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Best Products



General Catalogue

EDITION

11

- Powder Level Switch
- Powder & Liquid Level Switch
- Non-Contact Level Meter
- Flow Sensor
- Contact Level Meter
- Liquid Level Meter & Switch
- Conveyor Peripherals
- Environment Measurement Instrument
- Special Measurement Instrument



Corporate Philosophy

Aiming for A RAISON D'ETRE indispensable to the betterment for life of mankind with OUR ZEAL AND OUR ORIGINAL TECHNOLOGY

Management Creed

[Zeal and Originality]

PASSION above all can be a foundation for strength.
Exerting our knowledge and making the impossible come true in the firm belief that our possibilities may be expanded infinitely

ORIGINALITY can pave a new path.
Exerting our technical capabilities and turning adversity to leap in the hope that our dream may come true.

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Powder Level Switch

■ Swing Type Level Switch

conform to
RoHS

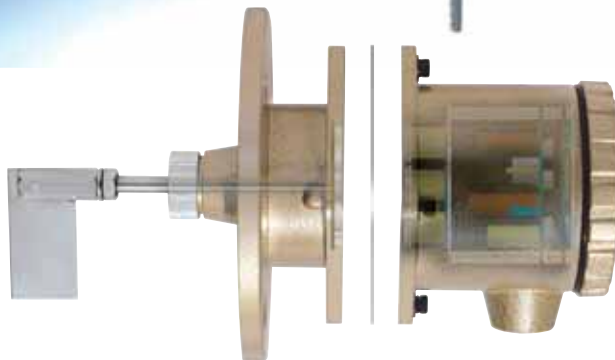


Epoch-making product of Powder level detection.

Newly developed "SWING MASTER"
Future standard level switch for powder.



Swing!!



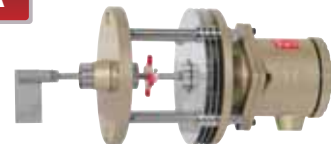
One and only development for
Powder Level Switch, based on
our extensive experiences.

SWM Series **SWINGMASTER**®

Highly functional as well as cost effective.
Versatile enough to be used for any applications.



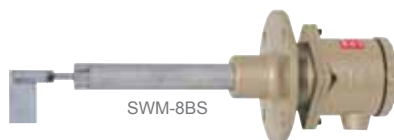
SWM-8B



SWM-8BH



SWM-8BSC



SWM-8BS

Class leading power supply (100 – 240VAC), Universally applicable.

Powder Granules

Powder Level Switch

Rotary Paddle Type Level Switch

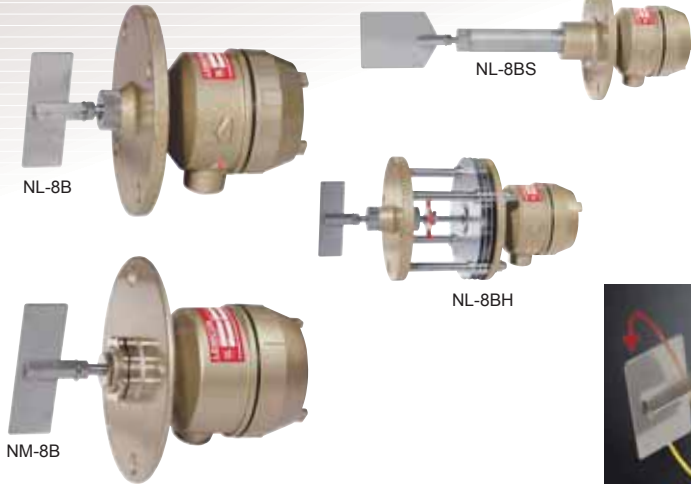
NL/NM Series Standard type for detecting powder, versatile usages.

STANDARD
★★★★★

24VDC Power Adaptive

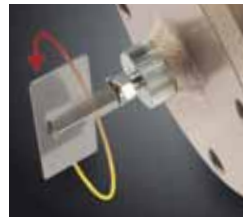
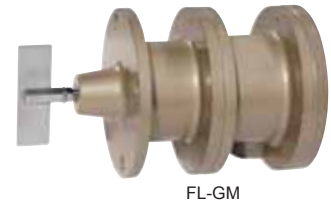


CE certified model
WKR-NL



FL-GM Series

Flame-proof
d2G4

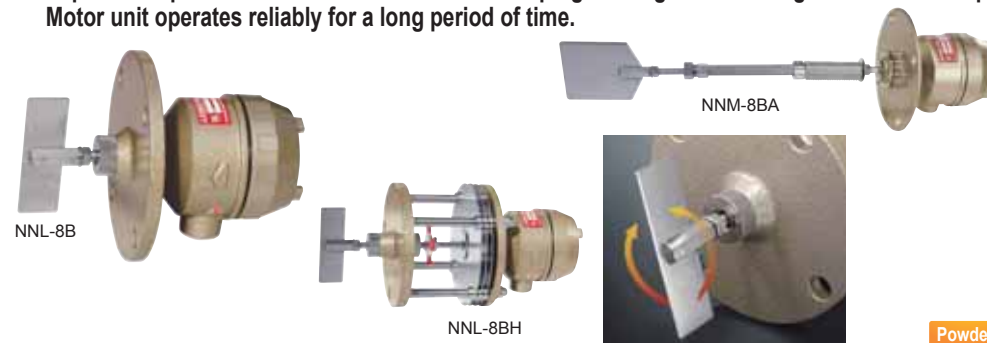


Powder Granules

NNL/NNM Series Expendable parts in a motor removed and developing the original switching structure developed. Motor unit operates reliably for a long period of time.

LONGSPAN
★★★★★

Reversible Paddle
Type



Powder Granules

LEMICON Series Compact, light weight, and lowest price on top of high efficiency and quality.

COMPACT
★★★★★

Extremely Compact
Type

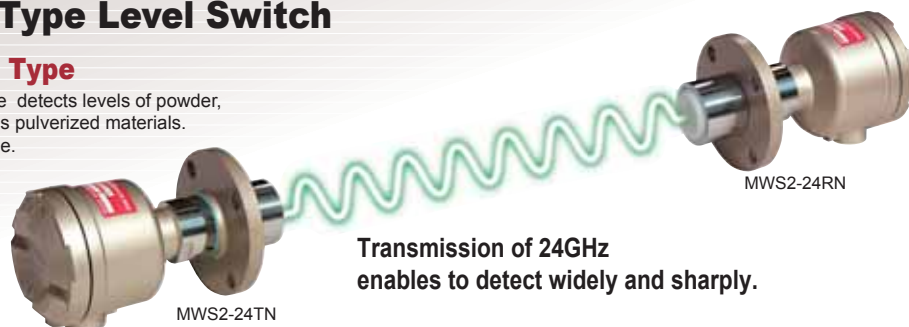


Powder Granules

Microwave Type Level Switch

MWS2-24TN/24RN Type

The attenuation of microwave detects levels of powder, granules and blocks as well as pulverized materials. Heat-resistant type is available.



Transmission of 24GHz
enables to detect widely and sharply.

