



KF-100 KFG-100

FLOAT TYPE LEVEL INDICATOR



Pioneer of Liquid Level Indicator, Idiot-proof

A pioneer level instrument
for the liquid
Simple operation

KF-100 • KFG-100 series

Features

Float Type Level Meters of KF100 / KFG100 are level transmitters which provide an output of the current signal of DC4-20mA via magnets and reed switches to show the float position depending on the fluid level. With no moving parts except the float and with reed switches mounted, they are not at all affected by environmental conditions such as material changes, vapor, gas and so on and are also highly reliable and easy to be serviced.

Lined up are a number of types with wetted parts made of SUS or various corrosive resistant resin, they can be workable in a broad range of chemical solution. When it comes to using in the hazardous areas, select a Withstand Pressure Explosive-proof Type.

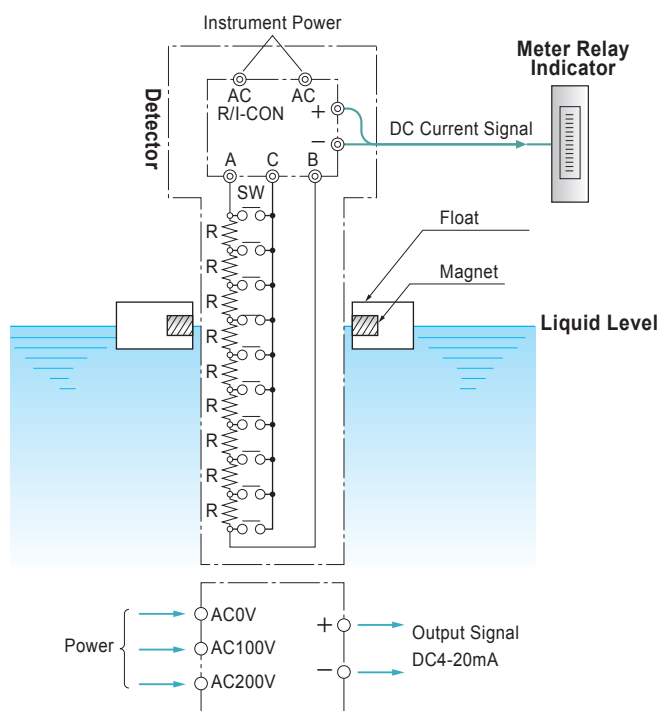
Application

- **Food Industry:** Milk, Soy Milk, Liquid Sugar Cooking Oil and so on
- **Electronic Components Industry:** Deionizer, Waste Water Recycling Equip. and so on
- **Chemical Industry:** Solvent, Adhesives, Hydrochloric Acid, Vitriolic Acid and so on
- **Shipbuilding Industry:** Fuel, Liquid Level of Bilge and so on
- **General Industry:** Waste Water Treatment Facility, Liquid Level of Air Conditioning

Principle of Operation

Reed Switches(SW) and Resistor(R) being built in the stem, they can detect the varying liquid-level in the form of resistance changes because a magnet in the float which is subject to being mobile depending on varied liquid-level shut a reed switch.

