

# Karman Vortex System Flow Sensor KSL-5L/KSL-10L/KSL-30L/KSL-50L

## Features

- As a sensor for monitoring the cooling water of equipment, a cumulative total of 60,000 units have been delivered to leading semiconductor and LCD equipment manufactures in the world.
- Measures and displays the flow rate and temperature.
- Allows use with high temperature water of 90°C.
- Analog output
- Alarm output
- Digital display



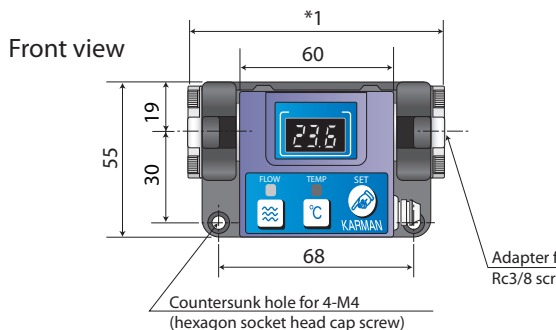
SENSOR

## Electric wiring

• AWM20276: This is a cable with no terminal processing (9 core/0.2 mm<sup>2</sup>/500 mm).

• GND should be used as a common ground wire for all other signaling lines including power supply.

## Dimensions

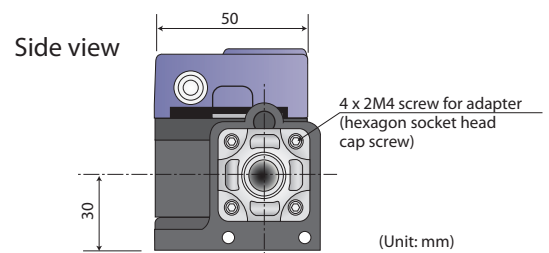
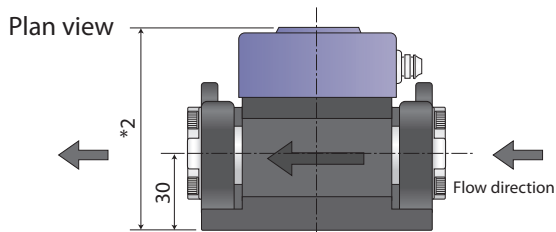


Adapter for piping size	*1 Width	
	BsBM	SUS
Rc3/8	92	98
R1/2	115	115

The value varies depending on the adapter type.

Model	*2 Height
KSL-5L	68.5
KSL-10L	68.5
KSL-30L	75
KSL-50L	75

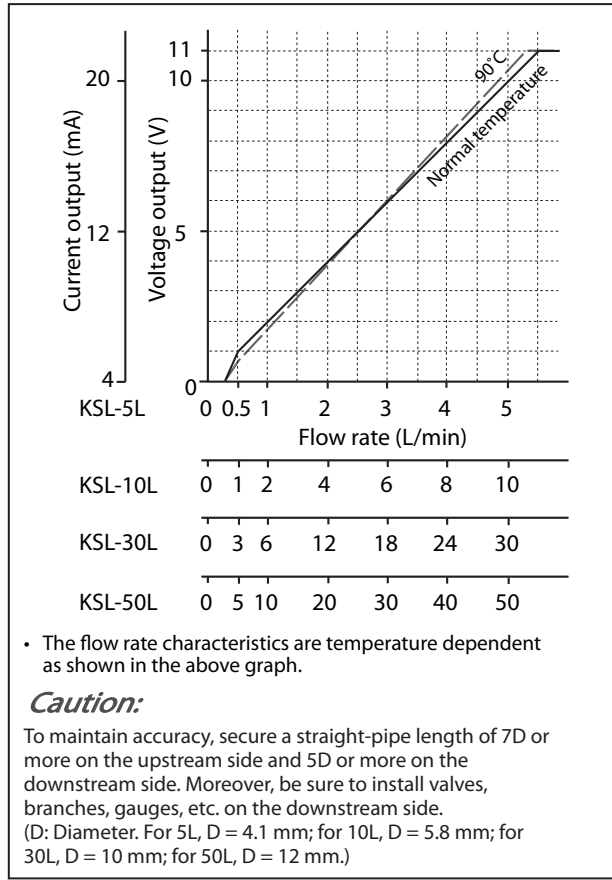
The size varies depending on the model.



## Specifications

Model	KSL-5L	KSL-10L	KSL-30L	KSL-50L
Flow rate	0.5 to 5 L/min	1.5 to 10 L/min	5 to 30 L/min	7 to 50 L/min
Temperature detection range	0 to 99°C			
Output	Flow rate	0 to 10V, 4 to 20mA, Pulse		
	Temperature measurement	0 to 10V, 4 to 20mA		
Alarm output	Open collector A or B (flow rate, temperature)			
Maximum operating pressure	1 MPa (below 10kgf/cm <sup>2</sup> )			
Fluid temperature	0 to 90°C			
Ambient temperature	0 to 40°C (Non-freezing)			
Flow direction	Specified direction			
Power supply	12V DC±5% or 24V DC±10% (factory setting)			
Current consumption	30 mA max. (70 mA max. in 4 to 20 mA specification)			
Accuracy	FS±2.0%			
Material of body	PPS			
Materials of detectors	Flow rate detector: PPS, temperature detector: SUS304			
Material of adapter	SUS or BsBM + Ni plating			
Applicable fluid	Industrial water or service water			
Sealing O-ring	Fluororubber			
Coupling of pipings	Rc 3/8 or Rc1/2			
Cable	AWM20276 9 cores/0.2 mm <sup>2</sup> /500mm			

## Flow rate characteristics



## Order format

KSL	Flow rate	Power supply	Output		Alarm		Adapter Material	Adapter connection port dia.
	Flow rate	Power supply	Flow rate	Temperature	Flow rate	Temperature	Adapter Material	Adapter connection port dia.
	5L 0.5 to 5 L/min	12V DC12V	V 0 to 10V		A	A	S SUS	3/8
	10L 1.5 to 10 L/min		I 4 to 20mA					
	30L 5 to 30 L/min	24V DC24V	P* Pulse output	V 0 to 10V	B	B	B	1/2
	50L 7 to 50 L/min		DPM DPM connection	I 4 to 20mA			BsBM Ni plating	

**Example KSL-5L-24V-V-A-B-S-3/8**

**Definition of alarm output and display LED**

	Alarm	A	B
Measurement value			
Higher than the setting value	Green lamp	ON	Red lamp
Lower than the setting value	Red lamp	OFF	Green lamp
		OFF	ON

\* The alarm is conductive when the open collector is ON and non-conductive when it is OFF.  
\* The alarm for the flow rate and that for the temperature can be set independently.

\* "P" (pulse output) can be specified only for 5L and 30L and cannot be specified for 10L and 50L.  
\* When the output of the flow rate is set to "P" (pulse output), the temperature output is "V" or "I".  
\* In temperature output, the pulse output cannot be selected. (The order format of the output is "PV" or "PI.")  
Example: KSL-5L-24V-PV-A-B-S-3/8  
\* The "DPM" (DPM connection) is a pulse specification for using the external display "DPM" specified by REGAL JOINT.  
\* For 50L, only 1/2 can be specified as the adapter connection port diameter.  
\* To improve the performance, the shape and specifications are subject to change without prior notice.