Powder Granules Lump

Powder & Liquid Level Switch

Capacitance Type Level Switch

ALN Series

Extremely high-stable & reliable detection
Versatile level switch
being used for
many applications.



CE certified model
WKC-ALN

ALN-11□-□H
Super Heatproof
Type

ALN-12□-□
Teflon-coated
Type

ALN-131-□
Flat Type

ALN-14□-□
Wire Type

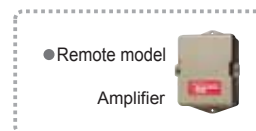
ALN-155-□
Pipeline Type

SL Series

Certified as the Intrinsically
Safe Explosion-proof can be
accommodated to any
shape of electrode.



Relay
Power Unit



Powder Granules Liquid Surface Interface

Vibration Type Level Switch



KVK Series

A single vibrating probe
realizes as delicate vibration
as tuning fork.
High reliable detection and
various product line.

High Sensitivity Type



KVA/KVF Series

Our own technology has made it
possible to line up series of
withstand-load probe that can
still come with delicate vibration.

Withstand Load Type



KVK-111



KVK-36□



KVA-111



KVA-13□



KVF-121



KVS-16□-P

KVS Series

Intrinsically safe
i2 G 4



Barrier/
Power Unit

Powder Granules Liquid Underwater Solid

KVX Series

Pursuing simple operation.
Our own technology realizes more stable
vibration with new physical principle.

Compact



CE certified model
WKV-KVX

XV2 Series

Extremely compact and
light suitable for such a place as
the compact size is required in particular.

Extremely Compact Type



KVX-111



KVX-112



KVX-211



XV2-111



XV2-121



XV2-211



Powder Granules Liquid

Non-Contact Level Meter

Radar Type Level Transmitter

Outstanding software ensures the most reliable detection. Microwaves make it possible to detect levels that have so far been difficult to be measured.

VG Series [FMCW TYPE]

VG6 : For powder VG7 : For liquid 3 different antennas available for applications.

Sheet Horn Antenna



Drop Antenna



Horn Antenna



測定スパン

VG6: 60m Max.
VG7: 80m Max.
(depends on application)

VG5: For liquid

Competitive model for liquid/slurry/paste

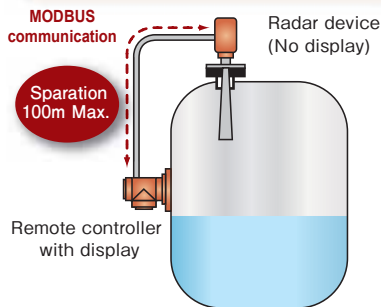
Sheet Horn Antenna



PP Wave Horn Antenna



Remote controller type (Option)

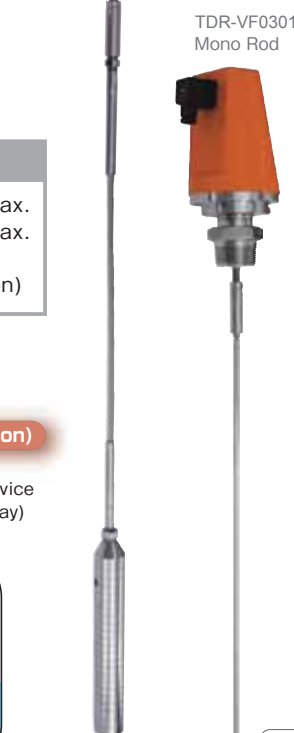


VF Series [TDR TYPE]

Micro pulses are sent toward a product to be measured via a probe, and it exactly measures levels with no influence of obstacles such as powder, dust and vapor.



TDR-VF0302
Mono Cable



TDR-VF0301
Mono Rod

ATEX
EExia II CT6
EExd Ia IIC T6

Powder Granules Liquid

Laser Type Level Indicator

Best suitable for non-contact measurement at the places where it is highly difficult or dangerous to measure!



LASER RANG-L

It measures levels by pinpoint in utilizing semiconductor laser. The maximum range is 30 meters.



LASER RANG-S

Extremely compact Laser Type Level Meter that can measure up to 10 meters by pinpoint.



Compact

Powder Granules Liquid

Non-Contact Level Meter

Ultrasonic Level Indicator Remote controller type

REFLEX

REFLEX
SCANFLEX



Good for measuring a long range and scanning. Powerful enough to measure a wide range of products.

MULTIFLEX

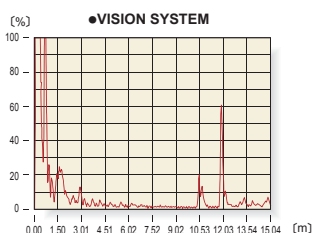


Applicable all processes from powder to liquid with particular setups.

MINIFLEX LR



It builds in the minimum function with a user-friendly software.



Measuring Water-level Differential



Open Channel Weir Flow Measurement



ATEX
EExm II T6

Powder Granules Liquid

Ultrasonic Level Indicator Built-in controller type

For liquid Compact/2 wire/ user friendly



LU20-5061



LU20-5061-IS

CSA
Intrinsically safe

Safety barrier MTL728+



Intrinsically safe
Exia II CT6



MICROFLEX-C

ATEX
EExm II T6

False echo learning function

Inside

Liquid

Flow Sensor

Microwave Type Flow Sensor



KFD-1/KFD-2

24GHz helps this sensor be highly sensitive and reliable. It does not overlook even a grain.

Powder Granules

Particle Flow Sensor



KDS-1

Concentration Monitoring of exhausted dust and minute particles and detecting flow/no flow.

Powder Granules

Dust Monitor



Electrodynamics System Leak Alert 73

Reliably detects the concentration changes of powder. Easy to handle, least maintenance.

Powder Granules

Contact Level Meter

Sounding Type Level Indicator

Various product lines.
They can be applied to all processes, and they are the best selling lines for their reliability.

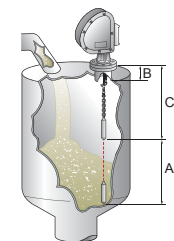


KSL-T2
SPAN:MAX40m
Standard
Powder
Granules
Lump
Underwater Solid



CPU built-in models. Upgraded models are all weathertight constructions with aluminum casting body.

KSL-MT
SPAN:MAX20m
Build-in CPU
Powder
Granules
Underwater Solid



A. Measuring Range
B. Height of Nozzle
C. Roll-up Position

KSL-W3T
SPAN:MAX20m
Standard
Powder
Granules
Underwater Solid



KSL-T8
SPAN:MAX40m
Build-in CPU
Powder
Granules
Lump
Underwater Solid



It can be applied to hazardous areas

KSL-GT
SPAN:MAX30m
Flame-proof
Exd II BT4
Powder
Granules
Lump
Underwater Solid



Optional Units



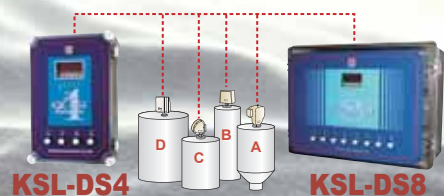
KSL-W2B
SPAN:MAX20m
Standard
Powder
Granules
Underwater Solid



Sounding Type Level Indicator Controls

A controller controls many units (4 for DS4 and 8 for DS8). Selecting a tank with one-touch operation. Memory function is equipped.