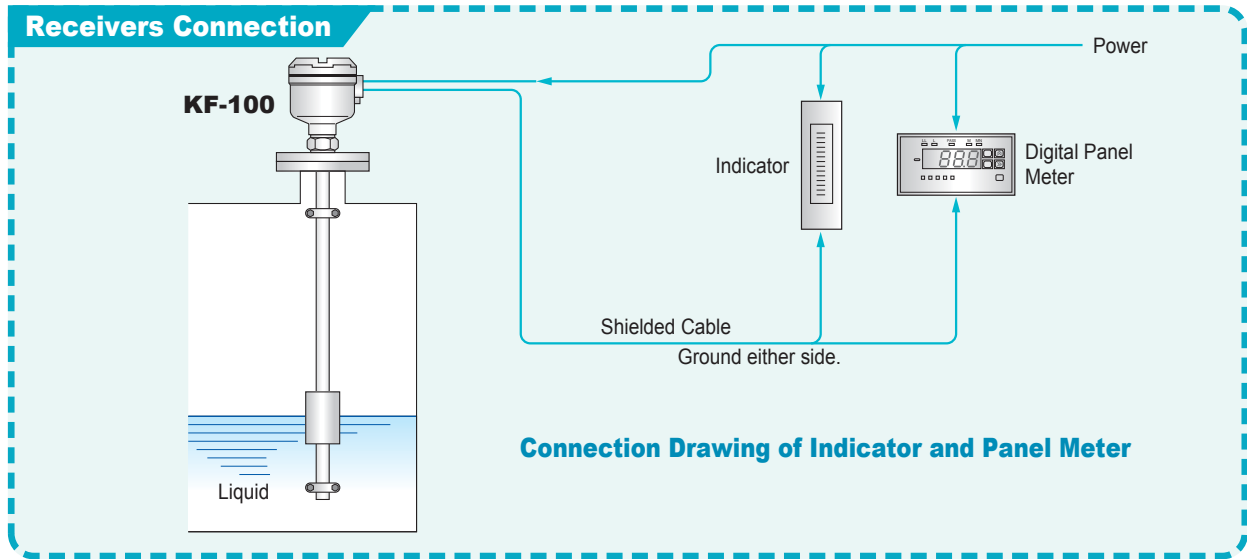
The R/I-Converter can transmit this in the form of DC4-20mA current signals.



Standard Type and Specifications

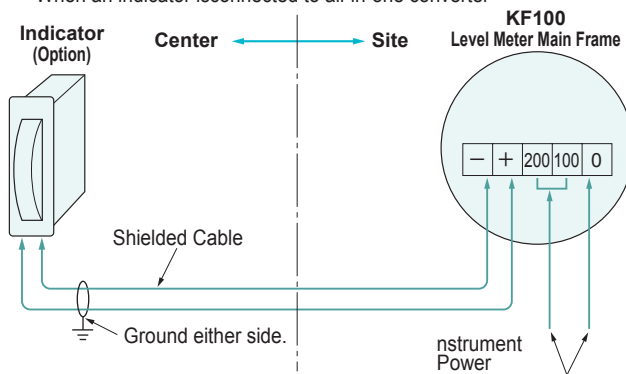
Type		KF-10	KF-11	KF-13	KF-14	KF-16	KF-17	KF-19	KF-1a	KF-1b
Specification		KFG-10	KFG-11	KFG-13	KFG-14	KFG-16	KFG-17	KFG-19	KFG-1a	KFG-1b
Dimensions	Float (Ext Dia xHigh x Int Dia)	60×95×23	90×120×23	60×95×25	90×120×25	60×95×25	90×120×25	90×120×25	90×120×30	90×120×30
	Stem (Ext Dia)	22	22	22	22	22	22	22	22	22
	Flange	JIS5K 65AFF	JIS5K100AFF	JIS5K 65AFF	JIS5K100AFF	JIS5K 65AFF	JIS5K100AFF	JIS5K100AFF	JIS5K100AFF	JIS5K100AFF
	Cable Gland/KF	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4
Material	Cable Gland/KFG	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2	G1/2
	Float	SUS304	SUS304	PVC	PVC	HTPVC	HTPVC	TEFLON	SUS304	PVC
	Stem	SUS304	SUS304	PVC/Brass-tube	PVC/Brass-tube	HTPVC/Brass-tube	HTPVC/Brass-tube	SUS304/TEFLON	SUS304	PVC/Brass-tube
	Flange	SUS304	SUS304	PVC	PVC	HTPVC	HTPVC	SUS304/TEFLON	SUS304	PVC
	Terminal Box	ADC / AC								
Withstand kPa	App Liquid Gravity	0.90	0.64	0.71	0.68	0.76	0.71	1.0	0.8	0.8
	Heat Resistant (°C)	100	100	50	50	80	80	100	100	50
	20 °C	588	539	196	196	196	196	ATM	539	196
	50 °C	539	490	196	196	196	196	ATM	490	196
	80 °C	490	441	_____	_____	196	196	ATM	441	_____
Exterior Drawing	KF	A-1	A-1	A-2	A-2	A-2	A-2	A-3	A-1	A-2
	KFG	B-1	B-1	B-2	B-2	B-2	B-2	B-3	B-1	B-2
Common Specifications		● Terminal Box IP55 or equivalent Painted Color: Non-explosion-proof/ Silver Explosion-proof/ N6								
		● Sensor Specifications Current supplied: Max. DC5V Power supplied : Max. 5mA Tolerable Temp. : 0 - +100°C (No freeze, No condensation) Detecting Range : 10mm Accuracy : Min 10mm, Max 20mm								
		● Resistance-Current Converter Specifications Power : 100VAC / 200VAC ±10% 50/60Hz Span Adjustment Ambient Temp.: 0 - +55°C (No freeze No condensation) *Power of DC24V may be possible. Input Signal: 3-wire System, Resistance Input Linearity: 1% Range : ±20% Output Telerable Load : Max 500Ω								

