25+ year
1998-2023

EKeramControls®
启 元 控 制

KERAM (NANJING) ELECTRICAL EQUIPMENT CO., LTD.

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EKeramControls® 启 元 控 制

Product Catalogue

2023

Sensor Technology

EKeramControls®

Global Design Concept
Reliable Quality Supplier

2023

Product Catalogue

Sensor Technology

Twenty-five years of industry experience, organized staff team

strict production process, advanced calibration equipment

Strict factory standards, dedicated after-sales service

A Message For Our Customer

From the initial establishment to the scale now, Keram control has gone through 25 years. Over the past 25 years, from simple manufacturing to independent research and development capabilities, we have been committed to the research and development of sensing field, such as pressure, flow, temperature and humidity, and have accumulated rich industry experience. In the process of constantly overcoming difficulties, we have achieved a qualitative leap from quantitative change. At present, it has a number of product patents and European CE, Rohs certificates, and has obtained ISO9001:2015 quality system certification.

The specialization, refinement and high cost performance of product manufacturing are the goals we are always pursuing, which makes us a high-quality supplier of many international brands.

Keram Controls
2023.3

Our History

Nanjing Qiyuan Controls & Equipment Co., Ltd. was found in 1998.

In 2005, the number of the employees increased to more than 50.

In 2006, its manufacturing base was moved to Huai An Industrial Development Zone.

Keram Controls has obtained the investment from Keram Group in 2009.

In 2014, business expands to electrical components and appliance, and changed its name to Keram (Nanjing) Electrical Equipment Co., Ltd.

Our Values

Customer First

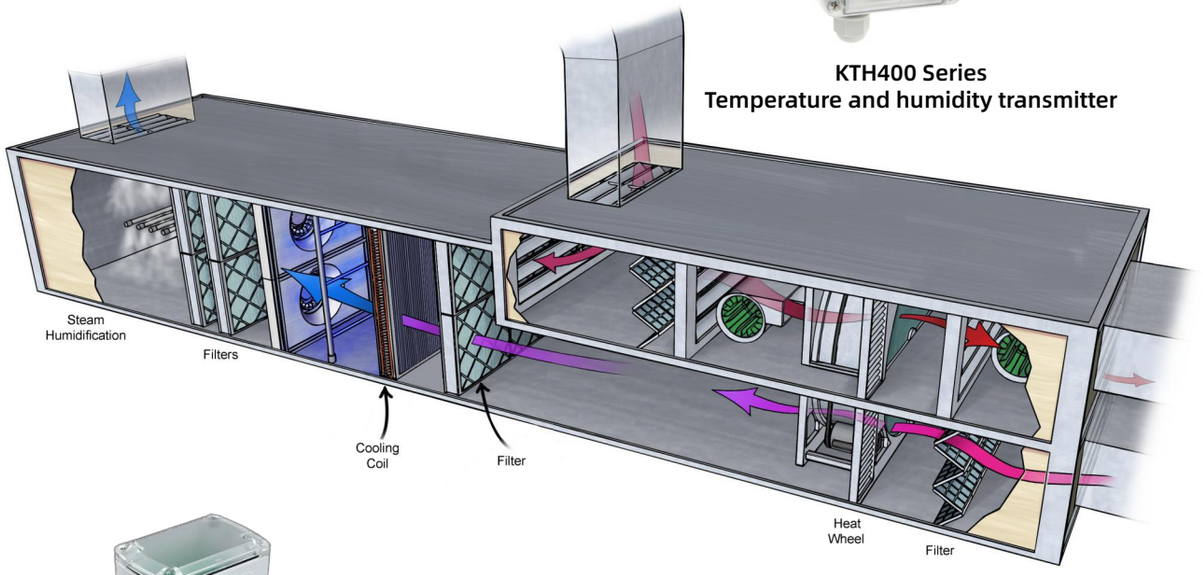
Quality-oriented

Continue to innovate

Dedication

Integrity

Passions



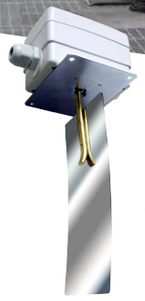
KTH400 Series
Temperature and humidity transmitter

KDP110 Series
Differential pressure transmitter

KAV120 Series
Air velocity transmitter

KTT110 Series
Temperature transmitter

KAV110 Series
Air velocity transmitter



KAFS
Air flow switch

APPLICATIONS Air handling units

The Air Handling Unit (AHU) is a centralized air handling system. It originated from a centralized hot air heating and ventilation system in which equipment is installed centrally and air is distributed through air ducts.
The basic centralized system is an all-air single-zone system, which generally includes fans, heaters, coolers, and filter components.
Keram Controls provides a variety of sensors and switches for monitoring air handling units to increase work efficiency and accuracy.

APPLICATIONS Demand-controlled ventilation (DCV)

In crowded places or buildings, ventilation needs to be enhanced, in this case ventilation solutions are essential.
For example, schools, large shopping malls, stadiums, etc., maintaining good air quality in these important places can greatly improve comfort.
In addition to ensuring good air quality, on-demand controlled ventilation can also reduce energy consumption.

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PRODUCT CONTENTS

KDP210 Series
Differential pressure transmitter

KTH500 Series
Temperature & humidity transmitter

KAQ CO2 Series
CO2 Transmitter

APPLICATIONS Clean room

Designed to monitor pressure differences between rooms, KDP210 differential pressure transmitters measure the difference in pressure between the cleanroom and the outdoor air.

When equipment pressurization requires high precision and stability, KDP210 can measure very small pressure differences, so it is an excellent choice.

In addition to measuring pressure differences, it is important to measure the temperature and humidity in cleanrooms.

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PRODUCT CONTENTS

Pressure measurement equipment for all application accuracy needs

KeramControls pressure sensors cover all typical pressure measurement applications, from low pressure to high pressure measurement range, including gas and liquid pressure measurement.

High Accuracy & Long-Term Stability

Optimal measuring components and advanced chips, strict production process control, detailed testing process, and advanced calibration equipment ensure high precision in the entire measurement range and long-term stable operation of the equipment.

KeramControls®

KDP110 Differential Pressure Transmitter

KeramControls®
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Description

KDP110 differential pressure transmitter has the characteristics of high accuracy, ultra-low adjustable range and fast response. It is widely used in the clean rooms of electronic and pharmaceutical factories, as well as the automatic control system of commercial buildings, HVAC air conditioning processor system, medical centers and ransportation hubs.

Features

- Ranges from -25/+25Pa to -10000/+10000Pa (according to models)
- Auto zero manual calibration
- Voltage, current, digital signal output
- Standard accuracy <±1% FS
- IP65 house protection

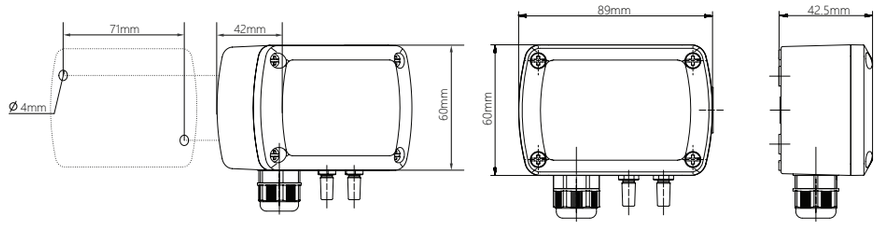
Application

- HVAC system
- Pharmaceutical clean rooms
- Electronic clean rooms
- Medical clean rooms
- Commercial buildings
- Public transport hub

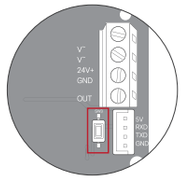
Technical Data

Model	KDP110
Measurement units	Pa,mmH_2O,inWG,mmHG,kPa,mbar
Accuracy	<±1% FS@-5 to +65℃
Response time	0.5s
Repeatbality	±0.01 % at FS/year
Resolution	0.1 Pa;0.1 mmH_2O;0.01mbar;0.01mmHG
Media	Air and neutral gases
Operating temperature	-20 ⋯ +70℃
Storage temperature	-40 ⋯ +60℃
Power consumption	< 1.5W
Tolerated overpressure	x15
Power Supply	16~30VAC/DC (3 wire) / 18~30VDC (2 wire)
Output	4-20mA（2 wire）
	4-20mA（3 wire）
	0~5V/0~10V（3 wire）
	RS-485
	Customized
Auto zero	Manual calibration
Housing material	PC&ABS，UL94V-0
Protection class	IP65/NEMA4
Cable Gland	M16*1.5

Dimensions (mm)



Manual Zero-point Correction



In normal operation zero point correction should be executed every 12 months. For executing zero point correction the power supply must be connected one hour before.