Microprocessor Control System



Contact Level Meter

Capacitance Type Level Indicator

No moving part. It can be applied to any processes.
Best selling line in continuous measurement

Electrode · Amplifier
Remote Type

KLI Series

KLI-4□□
Cable with
TEFLON-coating



Electrode · Amplifier
Built-in Type

KLT Series

KLT-2□□
TEFLON-tubing
probe

KLI-2□□
TEFLON-tubing
probe

KLT-1□□
Bare probe



Amplifier

Various kinds of electrode that
can be provided for
hazardous places.

Intrinsically safe
explosion-proof model

KLG Series

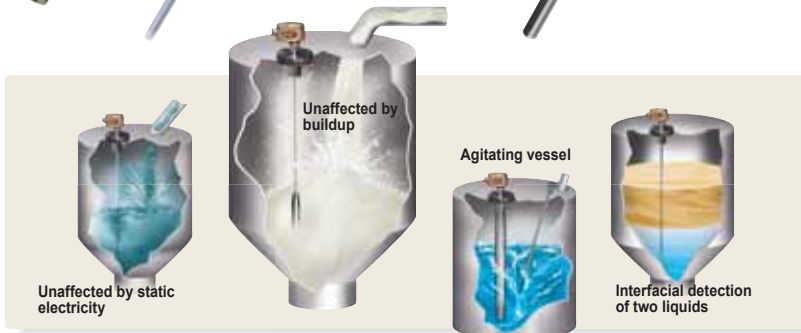
Intrinsically safe
(i)2G4

KLG-2□□3
TEFLON-tubing
probe



Safety barrier

Amplifier

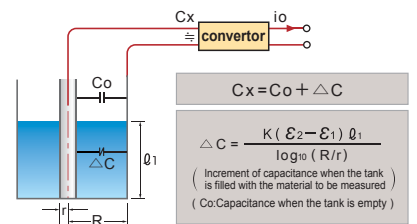


Unaffected by static electricity

Unaffected by buildup

Agitating vessel

Interfacial detection of two liquids



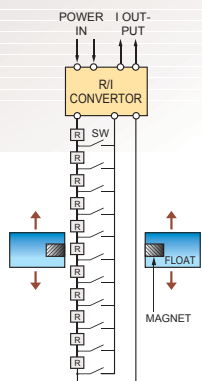
Powder Granules Liquid Surface Interface

Vertical Float Type Level Indicator

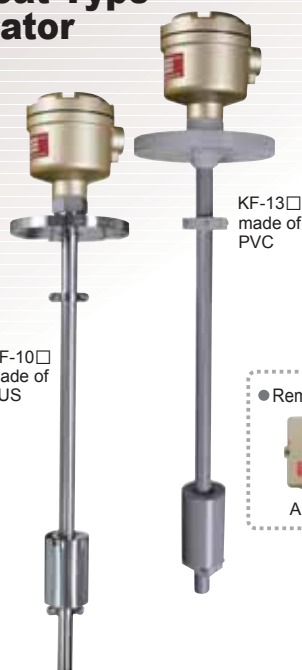
KF-100 Series

It is not at all affected by environmental conditions such as material changes, gas and so on. Pioneer of Liquid Level Indicator

INSIDE CIRCUIT



KF-10□
made of
SUS



KF-13□
made of
PVC

Remote model



Amplifier

FLC-d

Ex explosion proof on technical standard (IEC registration)

A lot kinds of material variation enables various liquids measurement in hazardous area.

Intrinsic safety
Exia IIC T5

Power/Amplifier



Safety barrier



[Explosion proof type]



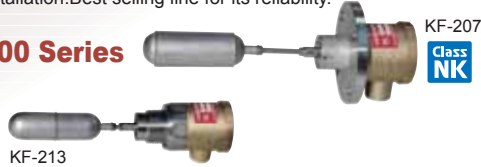
Liquid Surface Interface

Liquid Level Meter & Switch

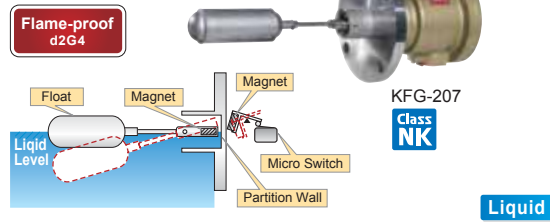
Horizontal Float Type Level Switch

Many products upgraded depending on application and installation. Best selling line for its reliability.

KF200 Series

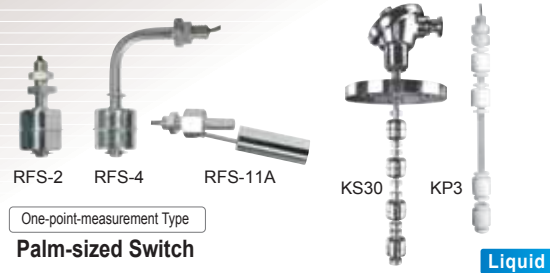


KFG200 Series



Compact Float Switch

Multi-point-measurement Type
Most ideal for an ultra-small tank



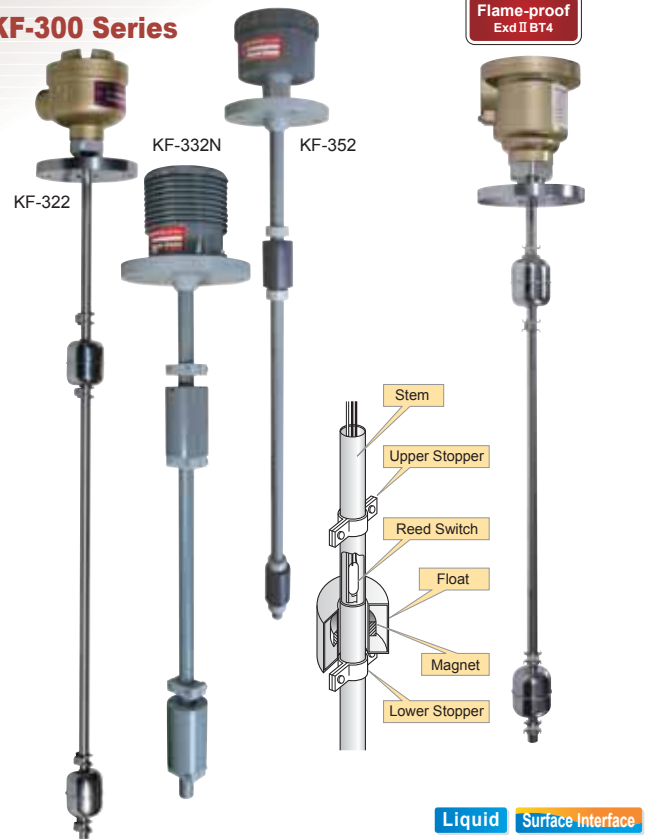
Vertical Float Type Level Switch

These can be applied to all processes with various sizes and materials.

KFE-3000 Series

Flame-proof Exd II BT4

KF-300 Series



Diaphragm Type Level Switch

KF500 Series

Can be used for viscous liquids as well as high temperature liquids. Diaphragm can reliably detect level.



