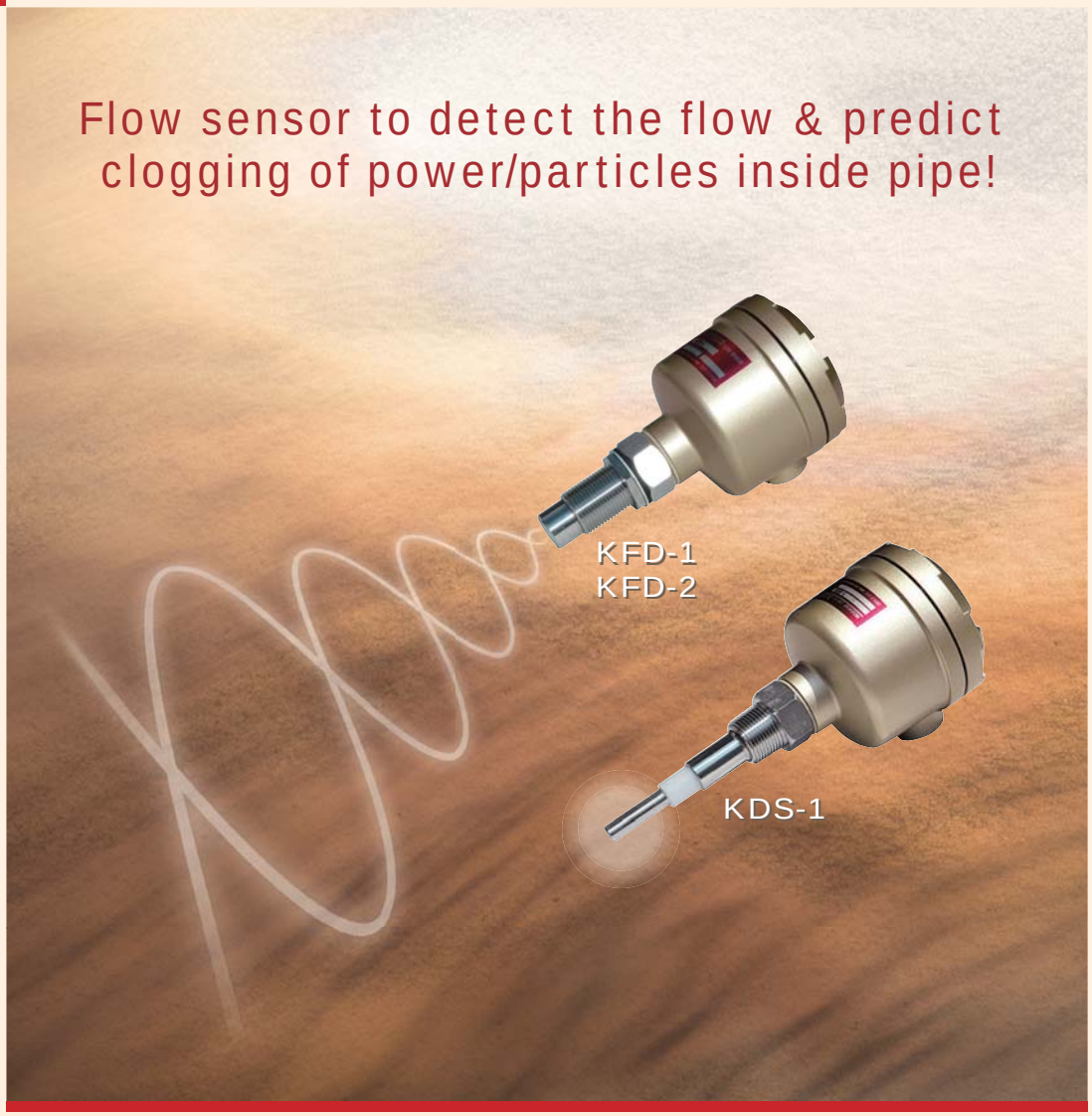
LEVEL SENSORS

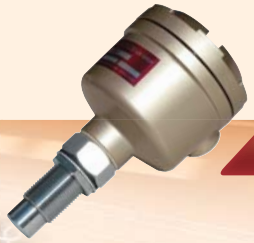
KFD-1/KFD-2 & KDS-1
FLOW SENSOR



By adopting a super sensitive detector circuit, it detects the flow of insulative or low density powder which have so far been undetectable by other systems !

