

WF1MA self-powered, DC-isolated transducers

■ Features

- No power supply is required.
- Isolated between input and output circuits
- Snap-on mounting on IEC 35mm rail
- Safe, secured connection of screw terminal with cover

■ Specifications

• Conversion performance

Accuracy: $\pm 0.1\%$ FS (full scale)
 Temperature characteristic: $\pm 0.01\%/^{\circ}\text{C}$ FS (Typ.)
 Response: 50ms or less (0 to 90%)
 Load fluctuation: $+0.1\%/100\Omega$ or less (at 250Ω or less)
 $-0.1\%/100\Omega$ or less (at 250Ω or more)

• Input specifications

Input signal		Internal resistance	Max. allowable current
Current input	0 to 20mA DC (common with 4 to 20mA DC)	250Ω	30mA

• Output specifications

Output signal		Allowable load resistance
Current output	0 to 20mA DC (common with 4 to 20mA DC)	$1\text{k}\Omega$ or less

Internal voltage drop: 3.3V or less
 Ripple in output : 0.5% or less (at 250Ω , 200mA load)

• General specifications

Structure: Screw-terminal integrated structure
 Connection: M3.5 screw terminal
 Housing material: Black PC resin
 Insulation resistance:
 $100\text{M}\Omega$ or more (500V DC)
 Between input, output circuits, power supply, and ground
 Dielectric strength:
 1500V AC, 1min
 Between input, output circuits, power supply, and ground

• Installation specifications

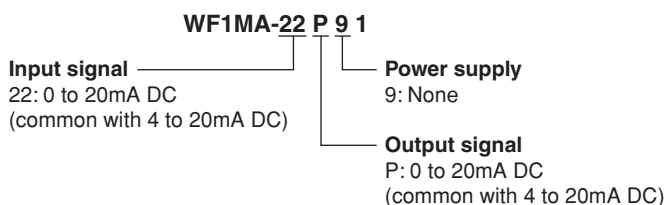
Power supply: Not required
 Operating temperature: -5 to $+50^{\circ}\text{C}$
 Operating humidity: 90%RH or less (no condensation)
 Storage temperature: -10 to $+70^{\circ}\text{C}$
 Storage humidity: 60%RH or less (no condensation)

■ Ordering information

Specify the following:
 1. Type number

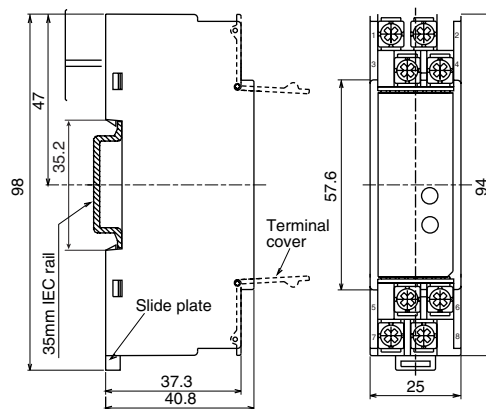


■ Type number nomenclature



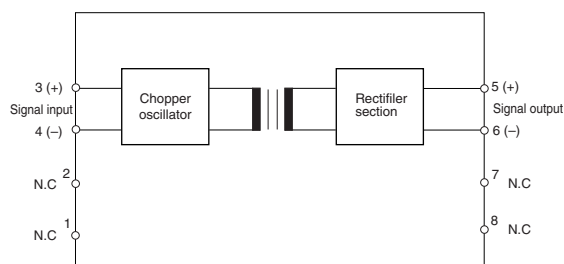
Note: The value of output signal is the same as that of the input signal (ratio: 1-1). Example: 4-20mA DC input — 4-20mA DC output

■ Dimensions, mm



Mass: Approx. 80g

■ Wiring diagram



Transducers

WF series

WF5HS high-speed, DC-isolated transducers

■ Features

- 3 ports isolated between input, output circuits, and power supply
- Snap-on mounting on IEC 35mm rail
- Saves wiring time by using push-terminal

■ Specifications

● Conversion performance

Accuracy: $\pm 0.25\%$ FS (full scale)
 Temperature characteristic: $\pm 0.02\%/^{\circ}\text{C}$ FS (Typ.)
 Response: 1 ms or less (0 to 90%)

