifications

Detection method	An internal hall element and electromagnetic property gear
Detective gear	Strong magnetic properties (e.g., S20C, SS400 etc.) involute type Module: 0.5 to 3, Tooth width: 3mm or more
Detection distance	Depends on gear module
Measurement range	1 Hz to 100 kHz (1 to 100,000r/min at 60P/R detective gear)*
Output method	Voltage output (collector output method)
Output signal	Rectangular waveform “ Hi” level : $+5 \pm 0.5$ V or less, “ Lo” level: $+ 0.5$ V or less
Output impedance	Approx. 330 Ω
Applicable tachometers	TM-3100 series, TM-5100 etc.
Applicable F/V converters	FV-1500, FV-1400**, FV-5300**
Power requirement	12 ± 2 VDC, approx. 40 mA
Protection circuit	Power supply polarity protection
Operating temperature range	-10 °C to +70 °C
Storage temperature range	-20 °C to +80 °C
Operating humidity range	20 to 80 % RH(with no condensation)
Storage humidity range	20 to 80 % RH(with no condensation)
Withstand voltage	250 VDC
Resistance to vibration	At 49 m/s^2 in X, Y and Z for each direction. (during operation)
Resistance to shock	490 m/s^2 in X, Y and Z direction each three times. (Non-operating)
Outer dimensions	75 (W) x maximum diameter 24 mm
Weight	Approx. 80 g (including mounting nuts)
Signal cable	Sold separately (30 m or less, MX-7100 / 8100 series connection cables in used)

*100 kHz means the frequency which is equivalent to 100,000 r/min if the detective gear at 60 P/R is used.

■ Connection signal cables

MX-7105(one side crimp terminal)5 m
 MX-7110(one-side crimp terminal)10 m
 MX-7115(one-side crimp terminal)15 m
 MX-7120(one-side crimp terminal)20 m

MX-8105(both ends connectors) 5 m
 MX-8110(both ends connectors)10 m
 MX-8115(both ends connectors)15 m
 MX-8120(both ends connectors)20 m