CAT.No.MF.MF2.DS-341-2206E

KANSAI Automation



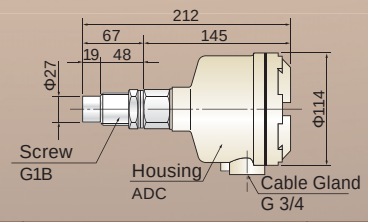
KFD-1

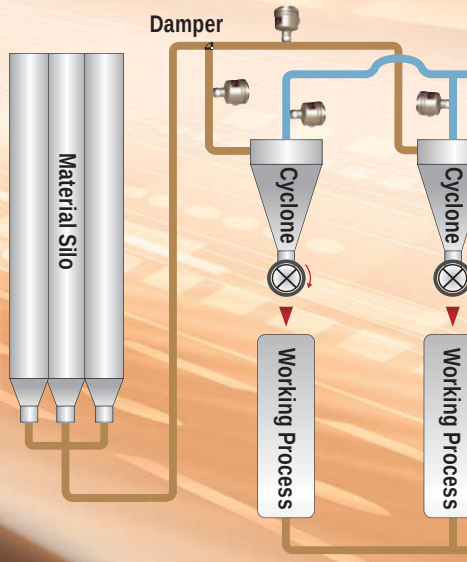
MICROWAVE TYPE FLOW SENSOR

Non-contact flow sensing technology!

24GHz makes this sensor highly sensitive, reliable and Even a grain detected!

OUTLINE DRAWING





FEATURES

●Super-sensitive
With our unique circuit, it wouldn't miss one pellet.

●Non-contacting
With 24GHz technology, it detects by non-contacting through resin or glass.

●Adhesion
With 24GHz technology, it is insusceptible to dirt or scale on sensor surface.

●Versatility
It detects both a little flow and much flow by adjusting the sensitivity.

OPERATING PRINCIPLE

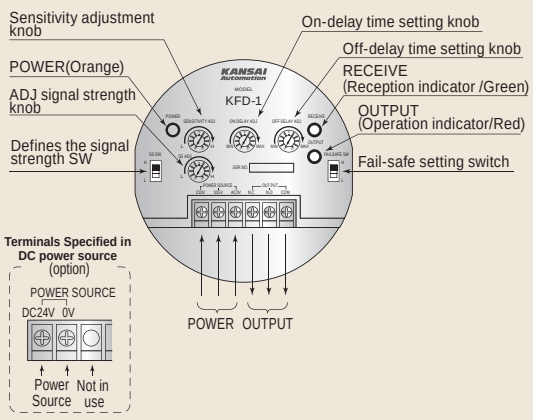
Model KFD-1 is a Non-contact Flow Sensor which emits the microwaves of 24GHz from the tip of its sensor. Reflected from the surface of powders and solids traveling in a pipeline, the microwaves get modulated in their frequency on the Doppler effect principle. The sensor, detecting the frequency difference between transmitted and reflected microwaves, transforms it and amplifies to output contact signals. It can reliably detect a little flow or motion of the powder or the grain in chutes or pneumatic conveying lines, which has so far been considered to be very difficult.

SPECIFICATIONS

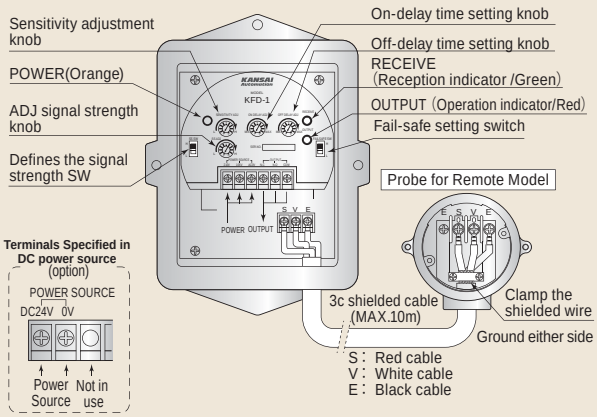
Power Sourse	: 105/210VAC ±10% 50/60Hz
Supply voltage	: 5VA
Output contact	: 1×SPDT 250VAC 5A
Acceptable temp	: Amplifier −20~+60°C Detector −20~+80°C (No freezing / No condensation) (120°C Option)
Allowable pressure	: 0.5MPa
Sensing distance	: Max.1.5m (depend on object)
Wave modulation	: NON
Frequency	: 24.2GHz
Power output	: 5.5mW
ON delay	: Variable 10 sec at the max.
OFF delay	: Variable 10 sec at the max.
Housing	: IP-67
Color	: Gold
Weight	: about 1.5kg
Option	: Separate amplifier type DC24V power supply