● Input specifications

Input signal		Input impedance
Voltage input	0 to 5V, 1 to 5V, 0 to 10V DC -10 to 10V, 0 to 1V, 0 to 100mV DC	Input impedance: 1M Ω or more
Current input	4 to 20mA DC	Internal resistance: 250 Ω

● Output specifications

Output signal		Allowable load resistance
Voltage output	0 to 5V, 1 to 5V DC 0 to 10V, -10 to 10V DC	550 Ω or more
Current output	4 to 20mA DC	550 Ω or less

Output adjustment – adjustable from front
 Zero adjustment: -5 to +5%
 Span adjustment: 95 to 105%

● General specifications

Structure: Push-terminal integrated structure
 Connection: Push-terminal
 Solid wire of 1.4mm dia., stranded wire of 1.5mm² or less
 Housing material: Black polycarbonate resin
 Insulation resistance:
 100M Ω or more (500V DC)
 Between input, output circuits, power supply, and ground
 Dielectric strength:
 1500V AC, 1min
 Between input, output circuits, power supply, and ground

● Installation specifications

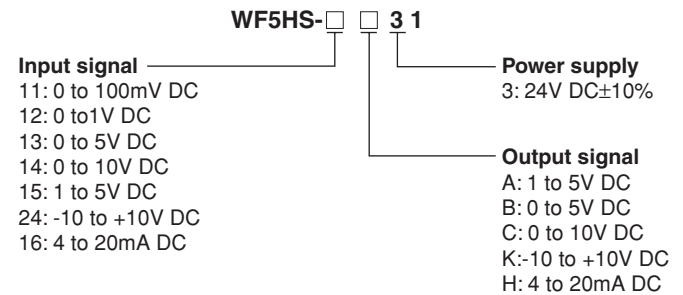
Power supply: 24V DC $\pm 0\%$, 80mA or less
 Operating temperature: -5 to +50 $^{\circ}\text{C}$
 Operating humidity: 90%RH or less (no condensation)
 Storage temperature: -10 to +70 $^{\circ}\text{C}$
 Storage humidity: 60%RH or less (no condensation)

■ Ordering information

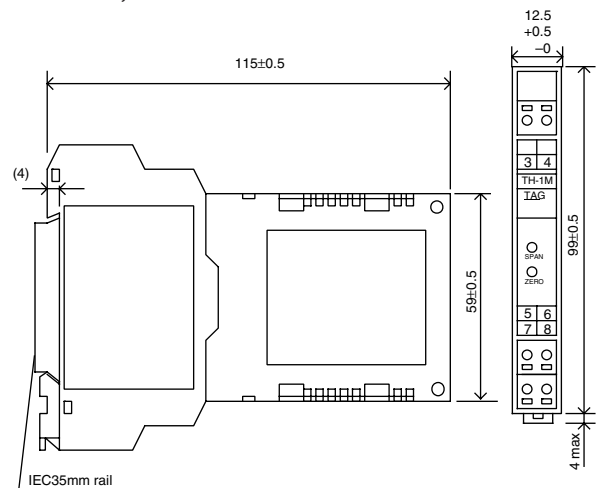
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■ Type number nomenclature

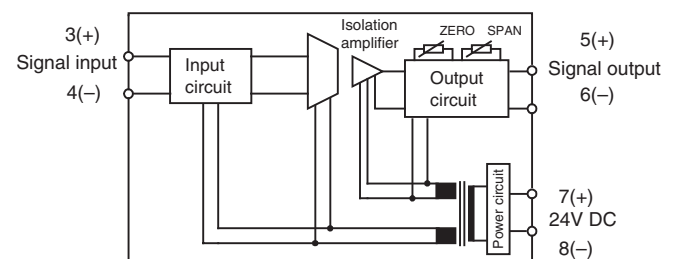


■ Dimensions, mm



Mass: Approx. 80g

■ Wiring diagram



WF5PM potentiometer transducers

■ Features

- WF5PM can be used irrespective of potentiometer's resistance, if the value is within the range between 100Ω and 10kΩ.
- 3 ports isolated between input, output circuits, and power supply
- Snap-on mounting on IEC 35mm rail
- Saves wiring time by using push-terminal

■ Specifications

● Conversion performance

Accuracy: $\pm 0.25\%$ FS (full scale)
 Temperature characteristic: $\pm 0.02\%/^{\circ}\text{C}$ FS (Typ.)
 Response: 50ms or less (0 to 90%)

● Input specifications

	Input signal	Input resistance
Potentiometer	100Ω to 10kΩ	0.5V

Note: No adjustment is required if it is used at all resistance values (0 to 100%) of potentiometers.