Reliable Liquid Level Indicator



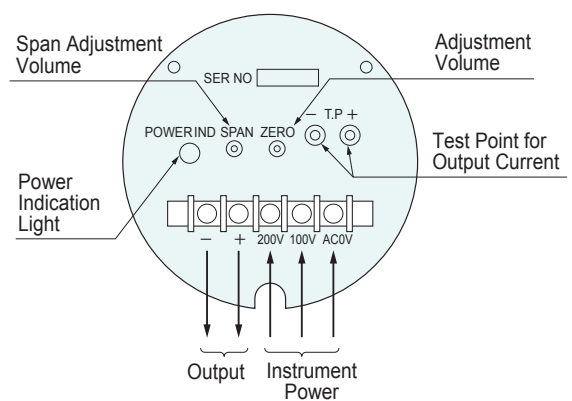
● Wire Connection Drawing

When an indicator is connected to all-in-one converter



● Current Converter

[Interior Configuration]



Mounting Method and Dimensional Limit

● Mounting Method

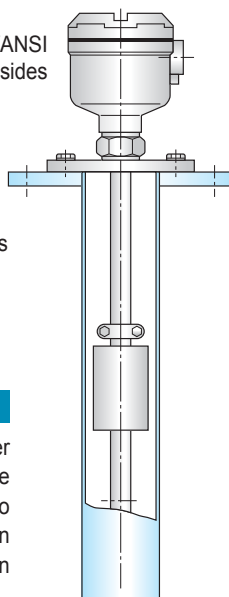
- 1) Flange described on the standard specifications may be used as the standard mounting method.
- 2) Mounting flange may be ordered for JIS/ANSI flange as well as IDF specification besides standard mounting flange.

● Stem Length

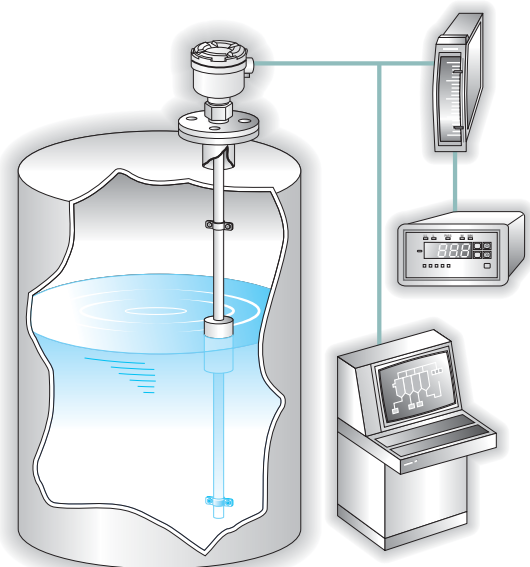
The entire length of stem(L), unmeasured zone ($\ell 1$, $\ell 2$) and measuring range(M) as shown by A-1 - 3 and B-1 - 3 should be selected based on the following guideline.