Electrode Type Level Switch

KF-600 Series

Various materials of electrode can satisfy any applications.



Multi-point Ball Float Switch/ KARI Float Switch



It perfectly detects levels of wastewater and viscous liquids with its incomparable buoyancy.

Liquid

Conveyor Peripherals

Conveyor Peripherals Switch

KP-800 Series

Ensuring safety operation of Conveyor Lines



Detecting operational exceptions such as belt moving off to one side. KP-880

KP-850-1
KP-850-2
Standard

KP-860
Indication Lamp

KP-870
Indication Plate

Powder Granules Lump

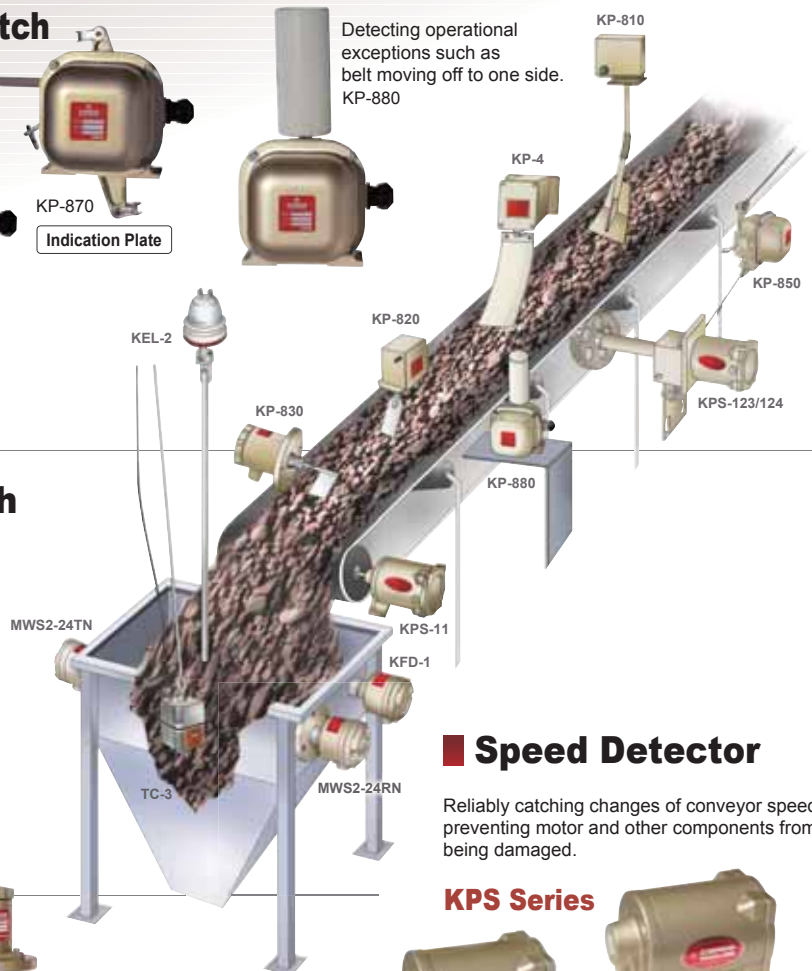
Leak Type Level Switch

KEL-2 Series

No moving part. Suitable for measuring sand. Applicable to aggregate, limestone and so on.



Powder Granules Lump



Speed Detector

Reliably catching changes of conveyor speed, preventing motor and other components from being damaged.

KPS Series

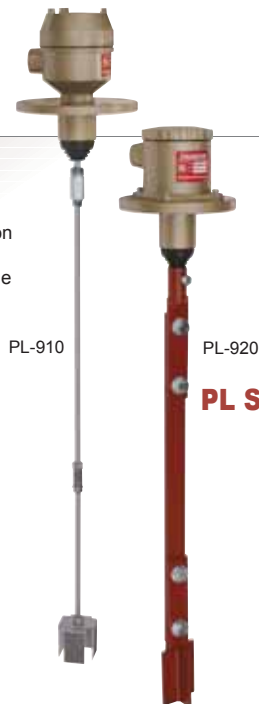
Tilt Switch

Simple mechanical construction tough enclosure. Level measurement with simple and reliable operation



TC Series

Powder Granules Lump



PL Series



Powder Granules Lump

Flow Switch

KP-800 Series

Flow detection of powder and granules on a conveyor.

Powder Granules Lump



Dust Monitor

A comprehensive range of products, which is exceptional, uses probe technology and applies optical principle. They can be applied to all industrial processes.

Electrodynamic Series

It detects dust particles in a non contact manner by applying the principle of electrostatic induction. It is maintenance free at high resolution and becomes a standard type in a new era.

VIEW370

The basic model of Dust Monitor : ElectroDynamic Probe Electrification technology is applied.

VIEW370PLUS

A single controller can control up to 16 sensors if bus connection is made.



VIEWEx800 Ex

Explosion-proof model, ATEX certified. It can be used at the hazardous area.

Leak Alert 65-02

Remote controller type dust monitor (relative concentration)

Leak Alert 73

Best suitable for bagfilter monitoring. (Dust Leak Monitor)

Optical Series

Dynamic Opacity Dust Monitor

It can automatically compensate for dust on lenses and the optical axis by measuring the scattered light from particles and the ratio of the amount of received light. It is best suitable for large diameter pipes.



Backscattering dust monitor VIEW160c

Easy installation, backscattering model

STACK602

It can measure up to the pipe of $\Phi 15000\text{mm}$ in diameter. In the multi-model a single controller can control up to 16 sensors.

VIEW580

It can measure up to the pipe of $\Phi 10000\text{mm}$ in diameter. It is a Relative Concentration Meter which is easy to handle.

Forward Light Scattering Dust Monitor QAL181

High quality dust measurement in Forward Light Scatter measurement technology. It is unaffected by noise due to its point-detection method.



Environment Measurement Instrument

FTIR Gas Analyzer

Fourier Transform Infrared Spectroscopy
Continuously monitor the components of more than 12 different gases in the specific algorithm.



In-Situ
Continuous Gas Analysis



CEMS System



DX-4000 Portable Type
Simultaneous measurement of 50 kinds of gas concentrations Max.



Zirconium dioxide type Oxygen analyzer

Highly accurate measurement with Special Airtight Sealing, based on multi layer technology, reduces maintenance.



OXITEC 5000



OXITEC 5000 GasEx

Ex II 2G Ex d IIC T3 Gb (probe)
II 2G Ex d IIC T6 Gb (electronic unit)

Special Measurement Instrument

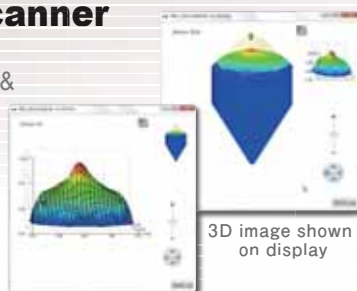
Acoustic 3D level scanner

Whole powder surface measurement & reliable inventory control available!!