- Release both connection tubes from the pressure
- Terminals + and – Press and hold the button for 3 seconds.
- Reinstall the connection tubes

Accessories(OPTIONAL)

Pressure connection set:
2m PVC hose
with 2 ABS pressure connection nipples.

Ordering Guide

Model	Wiring	Range	Output	Product number
KDP110-1-E	2-wire	0 ⋯ 25Pa 0 ⋯ 50Pa 0 ⋯ 75Pa 0 ⋯ 100Pa -25 ⋯ +25Pa -50 ⋯ +50Pa -75 ⋯ +75Pa -100 ⋯ +100Pa	4-20mA	01020640020100
KDP110-1-F	3-wire		4-20mA	01020640020200
KDP110-1-G	3-wire		0-10V	01020640020300
KDP110-1-H	4-wire		RS-485	01020640020400
KDP110-2-E	2-wire	0 ⋯ 250Pa 0 ⋯ 500Pa 0 ⋯ 750Pa 0 ⋯ 1000Pa -250 ⋯ +250Pa -500 ⋯ +500Pa -750 ⋯ +750Pa -1000 ⋯ +1000Pa	4-20mA	01020010020100
KDP110-2-F	3-wire		4-20mA	01020010020200
KDP110-2-G	3-wire		0-10V	01020010020300
KDP110-2-H	4-wire		RS-485	01020010020400
KDP110-3-E	2-wire	0 ⋯ 500Pa 0 ⋯ 1000Pa 0 ⋯ 1500Pa 0 ⋯ 2000Pa -500 ⋯ +500Pa -750 ⋯ +750Pa -1000 ⋯ +1000Pa -2000 ⋯ +2000Pa	4-20mA	01020020020100
KDP110-3-F	3-wire		4-20mA	01020020020200
KDP110-3-G	3-wire		0-10V	01020020020300
KDP110-3-H	4-wire		RS-485	01020020020400
KDP110-4-E	2-wire	0 ⋯ 2500Pa 0 ⋯ 5000Pa 0 ⋯ 7500Pa 0 ⋯ 10000Pa -2500 ⋯ +2500Pa -5000 ⋯ +5000Pa -7500...+7500Pa -10000...+10000Pa	4-20mA	01020030020100
KDP110-4-F	3-wire		4-20mA	01020030020200
KDP110-4-G	3-wire		0-10V	01020030020300
KDP110-4-H	4-wire		RS-485	01020030020400

压力换算表 Pressure Conversion Table

	Pa	mbar	mmH_20	mmHg	lbf/in (psi)
1Pa=	1	0.01	0.102	0.007501	0.000145
1mbar=	100	1	10.2	0.7501	0.0145
1mmH_20=	9.807	0.09807	1	0.07356	1.422
1mmHg=	133.3	1.333	13.66	1	0.01934
I1bf/in (psi)=	6895	68.95	0.7031	51.72	1

KDP210 Differential Pressure Transmitter

KeramControls®
启元控制

Features

- Ranges from -25/+25Pa to -10000/+10000Pa (according to models)
- Auto zero manual calibration
- Voltage, current, digital signal output
- Backlight LCD display
- Standard accuracy <±1% FS
- Adjusting measurement time by setting button
- External mounting holes
  Mounting with closed cover
  Easy & fast mounting
- IP65 house protection

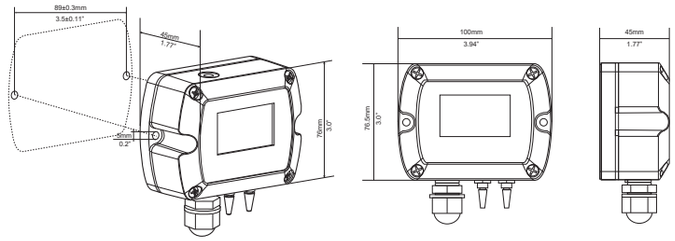
Description

KDP210 differential pressure transmitter has high precision, ultra-low & adjustable range, fast response characteristics, widely used in clean electronics and pharmaceutical factories, as well as large commercial buildings, medical centers and transportation hub.

Technical Data

Model	KDP210
Measurement units	Pa,mmH_2O,inWG,mmHG,mbar
Accuracy	<±1% FS@-5 to +65℃
Response time	0.5s
Repeatbality	±0.01 % at FS/year
Resolution	0.1 Pa;0.1 mmH_2O;0.01mbar;0.01mmHG
Media	Air and neutral gases
Operating temperature	-20 ⋯ +70℃
Storage temperature	-40 ⋯ +60℃
Power consumption	< 3W
Tolerated overpressure	x15
Power Supply	16~30VAC/DC (3 wire) / 18~30VDC (2 wire)
Output	4-20mA（2 wire）
	4-20mA（3 wire）
	0~5V/0~10V（3 wire）
	RS-485
	Customized
Auto zero	Manual calibration
Housing material	PC&ABS，UL94V-0
Protection class	IP65/NEMA4
Display	Backlight LCD display
Cable Gland	M16*1.5

Dimensions(mm)



Ordering Guide

●Backlight LCD ■No BacklightLCD ×No display

Model	Wiring	Range	Display	Output	Product number
KDP210-1-D-E	2 wire	0 ⋯ 25Pa 0 ⋯ 50Pa 0 ⋯ 75Pa 0 ⋯ 100Pa -25 ⋯ +25Pa -50 ⋯ +50Pa -75 ⋯ +75Pa -100 ⋯ +100Pa	■	4-20mA	01010640010100
KDP210-1-E			×		01010640020100
KDP210-1-D-F	3 wire		●	4-20mA	01010640010200
KDP210-1-F			×		01010640020200
KDP210-1-D-G	3 wire		●	0-10V	01010640010300
KDP210-1-G			×		01010640020300
KDP210-1-D-H	4 wire		●	RS-485	01010640010400
KDP210-1-H			×		01010640020400
KDP210-2-D-E	2 wire	0 ⋯ 250Pa 0 ⋯ 500Pa 0 ⋯ 750Pa 0 ⋯ 1000Pa -250 ⋯ +250Pa -500 ⋯ +500Pa -750 ⋯ +750Pa -1000 ⋯ +1000Pa	■	4-20mA	10100100101000
KDP210-2-E			×		01010010020100
KDP210-2-D-F	3 wire		●	4-20mA	01010010010200
KDP210-2-F			×		01010010020200
KDP210-2-D-G	3 wire		●	0-10V	01010010010300
KDP210-2-G			×		01010010020300
KDP210-2-D-H	4 wire		●	RS-485	01010010010300
KDP210-2-H			×		01010010020400
KDP210-3-D-E	2 wire	0 ⋯ 500Pa 0 ⋯ 1000Pa 0 ⋯ 1500Pa 0 ⋯ 2000Pa -500 ⋯ +500Pa -750 ⋯ +750Pa -1000 ⋯ +1000Pa -2000 ⋯ +2000Pa	■	4-20mA	01010020010100
KDP210-3-E			×		01010020020100
KDP210-3-D-F	3 wire		●	4-20mA	01010020010200
KDP210-3-F			×		01010020020200
KDP210-3-D-G	3 wire		●	0-10V	01010020010300
KDP210-3-G			×		01010020020300
KDP210-3-D-H	4 wire		●	RS-485	01010020010400
KDP210-3-H			×		01010020020400
KDP210-4-D-E	2 wire	0 ⋯ 2500Pa 0 ⋯ 5000Pa 0 ⋯ 7500Pa 0 ⋯ 10000Pa -2500 ⋯ +2500Pa -5000 ⋯ +5000Pa -7500...+7500Pa -10000...+10000Pa	■	4-20mA	01010030010100
KDP210-4-E			×		01010030020100
KDP210-4-D-F	3 wire		●	4-20mA	01010030010200
KDP210-4-F			×		01010030020200
KDP210-4-D-G	3 wire		●	0-10V	01010030010300
KDP210-4-G			×		01010030020300
KDP210-4-D-H	4 wire		●	RS-485	01010030010400
KDP210-4-H			×		01010030020400

Pressure Conversion Table

	Pa	mbar	mmH_20	mmHg	lbf/in (psi)
1Pa=	1	0.01	0.102	0.007501	0.000145
1mbar=	100	1	10.2	0.7501	0.0145
1mmH_20=	9.807	0.09807	1	0.07356	1.422
1mmHg=	133.3	1.333	13.66	1	0.01934
l1bf/in (psi)=	6895	68.95	0.7031	51.72	1