● Output specifications

	Output signal	Allowable load resistance
Voltage output	1 to 5V, 0 to 5V DC	2kΩ or more
	0 to 10V, -10 to +10V DC	4kΩ or more
Current output	4 to 20mA DC	550Ω or less

Output adjustment – adjustable from front

Zero adjustment: 0 to +5%

Span adjustment: 50 to 100%

● General specifications

Structure: Push-terminal integrated structure

Connection: Push-terminal

Solid wire of 1.4mm dia., stranded wire of 1.5mm² or less

Housing material: Black polycarbonate resin

Insulation resistance:

100MΩ or more (500V DC)

Between input, output circuits, power supply, and ground

Dielectric strength:

1500V AC, 1min

Between input, output circuits, power supply, and ground

● Installation specifications

Power supply: 24V DC $\pm 0\%$, 80mA or less

Operating temperature: -5 to +50°C

Operating humidity: 90%RH or less (no condensation)

Storage temperature: -10 to +70°C

Storage humidity: 60%RH or less (no condensation)

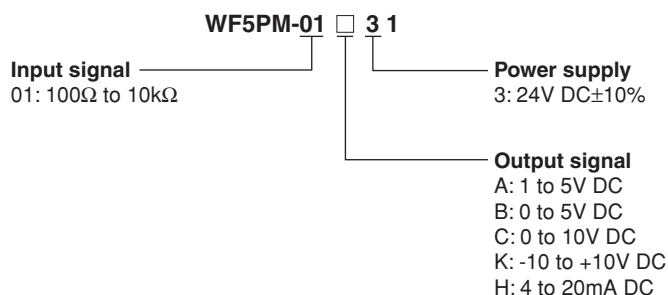
■ Ordering information

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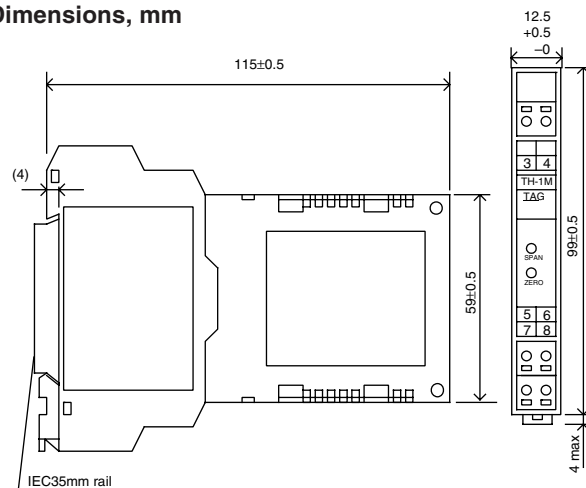
1. Type number



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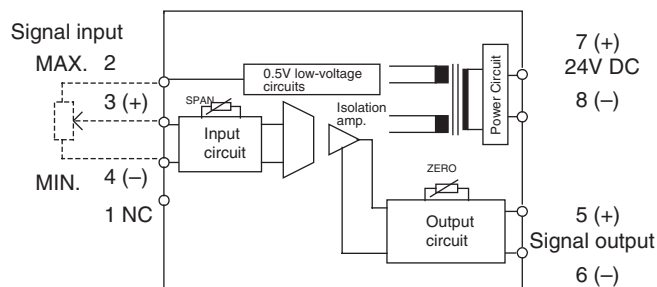


■ Dimensions, mm



Mass: Approx. 80g

■ Wiring diagram



Transducers

WF series

WF5MA self-powered, DC-isolated transducers

■ Features

- Analog process signal conversion to current output in 1:1 ratio
- No power supply is required.
- Snap-on mounting on IEC35mm rail
- Saves wiring time by using push-terminal

■ Specifications

● Conversion performance

Accuracy: $\pm 0.1\%$ FS (at res. load of 250Ω)

Temperature characteristic:

$\pm 0.01\%$ FS/ $^{\circ}\text{C}$ FS (at res. load of $250\Omega \pm 200\Omega$)

$\pm 0.04\%$ FS/ $^{\circ}\text{C}$ FS (at res. load of other than the aboves)

Load fluctuation:

+0.1% FS / 100Ω or less (at res. load of $\leq 250\Omega$ max.)