3D LEVEL SCANNER II S/M/MV/MVL



Powder Granules

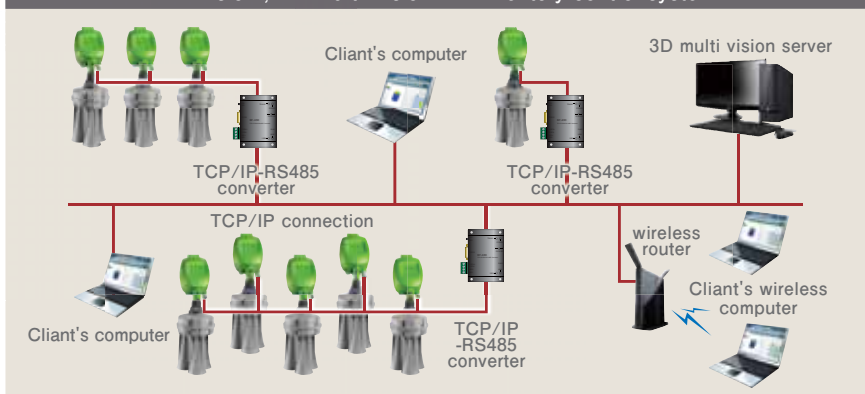


3D image shown on display

System configuration 64 units Max. accessible (Daisy chain)



3D Vision , 3D Multi Vision — inventory control system —



Ultrasonic Sludge Blanket Level Meter

KWS100 Series

Continuous measurement of sludge blanket level in sedimentation tank, thickener etc.



ENV100-S

Reliable detection unclear sludge with unique algorithm.

Single Type

ENV100-M

4 sensors are available with one controller.

Multiple Type

ENV100-P

Portable Type



sensor



controller



Ultrasonic Sludge Density Meter

KWS200

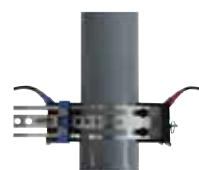
Sludge density measurement in every application with 3 kinds of probes.



Probes



S2-S
(spool piece)



S2-C
(clamp on)



S2-T
(tank mount)

Ultrasonic Area-velocity Flow Meter

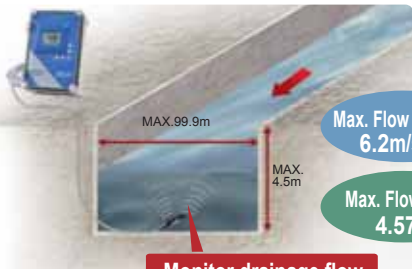
Velocity and level measurement in the channel with one sensor.
Continuous monitoring for open channels and pipes.



AVFM5.0

Can calculate flow at channels only if you place the sensor.
Flow calculation available by placing the sensor in the channel.

AVFM5.0



Monitor drainage flow

Max. Flow Velocity
6.2m/sec.

Max. Flow Level
4.57m



Stingray 2.0

Portable Type

Ultrasonic Liquid Flow Meter

[Transit time type] For clear water

Transit Time Flow Meter TTFM1.0

Stationally Type



Install-model for wide applications
Pipe diameter : $\Phi 12 \sim 1200\text{mm}$

Transit Time Flow Meter PTFM1.0

Portable Type



Ultraflow U1000-U

Sensor built-in Type

Sensor integrated model
Pipe diameter : $\Phi 20 \sim 110\text{mm}$



[Doppler] For turbid water



Doppler Flow Meter DFM5.1

Applicable pipe size:
 $\Phi 12.5$ to $\Phi 4500\text{mm}$

Stationally Type

Doppler Flow Meter PDFM5.1

Applicable pipe size: $\Phi 12.5$ to $\Phi 4500\text{mm}$

Portable Type



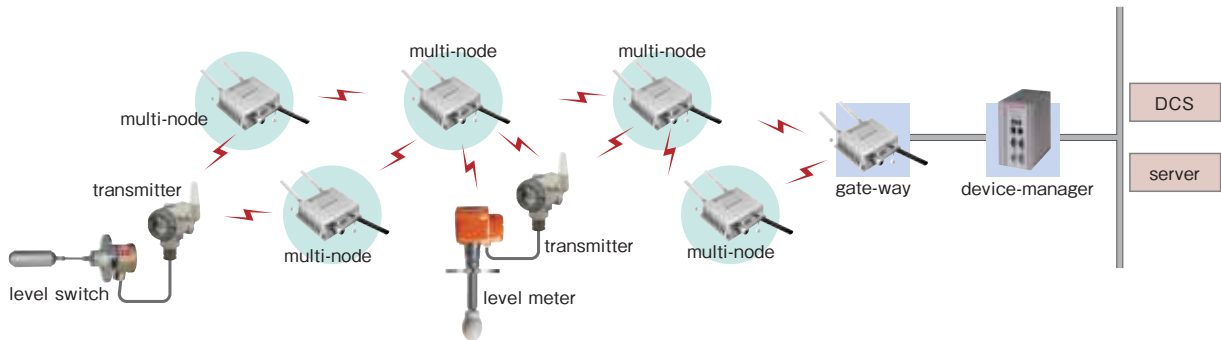
Doppler Flow Switch DFS5.1

Applicable pipe size:
 $\Phi 12.5$ to $\Phi 4500\text{mm}$

Net Work System Wireless, Open network

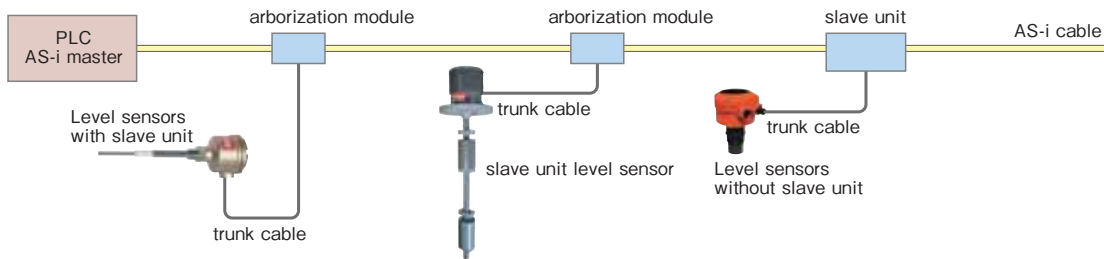
ISA100. 11a wireless network system

Wireless system can be effective to cut the wiring cost down, connecting sensors to the specified transmitter.



AS-i Network system

Lineup of level measuring system with slave unit meeting AS-i system. Possible to connect it immediately to the system!