WIRING

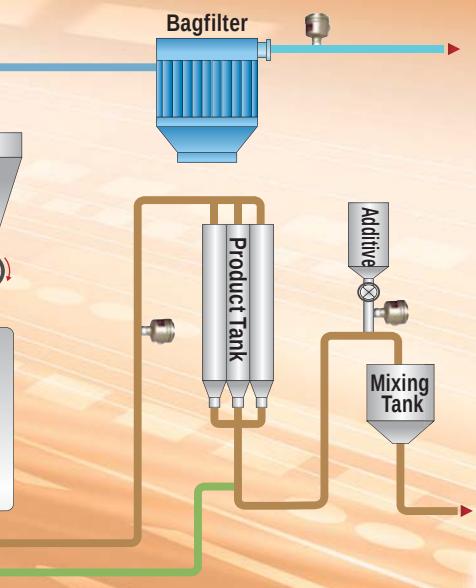
STANDARD



Amplifier for Remote Model



the flow of the materials
to be measured !!



in Transport Line for Powder/Particles

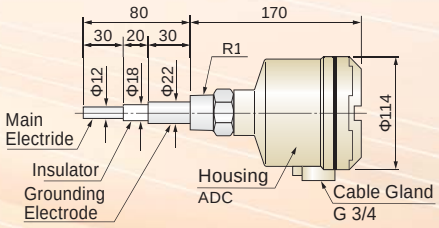
KDS-1

PARTICLE FLOW SWITCH

Pinpoint-contact detection!

Monitoring the density of minute particles exhausted in a widely dynamic range and detecting flow / no flow.

OUTLINE DRAWING



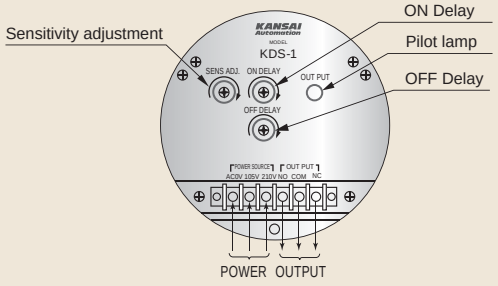
FEATURES

- Having no actuator, it can maintain the higher performance with the minimum maintenance.
- You can measure only by fixing an electrode to a duct of dust collector outlet or a pipe.
- Easy mounting and Handling.
- Being all-in-one compact unit, it can easily be handled/ adjusted.
- In order to prevent it from being operated improperly for the instantaneous rise of dust density due to the bag cleaning cycle, you can make a delay-time alarm setting.
- It can not be affected by the change of flow rate.
- It is sensitive to make it possible to measure the lower density.

OPERATING PRINCIPLE

KDS Model Dust Flow Switch is a new type sensor which, utilizing the electrical property of material, provides contact outputs as well as for contamination prevention.
When the density reaches the preset values, it outputs the contact externally. It is widely applied to detect leakage or flow because it can be accommodated to the dynamic range from low to high density. By detecting any leakage from a bag filter or a cyclone separator, it can contribute to the environment conservation or to the prevention of materials/products from running off. By detecting flow/no flow in the air transport path, it can also work on quality management of a mixture and so on as well as contamination prevention.

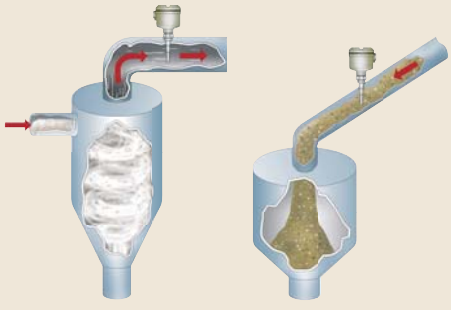
WIRING



SPECIFICATIONS

Power Sourse : 105/210VAC ±10% 50/60Hz
Output Contact : SPDT 250VAC 5A
Allowable Temperature : Amplifier −20~60°C
Electrode −20~80°C
(No freezing / No condensation)
(High Temp option)
Output : LED in Red
ON delay : Variable 10 sec at the max.
OFF delay : Variable 10 sec at the max.
Supply Voltage : 304SS (Option 316SS)
Sensor Material : SUS304 (Option：SUS316)
Mounting Method : Screw (R1),
Dimensions : Flange (Over JIS5K25A)