Q Series Single Pressure Switch

KeramControls®
启元控制

Description

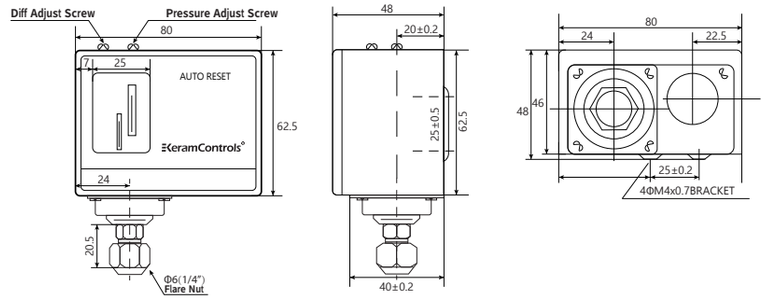
- Q series single pressure controls can be not only used in fluoridated refrigerant, but also in the air and liquid(allowed liquid temp. -20 to 120°C)
- Ambient working temp: -20°C~70°C
- Adjustable range and differential settings
- Renovated SPDT micro-switch ensures the reliable switch function
- Flexible mounting bracket suits various kids of application
- Upper lid is optional (IP44)
- Various connections are available on request
- Automatic and manual reset version
- The material of bellows is copper and pressure interface is brass
- Several models available in drip-proof enclosure for marine applications or inexplosion-proof enclosure for specialapplications
- CE approval

Model Specification

Model	Range (bar)		Differential(bar)		Factory Setting(bar)		Max. bellows pressure（bar）
	Min	Max	Min	Max	OFF	ON	
Q3	-0.5	3	0.35	1.5	2	1	16.5
Q6	-0.5	6	0.6	4	3	2	16.5
Q6M	-0.5	6	≤1		3	Manual Reset	16.5
Q10	1	10	1	3	6	5	16.5
Q16	5	16	1	4	10	8	33
Q20	5	20	2	5	16	3	33
Q30D	5	30	3	10	20	15	33
Q30	6	30	3-5(Fixed)		20	15-17	33
Q30M	6	30	≤5		20	Manual Reset	33

Note：
Calibration unit on scale plate with “bar” & “psig”, it also could be revised into “Mpa” & “kgf/cm²” according to customer's requirements. Connections could have selections as British Flare (E), solder (C) and capillary (S).

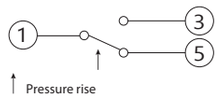
Dimensions（mm）



Electric Rating

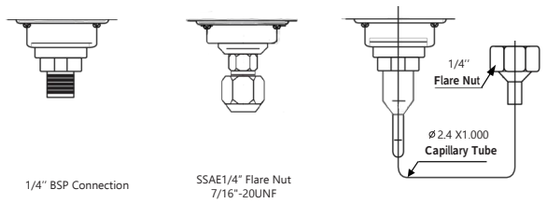
Rated Amps(A) \ Rated Voltage(V)		125V AC	250V AC
Non-InductiveCurrent		20A	10A
Inductive Current	Full Load Current	15A	8A
	Locked Roter	72A	

Electric Wiring

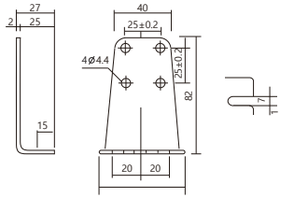


1	Common Terminal
3	Close on, Pressure Decrease
5	Close on, Pressure Increase

Connection & Installation



Mounting Plate



Q Series Single Pressure Switch

Ordering Guide

●:SAE 1/4'' Flare Nut 7/16'' -20UNF ■:1/4" BSP ▲:1/4" Flare Nut

Model	Pressure range(bar)	Connector	Reset	Product number
Q3-SAE	- 0.5-3	●	Auto Reset	01030040030600
Q3-BSP		■		01030040040600
Q3-Flare		▲		01030040050600
Q6-SAE	- 0.5-6	●		01030050030600
Q6-BSP		■		01030050040600
Q6-Flare		▲		01030050050600
Q6M-SAE		●	Manual Reset	01030050030500
Q6M-BSP		■		01030050040500
Q6M-Flare		▲		01030050050500
Q10-SAE	1-10	●	Auto Reset	01030060030600
Q10-BSP		■		01030060430600
Q10-Flare		▲		01030060030600
Q16-SAE	5-16	●		01030070030600
Q16-BSP		■		01030070040600
Q16-Flare		▲		01030070030600
Q20-SAE	5-20	●		01030080030600
Q20-BSP		■		01030080040600
Q20-Flare		▲		01030080030600
Q30D-SAE	5-30	●		01030090030600
Q30D-BSP		■		01030090040600
Q30D-Flare		▲		01030090030600
Q30M-SAE	6-30	●	Manual Reset	01030090030500
Q30M-BSP		■		01030090040500
Q30M-Flare		▲		01030090030500
Q30-SAE		●	Auto Reset	01030100030600
Q30-BSP		■		01030100040600
Q30-Flare		▲		01030100050600

Q Series Waterproof Single Pressure Switch

Description

- Q series single pressure controls can be not only used in fluoridated refrigerant, but also in the air and liquid(allowed liquid temp. -20 to 120°C)
- Ambient working temp: -20°C~70°C
- Adjustable range and differential settings
- Renovated SPDT micro-switch ensures the reliable switch function
- Flexible mounting bracket suits various kids of application
- Upper lid is optional (IP65)
- Various connections are available on request
- Automatic and manual reset version
- The material of bellows is copper and pressure interface is brass
- Several models available in drip-proof enclosure for marine applications or in explosion-proof enclosure for special applications
- CE approval

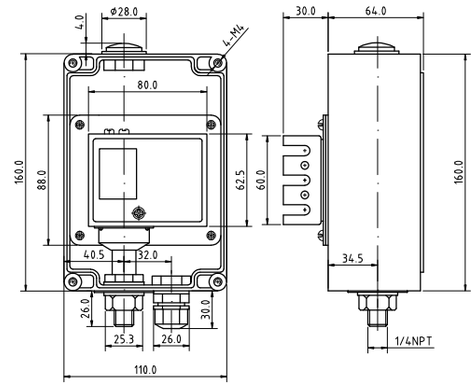
Model Specification

Model	Range(bar)		Differential(bar)		Factory Setting(bar)		Max. bellows pressure (bar)
	MIN	MAX	MIN	MAX	OFF	ON	
Q3(w)	-0.5	3	0.35	1.5	2	1	16.5
Q6(w)	-0.5	6	0.6	4	3	2	16.5
Q6M(w)	-0.5	6	≤1		3	Manual Reset	16.5
Q10(w)	1	10	1	3	6	5	16.5
Q16(w)	5	16	1	4	10	8	33
Q20(w)	5	20	2	5	16	3	33
Q30D(w)	5	30	3	10	20	15	33
Q30(w)	6	30	3-5(Fixed)		20	15-17	33
Q30M(w)	6	30	≤5		20	Manual Reset	33

Note：

Calibration unit on scale plate with "bar" & "psig", it also could be revised into "Mpa" & "kgf/cm²" according to customer's requirements. Connections could have selections as British Flare (E), solder (C)and capillary (S).

Dimensions（mm）



Q Series Waterproof Single Pressure Switch

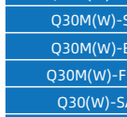
Electric Rating

Rated Amps(A) / Rated Voltage(V)		125V AC	250V AC
Non-InductiveCurrent		20A	10A
Inductive Current	Full Load Current	15A	8A
	Locked Roter	72A	

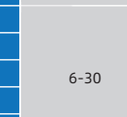
Electric Wiring

1	Common Terminal
3	Close on, Pressure Decrease
5	Close on, Pressure Increase

Connection & Installation



1/4" **BSP Connection**



SAE1/4"**Flare Nut**
7/16"-20UNF

MountingPlate

Ordering Guide

●:SAE 1/4'' Flare Nut 7/16'' -20UNF ■:1/4'' BSP ▲:1/4'' Flare Nut

Model	Pressure range(bar)	Connector	Reset	Product number
Q3(W)-SAE	- 0.5-3	●	Auto Reset	01420040030600
Q3(W)-BSP		■		01420040040600
Q3(W)-Flare		▲		01420040050600
Q6(W)-SAE	- 0.5-6	●		01420050030600
Q6(W)-BSP		■		01420050040600
Q6(W)-Flare		▲		01420050050600
Q6M(W)-SAE		●	Manual Reset	01420050030500
Q6M(W)-BSP		■		01420050040500
Q6M(W)-Flare		▲		01420050050500
Q10(W)-SAE	1-10	●	Auto Reset	01420060030600
Q10(W)-BSP		■		01420060430600
Q10(W)-Flare		▲		01420060030600
Q16(W)-SAE	5-16	●		01420070030600
Q16(W)-BSP		■		01420070040600
Q16(W)-Flare		▲		01420070030600
Q20(W)-SAE	5-20	●		01420080030600
Q20(W)-BSP		■		01420080040600
Q20(W)-Flare		▲		01420080030600
Q30D(W)-SAE	5-30	●		01420090030600
Q30D(W)-BSP		■		01420090040600
Q30D(W)-Flare		▲		01420090030600
Q30M(W)-SAE	6-30	●	Manual Reset	01420090030500
Q30M(W)-BSP		■		01420090040500
Q30M(W)-Flare		▲		01420090030500
Q30(W)-SAE		●	Auto Reset	01420100030600
Q30(W)-BSP		■		01420100040600
Q30(W)-Flare		▲		01420100050600