Stilling Well

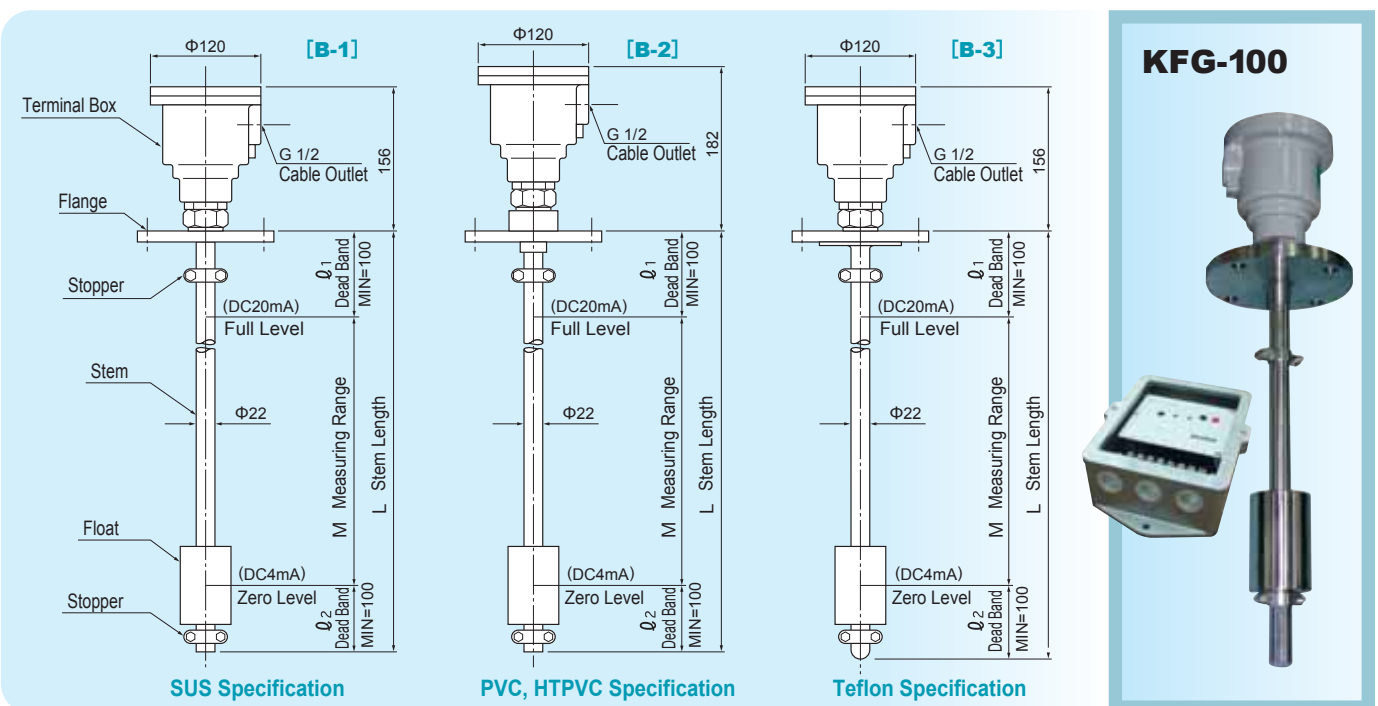
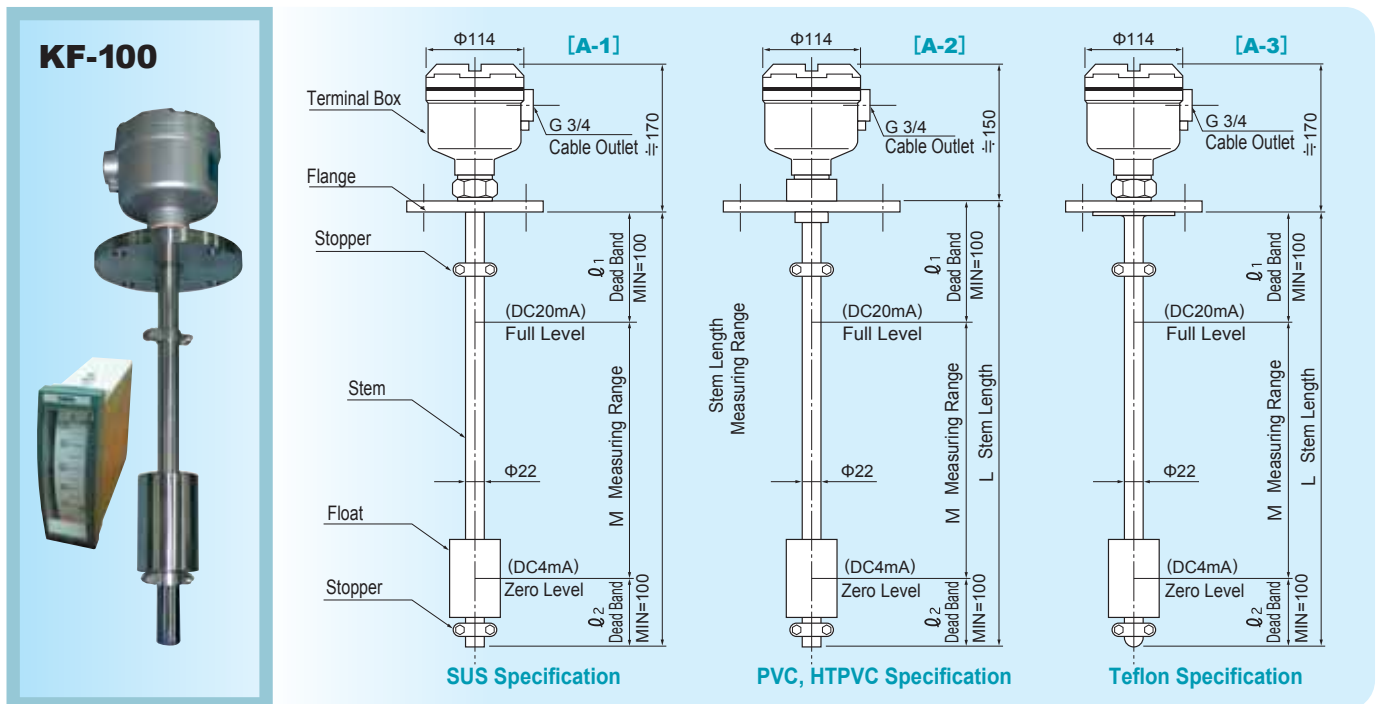
It is effective to install a stilling well in order to prevent the float from being unstable due to liquid flow, waves on liquid level and so on. Available are waves protection tubes in the shape as described on the right and in various dimensions with some materials.