APPLICATION



▲ Detect the clog of cyclonDetect failure of baghouse

▲ Detect the of powder transport line

KFD-2

MICROWAVE TYPE FLOW METER

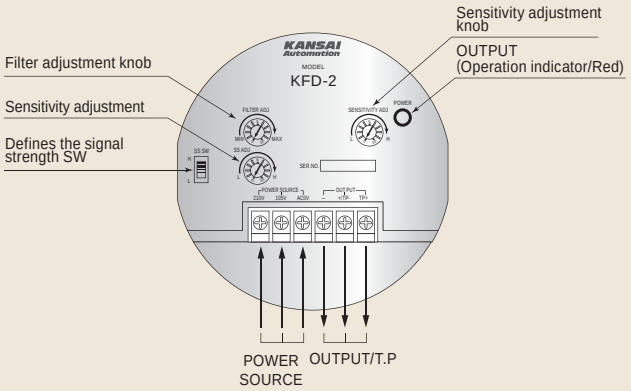
Flow Meter with continuous output (4-20mADC)

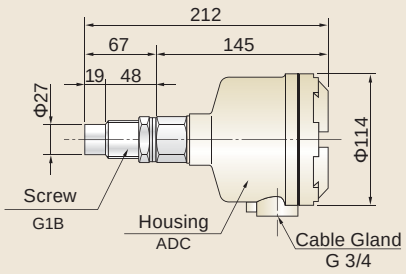
This can retrieve such a minute change in concentration that KFD-1 has not been able to do.

■ SPECIFICATIONS

Power Sourse	:	AC105V/210V ±10% 50/60Hz
Output Contact	:	DC4～20mA
Resistance Load	:	Below 300Ω
Allowable Temperature	:	Amplifier −20~60°C Electrode −20~80°C (No freezing/ No condensation) (120°C max. High Temp option)
Allowable pressure	:	0.5MPa
Color	:	Gold

WIRING / OUTLINE DRAWING





■ OUTLINE DRAWING

KFD-□□□□□□

Sensitivity
- Blank : Standard
- D : Low Sensitivity
- U : High Sensitivity

Specification
- Blank : Standard
- P : Sensor Pilot Lamp

Vibration-proof
- Blank : Standard
- M : Amplifier, molding resin

Heat resistance
- Blank : Standard
- H : Heatproof specification

Instrument Structure
- Blank : Built-in Structure
- R : Remote Model

Output
- 1 : Contact Output
- 2 : Current Output

KDS-□□□□

Vibration proof
- Blank Standard
- M Amprifer, molding resin

Length of the detecting electrode
- 1 : Up to 250 (mm)
- 2 : 251 – 500 (mm)
- 3 : 501 – 1000 (mm)
- 4 : 1001 – 2000 (mm)
- 5 : Others

Eletrode type
- 1 : Uncovered rod shape
- 2 : Covered rod shape
- 5 : Others

Instrument construction
- 1 : Built-in construction

Line of business

- Rotary Paddle Type Level Switch
- Vibration Type Level Switch
- Swing Type Level Switch
- Acoustic Level Switch
- Capacitance Type Level Switch
- Capacitive Proximity Sensor
- Capacitance Type Level Indicator
- Diaphragm Type Level Switch
- Tilt Switch
- Leak Type Level Switch
- Microwave Switch
- Sounding Bob Type Level Indicator
- Flow Switch
- Conductance Type Level Switch
- Float Switch
- Float Type Level Indicator
- Ultrasonic Type Level Indicator
- Equipments For Conveyor Lines
- Dust Monitor System
- Zirconia Oxygen Analyzer
- Laser Type Level Indicator
- RADAR Type Level Indicator
- Ultrasonic Flow meter

*Please be sure to read USER'S GUIDE, Installation & Operation Instructions before using the instrument.

*The specifications herein may be subject to change without advance notice.

General Manufacturer of Level Controllers for Powder, Granules, and Liquid

KANSAI Automation Co.,Ltd.

official site

Headquarters :
2-14, Togano-cho, Kita-ku, Osaka 530-0056, Japan
TEL. 81-6-6312-2071 FAX. 81-6-6314-0848
e-mail: info@kansai-automation.co.jp

http://www.kansai-automation.co.jp

Tokyo Branch: 1-29-6, Hamamatsu-cho, Minato-ku, Tokyo 105-0013, Japan
TEL. 81-3-5777-6931 FAX. 81-3-5777-6933

Nagoya Office: 3-10-17, Uchiyama, Chigusa-ku, Nagoya 464-0075, Japan
TEL. 81-52-741-2432 FAX. 81-52-741-1588

Hiroshima Office: 13-11, Noborimachi, Naka-ku, Hiroshima 730-0016, Japan
TEL. 81-82-222-1555 FAX. 81-82-222-1556

Kyushu Office: 1-1-21, Komemachi, Kokura Kita-ku,Kitakyushu 802-0003, Japan
TEL. 81-93-511-4741 FAX. 81-93-511-4580

Agent