Q830 Series Dual Pressure Switch

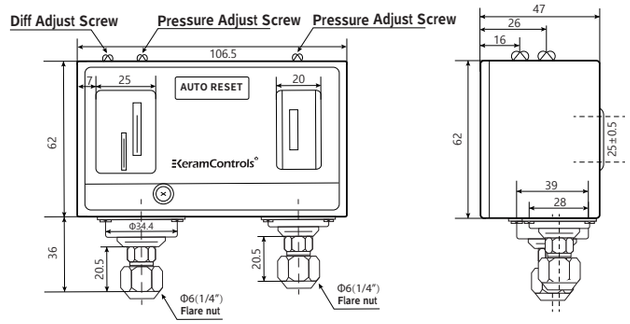
Description

- Q830 series dual pressure controls can be not only used in fluoridated refrigerant,but also in the air and liquid (allowed liquid temp. -20 to 120°C)
- Ambient working temp: -20°C~70°C
- Adjustable range and differential settings
- Renovated SPDT micro-switch ensures the reliable switch function
- Flexible mounting bracket suits various kids of application
- Upper lid is optional (IP44)
- Various connections are available on request
- Automatic and manual reset version
- The material of bellows is copper and pressure interface is brass
- CE approval

Model Specification

Model	Low pressure (bar)		High pressure (bar)		Reset form(bar)		Factory setting(bar)			
	Pressure adjust range	Differential	Pressure adjust range	Differential	Low pressure	High pressure	Low pressure		High pressure	
							OFF	ON	OFF	ON
Q830	-0.5~6	0.6~4	8~30	3~5(**Fixed**)	**Auto**	**Auto**	3	2	20	15
Q830HM	-0.5~6	0.6~4	8~30	<5	**Auto**	**Auto**	3	2	20	**Manual Reset**
Q830HLM	-0.5~6	≤1	8~30	<5	**Manual**	**Manual**		**Manual**	20	**Manual Reset**

Dimensions（mm）

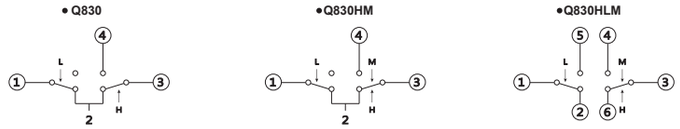


Q830 Series Dual Pressure Switch

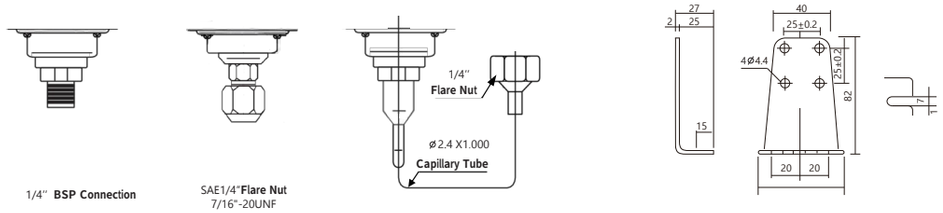
Electric Rating

Rated Amps(A) / Rated Voltage(V)		power Factor (Cos Φ)	125/250V AC
Non-InductiveCurrent		1	12
Inductive Current	Full Load Current	0.75	12
	Locked Roter	0.45	72

Electric Wiring



Connection & Installation



Mounting Plate

Ordering Guide

●:SAE 1/4'' Flare Nut 7/16'' -20UNF ■:1/4'' BSP ▲:1/4'' Flare Nut

Model	Connector	Reset	Product number
Q830-SAE	●	AUTO	01030110030600
Q830-BSP	■	Low pressure auto, high pressure manual	01030110040600
Q830-Flare	▲	Low pressure manual, high pressure manual	01030110050600
Q830HM-SAE	●	AUTO	01030110030700
Q830HM-BSP	■	Low pressure auto, high pressure manual	01030110040700
Q830HM-Flare	▲	Low pressure manual, high pressure manual	01030110030700
Q830HLM-SAE	●	AUTO	01030110030800
Q830HLM-BSP	■	Low pressure auto, high pressure manual	01030110040800
Q830HLM-Flare	▲	Low pressure manual, high pressure manual	01030110050800

QYD Series Differential Pressure Switch

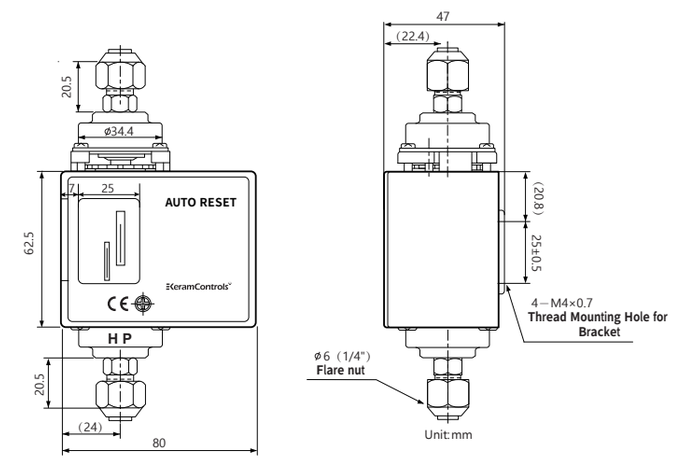
Description

- QYD series differential pressure switch is designed to prove fow through pumps Renovated SPDT micro-switch ensure the reliable switch function
- Ambient working temp: -20°C~70°C
- Used in fluoridated refrigerant,but also in air and liquid(-20 to 120°C)
- Flexible mounting bracket suits various kinds of application
- Various connections are available on request
- IP33 rating
- CE approval

Model Specification

Model	Differential(Bar)		Factory setting(bar)	Max working pressure(Bar)
	Min	Max		
QYD2C	0.5	2	0.5	12
QYD4C	0.5	3.5	1	12
QYD4CH	0.5	3.5	1	30
QYD6CH	1	6	6	30
QYD4C/B	0.3	4	0.3	17

Dimensions（mm）

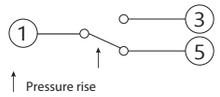


QYD Series Differential Pressure Switch

Electric Rating

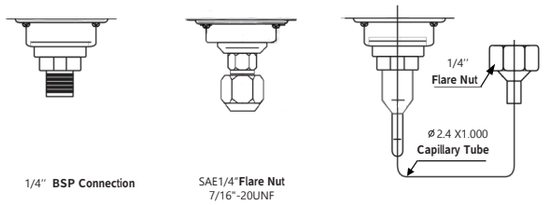
Rated Amps(A) / Rated Voltage(V)		125V AC	250V AC
Non-InductiveCurrent		20A	10A
Inductive Current	Full Load Current	15A	8A
	Locked Roter	72A	

Electric Wiring

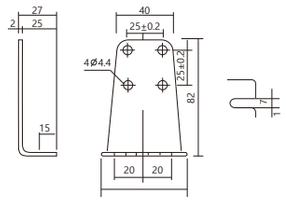


1	Common Terminal
3	Close on, Pressure Decrease
5	Close on, Pressure Increase

Connection & Installation



Mounting Plate



Operating Instruction

1. The new outer cover,two fingers pinch both sides of the plastic lid,open the outer cover can be pumped out;
2. To be installed in the pipe,must use two wrenches and twist tight;
3. Do not install the controller over electric rating of the device.