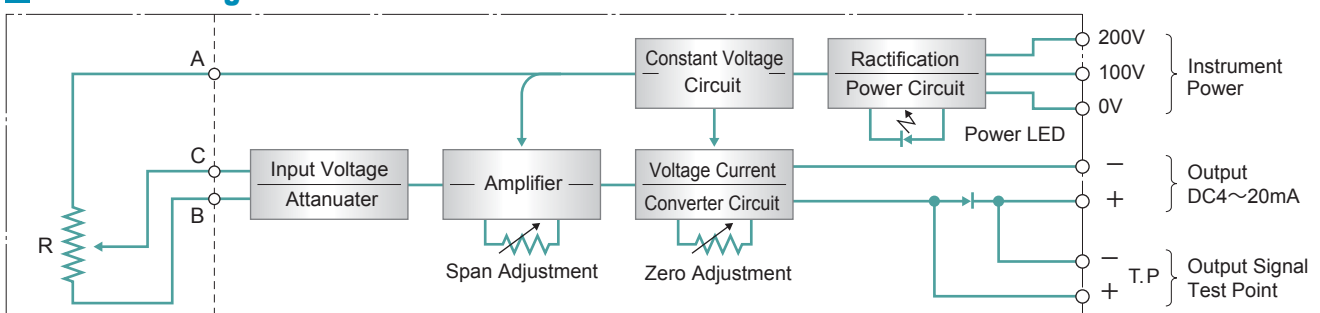
■ Example of how to use



Float Type Level Meter is not at all affected by environmental conditions including but not limited to material changes, gas and so on.



■ Products Diagram



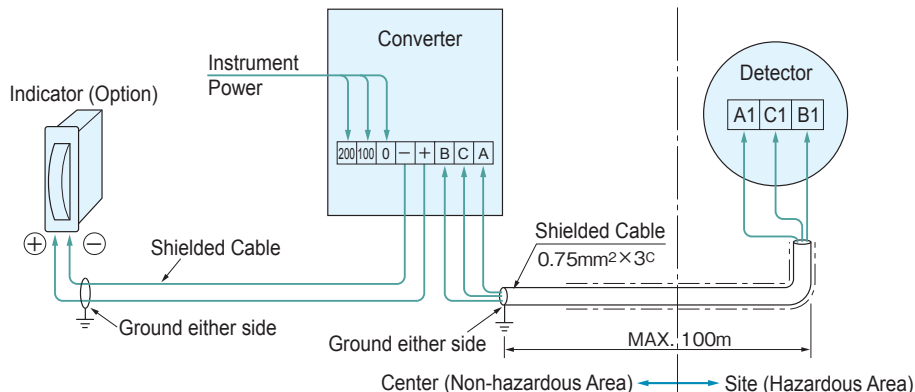
All-in-one Converter Type and Separate Type

There are a type of all-in-one converter in which R/I Converter is housed in the terminal box of the detector and another separate type in which the same is separated and housed in a detached box. The detached box has two types for outdoors and indoors.

In cases where the installation location of the detector is poor in terms of temperature, moisture, vibration, corrosive gas ambience and so on, or some difficulties are expected in servicing and maintenance, you may select a separate type.

KFG Type (Withstand-pressure Explosion-proof Type) is limited only to the separate type.

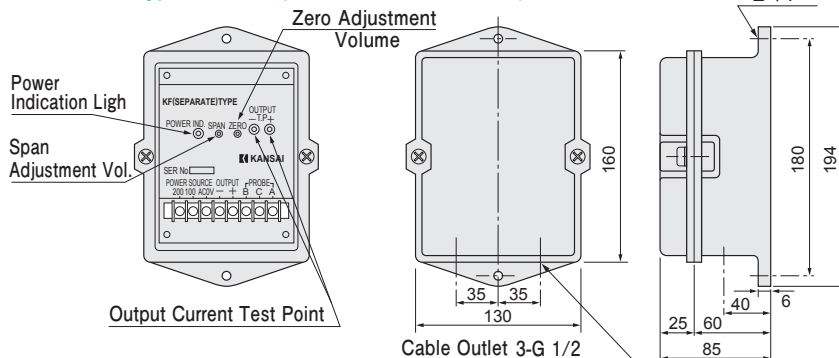
Wire Connection Drawing of Withstand pressure Explosion-proof Separate Type