-0.1% FS / 100Ω or less (at res. load of $\geq 250\Omega$ min.)

+0.3% FS / 100Ω or less (at res. load of $\leq 50\Omega$ max.)

Response: 20ms or less (0 to 90%)

Internal voltage drop: 3V or less

● Input specifications

	Input signal	Internal resistance	Max. allowable input current
Current input	0 to 20mA DC, 4 to 20mA DC (common use)	250Ω	30mA at 30V DC

● Output specifications

	Output signal	Allowable load resistance
Current output	0 to 20mA DC, 4 to 20mA DC (common use)	$1k\Omega$ or less

● General specifications

Structure: Push-terminal integrated structure

Connection: Push-terminal

Solid wire of 1.4mm dia., stranded wire of 1.5mm^2 or less

Housing material: Black polycarbonate resin

Insulation resistance:

$100M\Omega$ or more (500V DC)

Between input, output circuits, power supply, and ground

Dielectric strength:

2000V AC, 1min

Between input, output circuits, power supply, and ground

● Installation specifications

Power supply: Not required

Operating temperature: -5 to $+50^{\circ}\text{C}$

Operating humidity: 90%RH or less (no condensation)

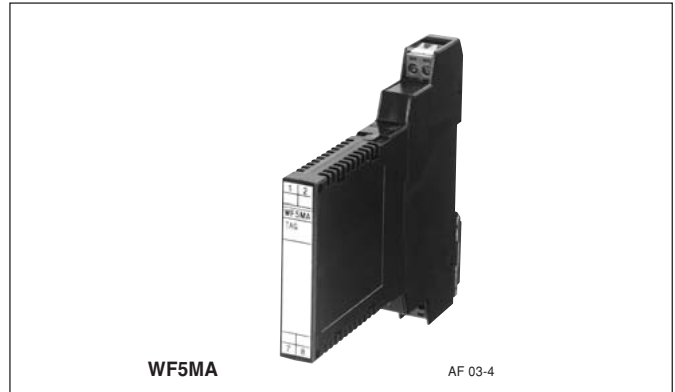
Storage temperature: -10 to $+70^{\circ}\text{C}$

Storage humidity: 60%RH or less (no condensation)

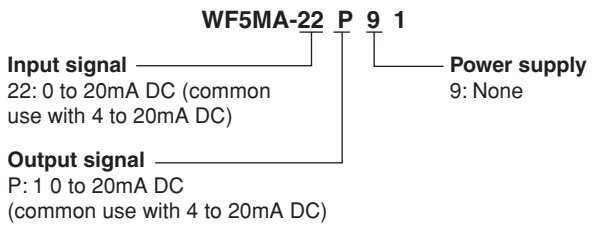
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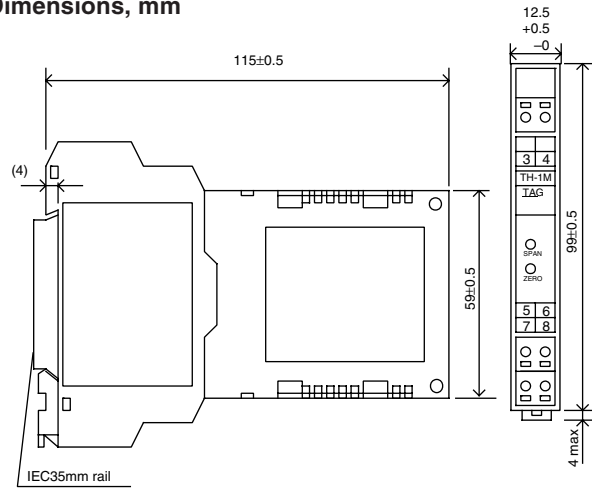
1. Type number



■ Type number nomenclature



■ Dimensions, mm



Mass: Approx. 80g

■ Wiring diagram