Ordering Guide

●:SAE 1/4'' Flare Nut 7/16'' -20UNF ■:1/4" BSP ▲:1/4" Flare Nut

Model	Max differential pressure (bar)	Min differential pressure	Connector	Product number
QYD2C-SAE	0.5	2	●	01040120030900
QYD2C-BSP			■	01040120040900
QYD2C-Flare			▲	01040120050900
QYD4C-SAE	0.5	3.5	●	01040130030900
QYD4C-BSP			■	01040130040900
QYD4C-Flare			▲	01040130050900
QYD4CH-SAE			●	01040130031000
QYD4CH-BSP			■	01040130041000
QYD4CH-Flare			▲	01040130051000
QYD6CH-SAE	1	6	●	01040050031000
QYD6CH-BSP			■	01040050041000
QYD6CH-Flare			▲	01040050051000
QYD4C/B-SAE	0.3	4	●	01040140031100
QYD4C/B-BSP			■	01040140041100
QYD4C/B-Flare			▲	01040140051100

QYD Series Water Differential Pressure Switch

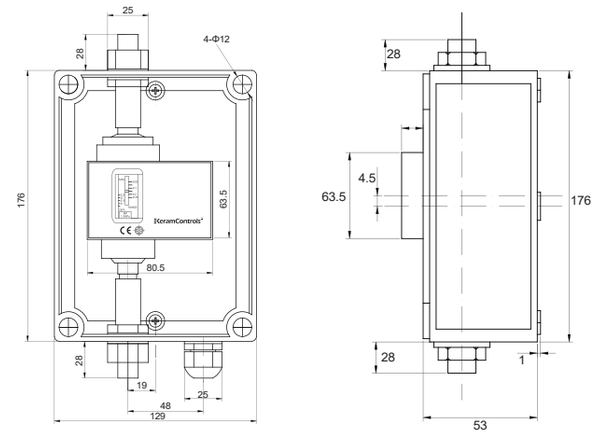
Description

- QYD series waterproof differential pressure switch is designed to prove fow through pumps Renovated
- Ambient working temp: -20°C~70°C
- SPDT micro-switch ensure the reliable switch function
- Used in fluoridated refrigerant,but also in air and liquid(-20 to 120°C)
- Flexible mounting bracket suits various kinds of application
- Various connections are available on request
- IP65
- CE approval

Model Specification

Model	Differential(Bar)		Factory setting(bar)	Max working pressure(Bar)
	Min	Max		
QYD2C(W)	0.5	2	0.5	12
QYD4C(W)	0.5	3.5	1	12
QYD4CH(W)	0.5	3.5	1	30
QYD6CH(W)	1	6	6	30
QYD4C/B(W)	0.3	4	0.3	17

Dimensions (mm)

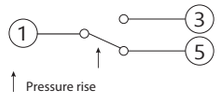


QYD Series Water Differential Pressure Switch

Electric Rating

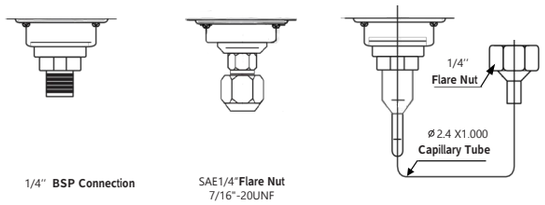
Rated Amps(A) / Rated Voltage(V)		125V AC	250V AC
Non-InductiveCurrent		20A	10A
Inductive Current	Full Load Current	15A	8A
	Locked Roter	72A	

Electric Wiring

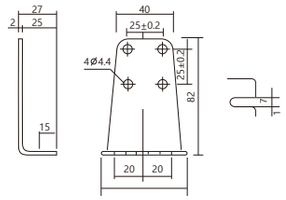


1	Common Terminal
3	Close on, Pressure Decrease
5	Close on, Pressure Increase

Connection & Installation



Mounting Plate



Operating Instruction

1. The new outer cover,two fingers pinch both sides of the plastic lid,open the outer cover can be pumped out;
2. To be installed in the pipe,must use two wrenches and twist tight;
3. Do not install the controller over electric rating of the device.

Ordering Guide

●:SAE 1/4'' Flare Nut 7/16'' -20UNF ■:1/4'' BSP ▲:1/4'' Flare Nut

Model	Max differential pressure (bar)	Min differential pressure	Connector	Product number
QYD2C(W)-SAE	0.5	2	●	01050120030900
QYD2C(W)-BSP			■	01050120040900
QYD2C(W)-Flare			▲	01050120050900
QYD4C(W)-SAE	0.5	3.5	●	01050130030900
QYD4C(W)-BSP			■	01050130040900
QYD4C(W)-Flare			▲	01050130050900
QYD4CH(W)-SAE			●	01050130031000
QYD4CH(W)-BSP			■	01050130041000
QYD4CH(W)-Flare			▲	01050130051000
QYD6CH(W)-SAE	1	6	●	01050050031000
QYD6CH-(W)BSP			■	01050050041000
QYD6CH(W)-Flare			▲	01050050051000
QYD4C/B(W)-SAE	0.3	4	●	01050140031100
QYD4C/B(W)-BSP			■	01050140041100
QYD4C/B(W)-Flare			▲	01050140051100

KCL Series Differential Pressure Switch

Description

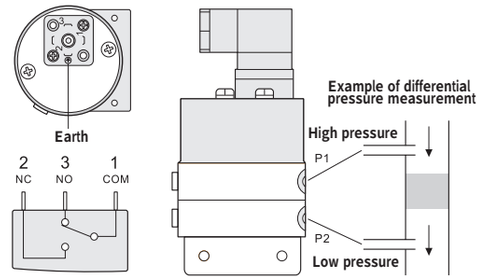
KCL series differential pressure switch is used to monitor the pressure difference of neutral and slightly aggressive liquid and gases. It is applied to monitor pump status, boiler, flow, and filter condition. It will send the signal when the flow or pressure falls or rises to an alarm condition. The special design makes it easy for installation and adjusting the switching point.

Installation

- Make sure that the maximum pressure of DPS is higher than that of the pressure to be applied P1 is the high pressure side and P2 is the lower pressure side, it can't be fit reversely.
- Make sure that the electrical supply is isolated before removing the cover.
- Make sure the DPS electrical switch is of the correct rating.
- Make sure the terminals are correctly connected and the DPS is correctly earthed.
- Make sure the ambient and process temperature acting on the DPS should be within the -10 to 85°C.
- Make sure that DPS is installed in a place with no vibration.
- For monitoring the pressure of liquid, DPS has to be installed horizontally to make sure the accuracy of measurement will not be effected by gravity.
- Make sure there has no sediments go into the sensor.
- Make sure there are no valves between sensing points.
- Adjusting switching point with the screw driver by the adjusting screw, test the whole system.

Features

- High over pressure safety margin to 20 bar
- Adjustable mounting bracket
- Switching point is easy to be adjusted with adjustable screw
- Enclosure rating IP54
- CE approva

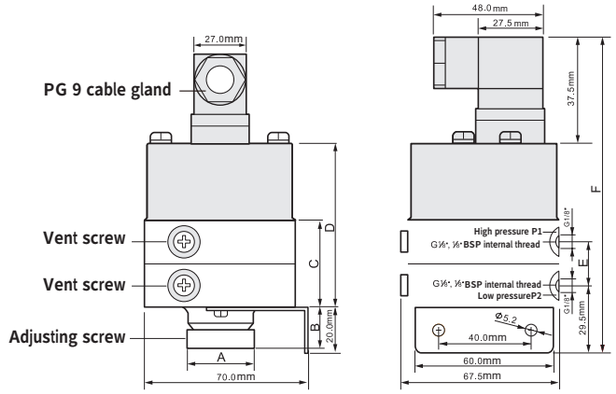


Dimensions (mm)

No. / Model	KCL250 KCL1000	KCL4000
A	Φ29.0	Φ40.5
B	18.5	31.5
C	378	43.0
D	76.0	81.0
E	18.8	21.5
F	133.5	139.0

KCL Series Differential Pressure Switch

Dimensions（mm）



Technical Data

Model	Pressure range	Hysteresis
KCL250	40 to 250 mbar	25 mbar
KCL1000	0.07 to 1 bar	50 mbar
KCL4000	0.2 to 4 bar	100 mbar

Max working pressure		20 bar
Cable gland		PG 9 thread (female in body)
Life		SPDT micro-switch with a rating of 5A at 250V AC
Connect		> 10^6 switching cycles
Material	Body	Brass
	Cover	Steel with power painting
	Diaphragm	EPDM
Pressure connection		G1/8"(DIN 259),1/8" BSP female thread, (P1>P2)Enclosure
Protection class		IP54
Operating temperature		-10 to 85°C
Dimensions(H*L*W)		133.5×675×67.5mm,139×675×67.5mm
Weight		1100g,1320g

Ordering Guide

Model	Pressure range	Product number
KCL250	40 ~ 250 mbar	01060150070000
KCL1000	0.07 ~ 1bar	01060160070000
KCL4000	0.2 ~ 4 bar	01060170070000