Optional Units

Meter Relay LV1000-AI-A2



Function

- Linearization function : 20 points
- Alarm contact output : 2c
- Contact capacity
 - AC125V 0.6A (Resistance load)
 - AC250V 0.3A (Resistance load)
 - DC30V 2A (Resistance load) Max 60w
 - Maximum Control Current: 2A
- Analog Current Output : DC4 to 20mA
- Analog Current Input : DC4 to 20mA (Input resistance 250Ω)
- Sensor supply voltage : DC24V (150mA)

Specification

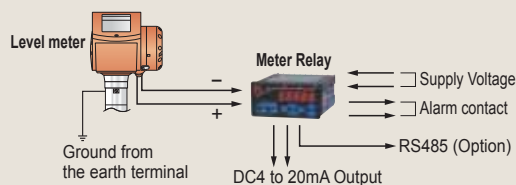
- Dimension : W96 × H48mm (3.8 × 1.9 inch)
- Power supply : AC85 to 264V (50/60Hz)
- Power consumption : Max 22VA
- Indication : Red LED 5 digits
Font size 10mm
(Zero suppress system)
- Bar Graph : 1608 size LED 20 bars

Option

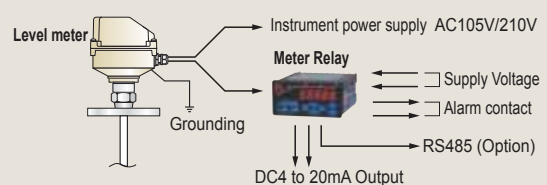
- Power supply : AC12 to 24V
(Power consumption: Max 10VA)
- Analog Output Voltage : DC 1 to 5 V
DC 0 to 5V
DC 1 to 10V
- Alarm contact output : 2c+2a or
8NPN Open Collector
- Sensor supply voltage : DC12V (200mA) or
DC 5V (100mA)
- Communication : RS485

Signal level	IEE BASED UPON RS-485	
Communication	RS4	2 wires Half Duplex
	RS4W	4 wires Half Duplex
Cable	ASCII cable	
Connector	Pin arrangement	D-SUB 9

Example of connection 2 wires



Example of connection 4 wires



Certified Explosion-proof Instruments: Usable Range of Explosive Gas

National Standard

d 2 G4

- Ignition level : G1-G5
- EXP-proof grade : 1-3
- EXP-proof construction
- d : Withstand pressure Exp-proof
- e : Safety-increased EXP-proof
- i : Intrinsic Safety EXP-proof
- f : Pressurized construction
- o : Oil filled EXP-proof
- s : Special EXP-proof

International Standard

Ex d IIB T4

- Surface Temp. Class: T1-T6
- Surface industries: IIA, IIB, IIC
- Flameproof enclosure type
- Explosion-proof equipment (IEC)
- g : Withstand pressure Exp-proof
- e : Safety-increased EXP-proof
- ia, ib : Intrinsic Safety EXP-proof
- p : Pressurized construction
- o : Oil filled EXP-proof

Ignition Temp. of Explosive Gas	Over 450°C	Over 300°C Below 450°C	Over 200°C Below 300°C	Over 135°C Below 200°C	Over 100°C Below 135°C	Over 80°C Below 100°C	
Temperature Grade	T1	T2	T3	T4	T5	T6	
Ignition Level	G1	G2	G3	G4	G5	G6	
Steam Category IIA	Explosion Grade 1	Acetone	Ehtanol	Gasoline	Acetaldehyde		Ethyl nitrite
		Ammonia	Isoamyl acetate	Hexane	(Di)ethyl ether		
		Carbon monoxide	Pranolol	Butyl chloride	Dibutyl ether		
		Ethane	Butane	Octane			
		Acetic acid	Acetic anhydride	Cyclohexane			
		Ethyl acetate	Methyl acrylate	Dimethyl ether			
		Acetonitrile	Ethyl acrylate	Tetrahydrofuran			
		Isopropyl chloride	Isooctane	Decane			
		m-xylene	Isopentane	Hexanol			
		Chlorobenzene	Vinyl chloride	Heptane			
		Hydrogen cyanide	Vinyl acetate	Pentanol			
		Dichloroethylene	Propyl acetate	Pentane			
		Trimethyl benzene	Cyclohexane	Methyl hexane			
		Toluene	Acetylacetone				
		Propane	Isobutanol				
		Benzene	Epichlorohydrin				
		Methanol	Isopentyl acetate				
		Methane	Butyl acetate				
		Acrylic nitrile	Pentyl acetate				
		Ethyl Methyl Ketone	Diisopropyl ether				
O-xylene	Dioxane						
P-xylene	Dichloroetane						
Methyl acetate	Thiophene						
Ethyl bromide	Furan						
Styrene	Propanol						
Benzotrifluoride	Propylene						
Steam Category IIB	Explosion Grade 2	Coal gas	Ethylene	Isopropylene			
		Dichloroethylene	Propylene oxide	Hydrogen sulfide			
Steam Category IIC	Explosion Grade 3	Water gas	Acetylene		Carbon bysulfide	Ethyl sulfate	
		Hydorgen					

Chemical Resistance Table

Chemicals	Material					
	PVC	PA	PP	FEP	PFA	SUS
Acetone	x	x	x	A	A	A
Aniline	x	B	B	A	A	A
Amyl alcohol	B	B	B	A	A	-
Ammonia water (10%)	B	A	A	A	A	A
Ammonia water (28%)	B	A	A	A	A	A
Isopropyl alcohol	B	B	B	A	A	A
Ethyl alcohol (50%)	B	A	B	A	A	A
Ethyl alcohol (95%)	B	B	B	A	A	A
Ethyl glycol	B	A	A	A	A	B
Zinc chloride	A	A	A	A	A	x
Aluminum chloride	A	A	A	A	A	x
Ammonium chloride	A	A	A	A	A	-
Kalium chloride	A	A	A	A	A	x
Calcium chloride	A	A	A	A	A	B
Ferric chloride	A	A	A	A	A	x
Magnesium chloride	A	A	A	A	A	B
Methylene chloride	x	x	x	A	A	B
Hydrochloric acid (10%)	A	A	A	A	A	x
Hydrochloric acid (35%)	A	A	A	A	A	x
Perchloric acid	B	B	B	A	A	x
Hydrogen peroxide (10%)	A	A	A	A	A	B
Hydrogen peroxide (3%)	A	A	A	A	A	A
Potassium permagnate	A	A	A	A	A	B
Formic acid	A	A	A	A	A	x
Xylene	x	x	x	A	A	A
Citric acid	A	A	A	A	A	A
Cresol	A	x	x	A	A	A
Chromic acid (10%)	B	B	B	A	A	x
Chromic acid (50%)		x	x	A	A	x
Chloroform	x	x	x	A	A	A
Acetic acid (50%)	A	A	A	A	A	A
Acetic acid (80%)	A	B	B	A	A	x
Acetic ether	x	x	x	A	A	B
Sodium hypochlorite	A	B	B	A	A	A
Carbon tetrachloride	x	x	x	A	A	B
Dimethylformamide	x	A	A	A	A	A
Oxalic acid	A	A	A	A	A	x