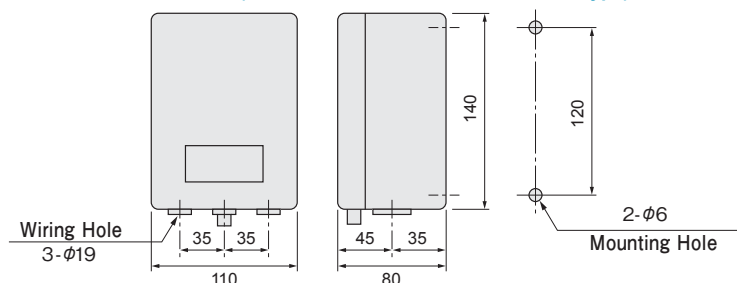
Withstand-pressure Explosion-proof Type /Faceplate Indication of KFG-100 Series

CatalogueType	EX certified as
KFG-10□	KFG-302-10□
KFG-11□	KFG-302-11□
KFG-13□	KFG-302-13□
KFG-14□	KFG-302-14□
KFG-16□	KFG-302-16□
KFG-17□	KFG-302-17□
KFG-19□	KFG-302-19□
KFG-1a□	KFG-302-1a□
KFG-1b□	KFG-302-1b□

KFG-100 Type Converter (Outdoors Detached Box)



Indoors Detached Box(Indoors Detached box for KFG-100 Type)



Designation of Model

KF□ -1□□

Structure 0 : Detector/Converter II-in-one (not applicable to KFG-1)
1 : Converter Separate Type(indoors)
2 : Converter Separate Type(outdoors)

Float Stem

Float Dimensions

0	φ60× 95×23
1	φ90×120×23
2	φ90×120×30
3	φ60× 95×25
4	φ90×120×25
5	
6	φ60× 95×25
7	φ90×120×25
8	φ90×120×30
9	φ90×120×25
a	φ90×120×30
b	φ90×120×30

Material

SUS304
SUS304
SUS304(With a rib)
PVC
PVC
HTPVC
HTPVC
PVC(With a rib)
TEFLON
SUS304
PVC

Stem Dia. Material

φ22, SUS304
φ22, SUS304
φ22, SUS304
φ22, PVC +Brass
φ22, PVC +Brass
φ22, HTPVC
φ22, HTPVC
φ22, PVC
φ22, SUS304+TEFLON
φ22, SUS304
φ22, PVC

Min Nozzle Size

65A
100A
100A
65A
100A
65A
100A
100A
100A
100A
100A

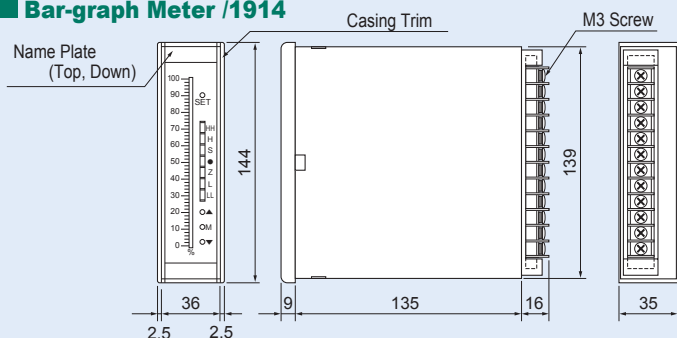
Explosion Proof Blank Non-explosion proof
G Withstand-pressure Explosion-proof d2G4(Labor Inspection No. 29113)

Generic Term of Float Type

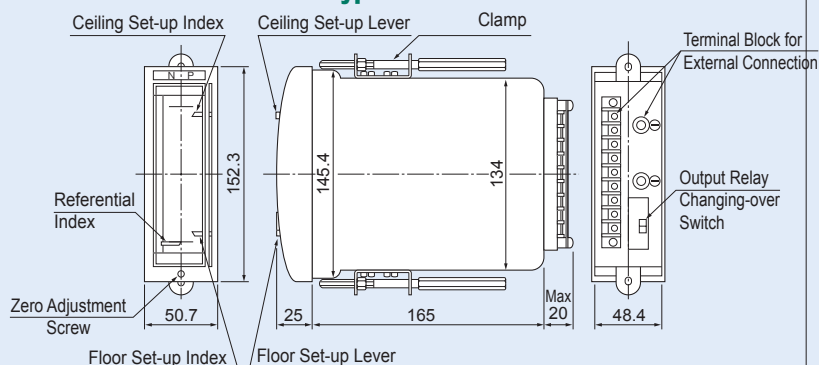
Note: Float-code a and b having larger clearance dimensions between float and stem are effective to prevent the float from being stuck in the high viscosity liquid as well as liquids containing slurry and solid particles.