QAD Series Pressure Switch

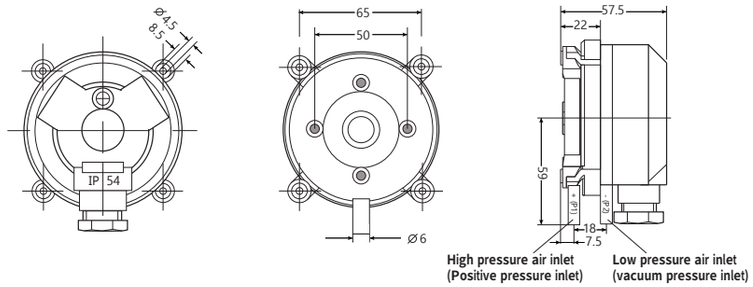
Description

QAD series air pressure controls is used to sense tiny pressure change and widely used to control the flow of aerator, to monitor fan and air conditioner. It is also suitable for over heating protection and frost protection in industrial

Technical Data

Model	QAD
Media	Air,non-combustible and non-aggressive gasses
Max operating pressure	10kPa
Mounting position	Diaphragm in any vertical plane
Protection class	IP54(with cover)
Operating temperature	-40°C~85°C
Connect	SPDT
Electric Rating	Resistance: Initial: < 50 milliohms; Current1.5A resistive(0.4A inductive) 250v
Electrical connections	6.3x0.8 blade 46244 or screw terminals
Material	Housing：ABS
	Duct connectors：ABS
	Membrane: Silicone
	Cable sleeve:PVC
Weight	0.15kg(0.35kg with ?exible pipe)
Connection	6.0mm Dia.for tube connection
Certificate	UL,CE,RoHS

Dimensions（mm）



QAD Series Pressure Switch

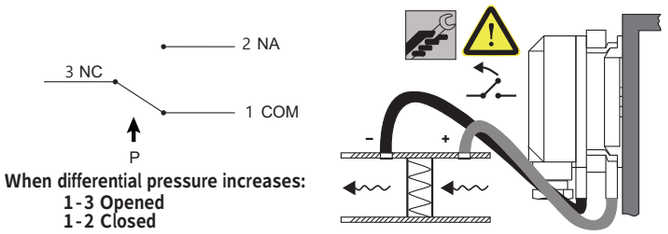
Installation Connection

QAD series air pressure controls is factory-calibrated for vertical position. If installed horizontally, this will affect the switching point as following:

- with cover facing upwards, switching point is 15Pa higher than scale;
- with cover facing downwards, switching point is 15Pa lower than scale.

Note:

Do not install upside down with trip pressures of less than 50pa !



When differential pressure increases:
1-3 Opened
1-2 Closed

Product Range

Model	Pressure range	Differential	Tolerance
QAD-1	20-200Pa	10Pa	±15%
QAD-2	30-300Pa	10Pa	±15%
QAD-3	40-400Pa	20Pa	±15%
QAD-4	50-500Pa	20Pa	±15%
QAD-5	200-1000Pa	100Pa	±15%
QAD-6	500-2500Pa	150Pa	±15%
QAD-7	1000-5000Pa	250Pa	±15%

The performances stated in this sheet can be modified without any prior notice due to design improvements.

Ordering Guide

Model	Pressure range	Product Number
QAD-1	20-200Pa	01070180000000
QAD-2	30-300Pa	01070190000000
QAD-3	40-400Pa	01070200000000
QAD-4	50-500Pa	01070210000000
QAD-5	200-1000Pa	01070220000000
QAD-6	500-2500Pa	01070230000000
QAD-7	1000-5000Pa	01070240000000

Stable measurement under harsh environmental conditions

Keram Controls humidity and temperature transmitter include models for HVAC applications of higher requirements, such as pharmaceuticals, clean rooms, and the food industry. Even in harsh environments, the sensor can guarantee long-term stable operation.

High precision & Long-term stability

Optimal measuring components and advanced chips, strict production process control, detailed testing process, and advanced calibration equipment ensure high precision and longterm stable operation of the equipment in the entire measurement range

KeramControls®

KTH400 Temprature and Humidity Transmitter

KeramControls®
启元控制

Description

KTH400 series economical temperature and humidity transmitters are divided into two installation methods: wall-mounted and duct-mounted. Among them, the newly designed shell can minimize installation costs and provide excellent pollution and condensation protection; the output signal has voltage or current and RS-485 signals are available.

Features

- Smaller shell, suitable for relatively narrow installation space
- ϕ6mm stainless steel probe
- IP65/NEMA4 protection
- 4-20mA, 0-10V, 0-5V, RS-485 output

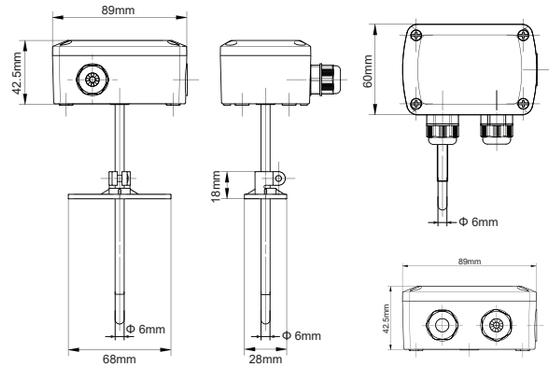
Application

- HVAC system
- Greenhouse
- Food transportation
- Cold storage and refrigeration
- Clean room environment monitoring

Technical Data

Model	KTH400
Power supply	16-30VDC ((2 wire 4-20mA)/16-30V AC or V DC (3 wire 0-5V/0-10V/4-20mA/RS 485)
Output	4-20mA / 0-5V / 0-10V/ RS 485
Operating temperature	-35℃ ··· +70℃
Storage temperature	-40℃ ··· +60℃
Operating humidity	0 ··· 100%RH
Max wind / flow speed	30m/s
Electromagnetic compatibility	EN61326-1（Industrial Environment）
Housing material	PC+ABS (UL-V0 approved)
Protection class	IP65/NEMA 4
Cable gland	M16*1.5
Measurement performance-Temperature	
Measurement range	-35 ··· +80℃
Accuracy	±0.3℃(20-60℃)
Temperature dependence	±0.01℃/℃
Measurement performance-Humidity	
Measurement range	0 ··· 100 %RH
Accuracy	±2%(0-90% @25℃)/±3%(90-100%@25℃)
Temperature dependence	±1%RH/ 年

Dimensions（mm）



Measurement Range Adjustment

ON 1 2	ON 1 2	ON 1 2	ON 1 2
-35 ··· +75℃	-35 ··· +35℃	0 ··· +50℃	0 ··· +80℃

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Ordering Guide

Model	Installation method	Filter	Output	Product number
KTH400-EWP	Wall	PTFE	4-20mA (2 wire)	03210460140100
KTH400-FWP	Duct		4-20mA (3 wire)	03210460140200
KTH400-GWP	Wall		0-10V	03210460140300
KTH400-HWP	Duct		RS485	03210460140400
KTH400-EDP	Wall		4-20mA (2 wire)	03210470140100
KTH400-FDP	Duct		4-20mA (3 wire)	03210470140200
KTH400-VDP	Wall		0-10V	03210470140300
KTH400-TDP	Duct		RS485	03210470140400

KTH500 Temperature and Humidity Transmitter

KeramControls
启元控制

A:Duct-mounted

B： Wall-mounted

Features

- LCD display
  Large size backlight display
- Shell connected by hinge
  More convenient wiring and setting
- M16 M20 double cable gland
  Cable size ϕ5…12mm
- Smooth and ?at surface
  Prevent the pollution of the shell
- surface in harsh environment
  IP65/NEMA4

Technical Data

Model	KTH500
Power supply	16-30V DC（(2 wire 4-20mA)/16-30V AC orV DC (0-5V/0-10V/RS 485)
Output	4-20mA / 0-5V / 0-10V/ RS 485
Operating temperature	-35℃ … +70℃
Storage temperature	-40℃ … +80℃
Operating humidity	0~100%RH
Temperature range	DIP
Display	Backlight LCD
Max wind / flow speed	30m/s
Electromagnetic compatibility	EN61326-1（Industrial Environment）
Housing material	PC+ABS(UL-V0 approved)
Protection class	IP65/NEMA 4
Cable gland	M16*1.5/M20*1.5
Measurement performance-Temperature	
Measurement range	-35 … +80℃
Accuracy	±0.3℃(20-60℃)
Temperature dependence	±0.01℃/℃
Measurement performance-Humidity	
Measurement range	0 … 100%RH
Accuracy	±2%(0-90%@25℃)/±3%(90-100%@25℃)
Temperature dependence	±1%RH/year