A = Good B = dependent on conditions x = Unusable

Chemicals	Material					
	PVC	PA	PP	FEP	PFA	SUS
Nitric acid (10%)	A	A	A	A	A	x
Nitric acid (50%)	B	A	A	A	A	x
Caustic silver	A	A	A	A	A	B
Sodium nitrate (10%)	A	A	A	A	A	A
Vegetable oil	B	A	A	A	A	A
Sugared water	A	A	A	A	A	A
Sugared water (alkali)	A	A	A	A	A	B
Potassium hydroxide (45%)	A	A	A	A	A	B
Potassium hydroxide (5%)	A	A	A	A	A	B
Sodium hydroxide (1%)	A	A	A	A	A	B
Sodium hydroxide (10%)	A	A	A	A	A	B
Sodium hydroxide (50%)	A	B	B	A	A	B
Stearic acid	A	B	B	A	A	A
Oil	B	x	x	A	A	A
Ammonium carbonate	A	A	A	A	A	A
Sodium carbonate	-	A	A	A	A	A
Kerosene	A	x	x	A	A	A
Toluene	x	x	x	A	A	A
Lactic acid	A	A	A	A	A	A
Picric acid	B	B	B	A	A	x
Phenol (50%)	-	A	A	A	A	A
n-butyl alcohol	A	A	A	A	A	-
Hydrofluoric acid (10%)	A	A	A	A	A	x
Hydrofluoric acid (50%)	A	A	A	A	A	x
Benzene	x	x	x	A	A	A
Boric acid	A	A	A	A	A	A
Formaldehyde (gas)	B	A	A	A	A	B
Methyl alcohol	B	A	A	A	A	A
Methyl ethyl ketone	x	x	x	A	A	A
Sulfuric acid (10%)	A	A	A	A	A	x
Sulfuric acid (50%)	B	A	A	A	A	x
Sulfuric acid (98%)	B	A	A	A	A	x
Ammonium sulfate	A	A	A	A	A	B
Phosphoric acid (10%)	A	A	A	A	A	B
Phosphoric acid (50-80%)	B	A	A	A	A	B
Ammonium phosphate	A	A	A	A	A	B
Sodium phosphate	A	A	A	A	A	-

Characteristic Table of Fluorocarbon Resin

Abbreviation	PTFE (4F)	FEP (6F)	PFA	PVDF (2F)
Name	Polytetra Fluoro Etylene	Perfluoroethylene-Propylene Copolymer	Tetrafluoroethylene-Perfluoroalkoxy Vinyl Ether Copolymer	Polyvinylidene Fluoride
Continuous Temp. Limit (°C)	260	200	260	150
Pull Strength (Mpa)	13.7 – 34.3	16.6 – 21.6	27.5 – 29.4	24.5 – 50.0
Affected by weak acid	No	No	No	No
Affected by strong acid	No	No	No	Corroded by fuming sulfuric acid
Affected by weak alkali	No	No	No	No
Affected by strong alkali	No	No	No	No
Affected by organic solvent	No	No	No	Almost resistant
Affected by direct sunlight	No	No	No	No
Application: Features	Anti-corrosion materials for chemical-plant fixtures, non-adhesive applications, non-greased bearings and electric insulation of jet aircrafts.		Machinery parts requiring anti-corrosion, intensity and transparency.	Anti-corrosion and electric insulating materials requiring flammability
Models applied	<ul style="list-style-type: none"> •Insulator for Capacitance model •Insulator for Dust Monitor 	<ul style="list-style-type: none"> •Teflon-tube for Capacitance model (Standard: Max 120°C) 	<ul style="list-style-type: none"> •Teflon-tube for Capacitance model (Special: Max 150°C) •Wire-tube for Capacitance model 	<ul style="list-style-type: none"> •Transmitting device for Ultrasonic Transmitter

*The above characteristic table shows the features of fluorocarbon resin alone. When it is incorporated into a product, its heat resistant temperature and strength may be varied so that the performance level. may be maintained

Table of Recommended Sensitivity and Specific Inductive Capacity for Capacitance Type Level Switch

	Name of Object	SIC	S
A	Acrylic Rubber	4	1
	Acetate	3.2~7.0	1
	Acetic acid	6.1~6.7	1
	Acetic anhydride	22	2
	Acetum,	38	2
	Acrylic Resin	2.7~4.5	1
	Alcohol	16~31	2
	Aluminum fluoride	2.2	1
	Amber	2.8~2.9	1
	Aminoalkyl Resin	3.9~4.2	1
	Ammonia	15~25	2
	Amyl ether	3.1	1
	Aniline	6.9	1
	Arboreous cotton	1.3~1.4	1
	Asbestos	3.0~3.6	1
	Asbestos	3.0~3.5	1
	Asphalt	2.5~3.2	1
B	Bakelite	3.5~4.5	1
	Balm grounds	3.1	1
	Barley bran	1.8	1
	Barley flour	3.0~4.0	1
	Barley grain	3.0~4.0	1
	Barley hull	1.5	1
	Beeswax	2.5~2.9	1
	Benzene	2.3	1
	Benzine	2.3	1
	Benzyl alcohol	13	2
	Bone dust	5.0~6.0	1
	Borosilicic acid glass	4.5~6.2	1
	Bran	1.4~2.0	1
	Butanol	16~17	2
	Butyl alcohol	11	2
	Butyl chloride	7.4	1
	Butylaldehyde	13	2
	Butylnitryl	20	2
C	Calcite	8.3	1
	Calcium	3	1
	Calcium Carbonate	2.0~3.5	1
	Calcium hydroxide	2.0~3.5	1
	Calcium oxide	12	2
	Calcium phosphate	1.6~1.9	1
	Calcium sulfate	2.5~6.0	1
	Carbon bisulfide	2.6	1
	Carbon dioxide	1.6	1
	Casein resin	6.0~7.0	1
	Casting sand	3.4~3.5	1
	Cellophane	3.2~6.4	1
	Cellulose	3.2~7.5	1
	Cellulose acetate	3.2~7.0	1
	Cement powder	5.0~10	1
	Ceramic	4.0~7.0	1
	Cereal	3.0~8.0	1
	Charcoal	1.2~1.8	1
	CHCH3	12	2
	Chloride of lime	1.8~2.0	1
	Chlorobenzene	5.5~6.3	1
	Chloroform	4.8	1
	Chlorotoluene	4.0~4.5	1
	Chocolate	3.0~4.0	1
	Chrome	12	2
	Chromite	4.0~4.2	1
	Clay	1.8~2.8	1
	Coal	4	1
	Cocoa grounds	2.5~3.5	1
	Coffee grounds	2.4~2.6	1
	Compound	3.6	1
	Copper oxide	18	2
	Corn	5.0~10	1
	Corn husk	2.3~2.6	1