Option

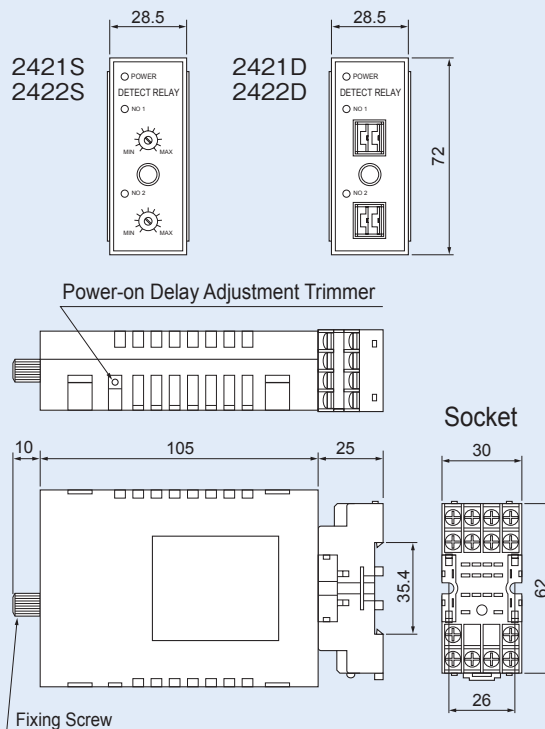
Bar-graph Meter /1914



Indicator /NRE-152K Type

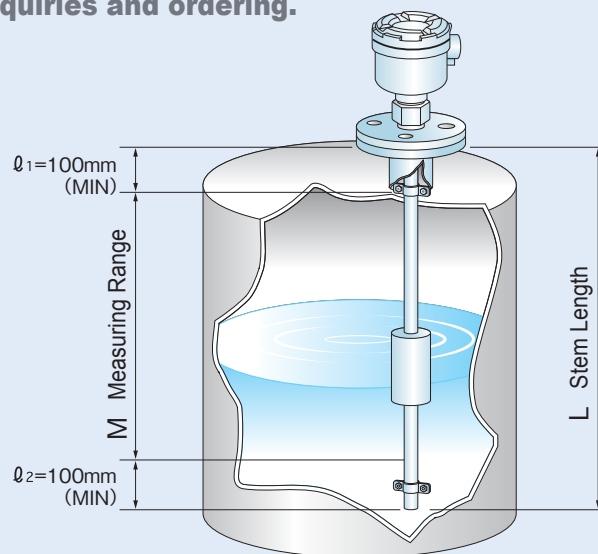


Detect Relay /2400 series



Please advise the following information for your inquiries and ordering.

1. Type	[]
2. Stem Length / L Dimensions	[]
3. Measuring Range / M Dimensions	[]
4. Name of Liquid	[]
Gravity	[]
Viscosity	[]
5. In-a-tank Temperature	[]
In-a-tank Pressure	[]
6. Upper/Lower Part, Unmeasured-zone Dimensions	[]
• $\phi_1 = 100\text{mm} + \text{Requested mm}$	[]
• $\phi_2 = 100\text{mm} + \text{Requested mm}$	[]



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
- 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
- On-line Sensors for Accurate Liquid Analysis
- 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.

Nuclear Power Generation to Rice Milling

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Design, development and manufacture of level measuring sensors

Agent