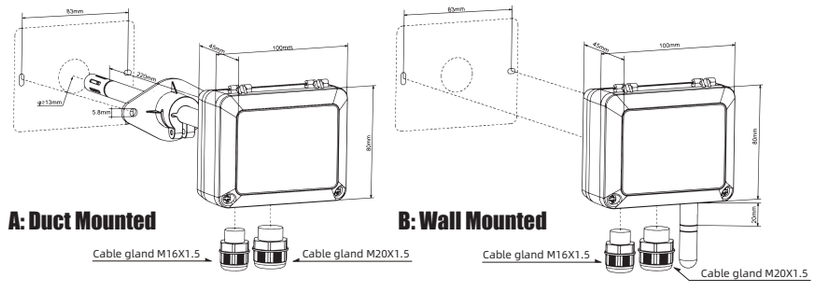
Description

KTH500 temperature and humidity transmitter can be used for measuring humidity and temperature in various HVAC applications, as well as monitoring building energy management systems; this series of products includes duct-mounted and IP65-rated wall-mounted;KTH500 series temperature and humidity transmitter is easy to install, has the characteristics of high precision, stable and reliable operation, and is an ideal choice for various harsh environments.

Application

- HVAC system
- Greenhouse
- Food transportation
- Refrigeration
- Clean room environment monitoring

Dimensions（mm）



Measurement Range Adjustment

ON 1 2	ON 1 2	ON 1 2	ON 1 2
-35 … +75℃	-35 … +35℃	0 … +50℃	0 … +80℃

Note: During the installation process of the device, the device cannot be powered on;
you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Ordering Guide

Model	Installation method	Filter	Output	Product number
KTH500-EWP	Wall	PTFE	4-20mA (2 wire)	03190460140100
KTH500-FWP			4-20mA (3 wire)	03190460140200
KTH500-GWP			0-10V	03190460140300
KTH500-HWP			RS485	03190460140400
KTH500-EWS		Sintered stainless steel	4-20mA (2 wire)	03190460150100
KTH500-FWS			4-20mA (3 wire)	03190460150200
KTH500-GWS			0-10V	03190460150300
KTH500-HWS			RS485	03190460150400
KTH500-EDP	Duct	PTFE	4-20mA (2 wire)	03190470140100
KTH500-FDP			4-20mA (3 wire)	03190470140200
KTH500-GDP			0-10V (3 wire)	03190470140300
KTH500-HDP			RS485	03190470140400
KTH500-EDS		Sintered stainless steel	4-20mA (2 wire)	03190470150100
KTH500-FDS			4-20mA (3 wire)	03190470150200
KTH500-GDS			0-10V	03190470150300
KTH500-HDS			RS485	03190470150400

KTH510 Temperature and Humidity Transmitter

KeramControls®
启元控制

A: Duct-mounted

B: Wall-mounted

Features

- Shell connected by hinge
  More convenient wiring and setting
- M16 M20 double cable gland
  Cable size ϕ5…12mm
- Smooth and at surface
  Prevent the pollution of the shell surface in harsh environment
- IP65/NEMA4

Description

KTH510 temperature and humidity transmitter can be used for measuring humidity and temperature in various HVAC applications, as well as monitoring building energy management systems; this series of products includes duct-mounted and IP65-rated wall-mounted;KTH510 series temperature and humidity transmitter is easy to install, has the characteristics of high precision, stable and reliable operation, and is an ideal choice for various harsh environments.

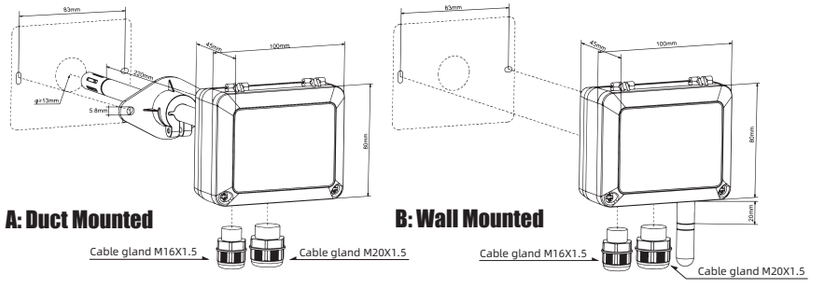
Application

- HVAC system
- Greenhouse
- Food transportation
- Refrigeration
- Clean room environment monitoring

Technical Data

Model	KTH510
Power supply	16-30V DC ((2 wire 4-20mA)/16-30V AC or V DC(0-5V/0-10V/RS-485)
Output	4-20mA/0-5V/0-10V/RS-485
Operating temperature	-35℃ … +70℃
Storage temperature	-40℃ … +60℃
Operating humidity	0 … 100%RH
Temperature range	DIP
Max wind / flow speed	30m/s
Electromagnetic compatibility	EN61326-1（Industrial Environment）
Housing material	PC+ABS(UL-V0 approved)
Protection class	IP65/NEMA 4
Cable gland	M16*1.5/M20*1.5
Measurement performance-Temperature	
Measurement range	–35 … +80 ℃
Accuracy	±0.3℃ (20-60℃)
Temperature dependence	±0.01 ℃/℃
Measurement performance-Humidity	
Measurement range	0 … 100%RH
Accuracy	±2%(0-90%@25℃)/±3%(90-100%@25℃)
Temperature dependence	±1%RH/year

Dimensions（mm）



Measurement Range Adjustment

ON 1 2	ON 1 2	ON 1 2	ON 1 2
-35 … +75℃	-35 … +35℃	0 … +50℃	0 … +80℃

Note: During the installation process of the device, the device cannot be powered on;
you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Ordering Guide

Model	Installation method	Filter	Output	Product number
KTH510-EWP	Wall	PTFE	4-20mA (2 wire)	03190460140100
KTH510-FWP			4-20mA (3 wire)	03190460140200
KTH510-GWP			0-10V	03190460140300
KTH510-HWP			RS485	03190460140400
KTH510-EWS		Sintered stainless steel	4-20mA (2 wire)	03190460150100
KTH510-FWS			4-20mA (3 wire)	03190460150200
KTH510-GWS			0-10V	03190460150300
KTH510-HWS	Duct		RS485	03190460150400
KTH510-EDP		PTFE	4-20mA (2 wire)	03190470140100
KTH510-FDP			4-20mA (3 wire)	03190470140200
KTH510-GDP			0-10V	03190470140300
KTH510-HDP			RS485	03190470140400
KTH510-EDS		Sintered stainless steel	4-20mA (2 wire)	03190470150100
KTH510-FDS			4-20mA (3 wire)	03190470150200
KTH510-GDS			0-10V	03190470150300
KTH510-HDS			RS485	03190470150400

KTH600 Temperature and Humidity Transmitter

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Features

- LCD display
  Large size backlight display
- Shell connected by hinge
  More convenient wiring and setting
- M16 M20 double cable gland
  Cable size ϕ5…12mm
- Smooth and at surface
  Prevent the pollution of the
- shell surface in harsh environment
  IP65/NEMA4

Description

The KTH600 humidity and temperature transmitter can be used to measure relative humidity and temperature in various HVAC applications, as well as monitor building energy management systems.KTH600 adopts split remote probe, the probe removal and replacement can be done easily without adjusting the transmitter. KTH600 series temperature and humidity transmitter is easy to install, has high precision, stable and reliable operation, and is an ideal choice for various harsh environments.