	Name of Object	SIC	S
	Cotton-seed oil	3.1	1
	Cresol	9.0~11	2
	Crude oil	2.48	1
	Crystal	3.5~4.7	1
	Curry powder	2.6	1
	Cyclohexane	19	2
D	Decanol	8.1	1
	DEP dimethy	4.5~5.6	1
	Diallyl phthalein resin	3.3~6.0	1
	Diamond	2.2	1
	Dichloroethylene	4.6	1
	Diesel oil	1.8	1
	Diethyl ether	4.3	1
	Dolomite	8	1
E	Epoxy resin	2.5~6.0	1
	Ethanol	24	2
	Ethyl acetate	6.0~6.4	1
	Ethyl ether	3.9~4.3	1
	Ethyl iodide	7.8	1
	Ethyl toluene	2.2	1
	Ethylene dichloride	11~17	2
	Ethylene glycol	37	2
	Ethylene iodide	3.4	1
	Ethylene oxide	4.0~5.0	1
	Ethylene resin	2.2~2.3	1
	Ethylene tetrafluoride	1.9~2.0	1
F	Feeding stuff	38	2
	Feldspar porcelain	5.0~7.0	1
	Ferric oxide	14	2
	Ferromanganese	5.0~5.2	1
	Fiber	2.5~7.5	1
	Flour	2.5~3.0	1
	Fluid margarine	2.8~3.2	1
	Fluorine rubber	6.8~8.0	1
	Fluorite	6.8	1
	Fly ash	1.5~1.7	1
	Formaline	23	2
	Formamido	109	2
	Formic acid	58	2
	Freon	2.2	1
G	Gasoline	2.0~2.2	1
	Glass	3.7	1
	Glass (granulated)	6.0~7.0	1
	Glass-silicon board	3.5~4.2	1
	Glycerin	47~68	2
	Glycol	35~40	2
	Granulated gelatine	2.6~2.7	1
	Granulated sugar	1.5~2.2	1
	Graphite	12~15	2
	Gravel	5.4~5.6	1
	Grout	3.0~5.0	1
	Gum	2.7~2.9	1
H	Heavy oil	3	1
	Helium	1.1	1
	Heptanal	13	2
	Heptane	1.9~2.0	1
	Hexane	5.8~6.3	1
	Hexanol	13	2
	Hydrochloric acid 100%	4.0-12	1
	Hydrofluoric acid	11~17	2
I	Ink	2.5	1
	Iodine	11	2
	Isobutyl alcohol	18~40	2
	Isobutyl amine	4.5	1
	Ivory	6.9	1
K	Kerosene	1.8	1
L	Lactonitrile	38	2
	Lead carbonate	18	2
	Lead glass	7.0~10	1

SIC - Specific Inductive Capacity S - Sensitivity

*Please be advised that recommended SENSITIVITY depends on the conditions of the object to be measured, environments/temperature, and the shape of the electrode or its mounted conditions.

Table of Recommended Sensitivity and Specific Inductive Capacity for Capacitance Type Level Switch

	Name of Object	SIC	S	
	Lead nitrate	38	2	
	Linoleic acid	2.6~2.7	1	
	Lumber, dried	2.0~6.0	1	
	Lumber, wet	11~30	2	
M	Magnesium oxide	9.6	1	
	Magnesium sulfate	8.2	1	
	Manganese dioxide	5.0~5.2	1	
	Marble	3.5~9.3	1	
	Melamine resin	4.7~11	1	
	Menthol	3.9	1	
	Metane	1.7	1	
	Methacrylic resin	2.2~3.2	1	
	Methanol	33	2	
	Methyl aniline	5.9	1	
	Methyl ether	5	1	
	Methyl iodide	7	1	
	Methyl nitrate	24	2	
	Methylamine	9.4	1	
	Mica	5.0~9.0	1	
	Mica	2.6~3.2	1	
	Micanite	1.8~2.6	1	
	Mineral oil	2.0~2.5	1	
	Molasses	50~80	2	
	Morpholine	7.3	1	
	N	Na2CO3	8.7	1
		Naphthalene	2.5	1
Natural rubber		2.7~4.0	1	
Neoprene		6.0~9.0	1	
Nitrobenzene		36	2	
Nitrocellulose		6.2~7.5	1	
Nylon		4.0~5.0	1	
O		Oil	2.0~2.2	1
		P	Paint or the like	5.0~8.0
Palmitic acid			70	2
Paper		2.0~2.5	1	
Paraffin	1.6~1.9	1		
Paraffin	2.4~6.5	1		
Paste	1.7~1.8	1		
Pentanol	14	2		
Pentanone	15	2		
Petrolatum	2.2~2.9	1		
Phenol	9.8	1		
Phosphor	4	1		
Phthalic acid	5.0~6.3	1		
Picoline	9.8	1		
Pine oil	2.5~2.6	1		
Pine resin	1.5~1.8	1		
Piperidine	5.8	1		
Plywood	2.0~2.6	1		
Poly-ether chloride	2.9	1		
Polyacetal	2.6~3.7	1		
Polyamide	2.5~2.6	1		
Polybutylene	2.2~2.3	1		
Polycarbonate	2.9~3.0	1		
Polyester resin	2.8~8.1	1		
Polyethylene	2.2~2.4	1		
Polyethylene, pellet	1.5	1		
Polypropylene	1.5~1.8	1		
Polystyrol	2.0~2.6	1		
Polyvinyl acetate resin	2.7~6.1	1		
Polyvinyl alcohol	1.9~2.0	1		
Polyvinylidene chloride	4.5~6.0	1		
Polyvinylidene fluoride	8.4	1		
Powdered coal	2.0~4.0	1		
Propane	1.6	1		
Propionaldehyde	19	2		
Propyl alcohol	32	2		
Propyl butyrate	4.3	1		
Pyrex	4.8	1		

	Name of Object	SIC	S	
Q	Quartz sand	2.5~3.5	1	
	R	Resin	1.8~2.6	1
Rice		3.0~8.0	1	
Rice flour		3.5~3.7	1	
Ricinus		4.4~4.8	1	
Rosin		2.6~3.5	1	
Rubber		2.1~2.7	1	
S		Salt	5.9	1
		Sand	3.0~5.0	1
		Seasoned lumber	2.0~6.0	1
		Sesame	1.8~2.0	1
		Silicon dioxide	4.5	1
	Silicone	2.1~2.4	1	
	Silicone resin	3.5~5.0	1	
	Silk	1.3~2.0	1	
	Sinter	12	2	
	Soda ash	2.7	1	
	Soda-lime glass	5.5~8.5	1	
	Sodium carbonate	2.7	1	
	Sodium cyanide	7.6	1	
	Sodium nitrate	5.2	1	
	Soluble quartz	3.5~4.5	1	
	Soy bean	1.8~2.0	1	
	Soy bean waste	2.7~2.8	1	
Styrene	2.3~3.4	1		
Styrol resin	2.1~2.8	1		
Sugar	Sugar	3	1	
	Sulfur	3.6~4.4	1	
	T	Tar	2.0~3.0	1
		Teflon	2	1
		Tetrachloroethylene	2.3	1
		Tetrafluoroethylene	2.1	1
		Thinner	3.7	1
Thiokol		7.5	1	
Tobacco		1.5~1.8	1	
Toluene		2.0~2.4	1	
Transformer oil		2.2~2.4	1	
Trichloroethylene		3.4	1	
Trichlorotoluene		6.9	1	
Trifluoroacetic acid		40	2	
Trinitriles		19	2	
U	Urea	5.0~8.0	1	
	Urea resin	3.4	1	
	Urethane	6.5~7.1	1	
	Urethane (hardener)	6.3	1	
	Urethane rubber	6.7~7.5	1	
V	Vanadium sulfide	3.1	1	
	Vinyl alcohol	1.8~2.0	1	
	Vinyl alcohol resin	2.6~3.5	1	
	Vinyl chloride powder	1.4	1	
	Vinyl chloride resin	2.8~6.4	1	
W	Water	80	2	
	Water-soluble chemicals	50~80	2	
	Wheat	3.0~5.0	1	
	White mica	4.5~9.6	1	
	X	Xylene	2.2~2.6	1
		Z	Zinc oxide	1.7~2.5



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

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