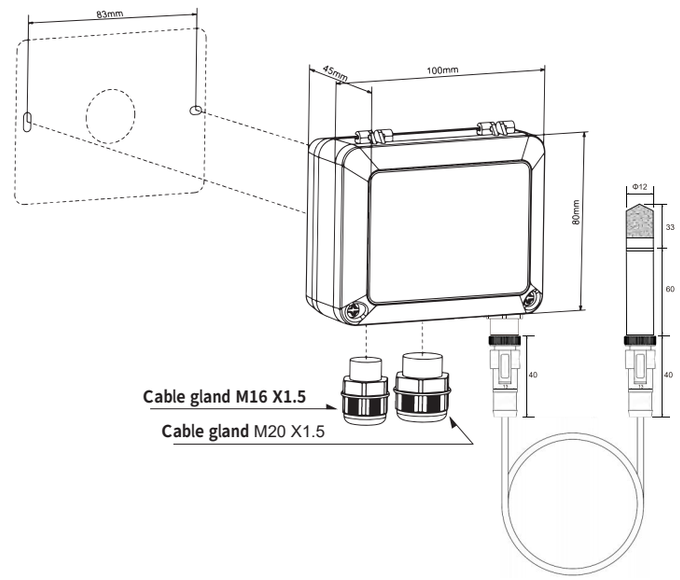
Application

- HVAC system
- Greenhouse
- Food transportation
- Refrigeration
- Clean room environment monitoring

Technical Data

Model	KTH600
Power supply	16-30V DC（2 wire 4-20mA)/16-30V AC or V DC（0-5V/0-10V/RS-485）
Output	4-20mA / 0-5V / 0-10V/ RS-485
Operating temperature	-35℃ ··· +70℃
Storage temperature	-40℃ ··· +60℃
Operating humidity	0~100 %RH
Temperature range	DIP
Display	Backlight LCD
Max wind / flow speed	30 m/s
Electromagnetic compatibility	EN61326-1（Industrial Environment）
Housing material	PC+ABS（UL-V0 approved）
Protection class	IP65 / NEMA 4
Cable gland	M16*1.5/M20*1.5
Cable length	PVC 1.5/3m
Measurement performance-Temperature	
Measurement range	–35 ··· +80 °C
Accuracy	±0.3°C (20-60°C)
Temperature dependence	±0.01 °C/°C
Measurement performance-Humidity	
Measurement range	0 ··· 100 %RH
Accuracy	±2% (0-90% @25°C) / ±3% (90-100% @25°C)
Temperature dependence	±1 %RH/year

Dimensions（mm）



Measurement Range Adjustment

ON 1 2	ON 1 2	ON 1 2	ON 1 2
-35 ··· +75℃	-35 ··· +35℃	0 ··· +50℃	0 ··· +80℃

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

KTH600 Temperature and Humidity Transmitter

Ordering Guide

●Backlight LCD ■No BacklightLCD × No display

Model	Filter	Output	Display	Cable length	Product number
KTH600-EDS3M	Sintered stainless steel	4-20mA (2 wire)	■	3m	03200480140104
KTH600-EDS5M				5m	03200480140105
KTH600-EDS10M				10m	03200480140106
KTH600-FDS3M		4-20mA (3 wire)	●	3m	03200480140204
KTH600-FDS5M				5m	03200480140205
KTH600-FDS10M				10m	03200480140206
KTH600-GDS3M		0-10V		3m	03200480140304
KTH600-GDS5M				5m	03200480140305
KTH600-GDS10M				10m	03200480140306
KTH600-HDS3M		RS485		3m	03200480140404
KTH600-HDS5M				5m	03200480140405
KTH600-HDS10M				10m	03200480140406
KTH600-EDP3M	PTFE	4-20mA (2 wire)	■	3m	03200480150104
KTH600-EDP5M				5m	03200480150105
KTH600-EDP10M				10m	03200480150106
KTH600-FDP3M		4-20mA (3 wire)	●	3m	03200480150204
KTH600-FDP5M				5m	03200480150205
KTH600-FDP10M				10m	03200480150206
KTH600-GDP3M		0-10V		3m	03200480150304
KTH600-GDP5M				5m	03200480150305
KTH600-GDP10M				10m	03200480150306
KTH600-HDP3M		RS485		3m	03200480150404
KTH600-HDP5M				5m	03200480150405
KTH600-HDP10M				10m	03200480150406
KTH600-E-P3M		4-20mA (2 wire)	×	3m	03200490140104
KTH600-E-P5M				5m	03200490140105
KTH600-E-P10M				10m	03200490140106
KTH600-F-P3M		4-20mA (3 wire)		3m	03200490140204
KTH600-F-P5M				5m	03200490140205
KTH600-F-P10M				10m	03200490140206
KTH600-G-P3M		0-10V		3m	03200490140304
KTH600-G-P5M				5m	03200490140305
KTH600-G-P10M				10m	03200490140306
KTH600-H-P3M		RS485		3m	03200490140404
KTH600-H-P5M				5m	03200490140405
KTH600-H-P10M				10m	03200490140406
KTH600-E-S3M	Sintered stainless steel	4-20mA (2 wire)		3m	03200490150104
KTH600-E-S5M				5m	03200490150105
KTH600-E-S10M				10m	03200490150106
KTH600-F-S3M		4-20mA (3 wire)		3m	03200490150204
KTH600-F-S5M				5m	03200490150205
KTH600-F-S10M				10m	03200490150206
KTH600-G-S3M		0-10V		3m	03200490150304
KTH600-G-S5M				5m	03200490150305
KTH600-G-S10M				10m	03200490150306
KTH600-H-S3M		RS485		3m	03200490150404
KTH600-H-S5M				5m	03200490150405
KTH600-H-S10M				10m	03200490150406

KTH610 Temperature and Humidity Transmitter

Features

- Shell connected by hinge
  More convenient wiring and setting
- M16 M20 double cable gland
  Cable size ϕ5…12mm
- Smooth and at surface
  Prevent the pollution of the shell surface in harsh environment
- IP65/NEMA4

Description

The KTH600 humidity and temperature transmitter can be used to measure 1elative humidity and temperature in various HVAC applications, as well as monitor building energy management systems.KTH600 adopts split remote probe, the probe removal and replacement can be done easily without adjusting the transmitter.KTH600 series temperature and humidity transmitter is easy to install, has high precision, stable and reliable operation, and is an ideal choice for various harsh environments.

Application

- HVAC system
- Greenhouse
- Food transportation
- Refrigeration
- Clean room environment monitoring

Technical Data

Model	KTH610
Power supply	16-30V DC（2wire 4-20mA)/16-30V AC 或者 V DC（0-5V/0-10V/RS-485）
Output	4-20mA / 0-5V / 0-10V/ RS-485
Operating temperature	-35℃ … +70℃
Storage temperature	-40℃ … +60℃
Operating humidity	0~100 %RH
Temperature range	DIP
Max wind / flow speed	30 m/s
Electromagnetic compatibility	EN61326-1（Industrial Environment）
Housing material	PC+ABS（UL-V0 approved）
Protection class	IP65 / NEMA 4
Cable gland	M16*1.5/M20*1.5
Cable length	PVC 1.5/3m
Measurement performance-Temperature	
Measurement range	–35 … +80 °C
Accuracy	±0.3°C (20-60°C)
Temperature dependence	±0.01 °C/°C
Measurement performance-Humidity	
Measurement range	0 … 100 %RH
Accuracy	±2% (0-90% @25°C) / ±3% (90-100% @25°C)
Temperature dependence	±1 %RH/year

KTH610 Temperature and Humidity Transmitter

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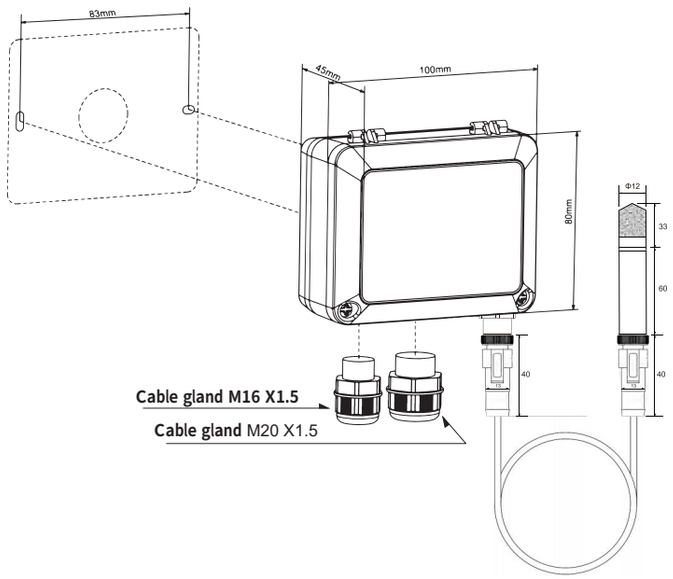
Dimensions（mm）



Measurement Range Adjustment

ON 1 2	ON 1 2	ON 1 2	ON 1 2
-35 ··· +75℃	-35 ··· +35℃	0 ··· +50℃	0 ··· +80℃

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Ordering Guide

Model	Filter	Output	Cable length	Product number
KTH610-EDS3M	Sintered stainless steel	4-20mA (2 wire)	3m	03430480140104
KTH610-EDS5M	Sintered stainless steel	4-20mA (2 wire)	5m	03430480140105
KTH610-EDS10M	Sintered stainless steel	4-20mA (2 wire)	10m	03430480140106
KTH610-FDS3M	Sintered stainless steel	4-20mA (3 wire)	3m	03430480140204
KTH610-FDS5M	Sintered stainless steel	4-20mA (3 wire)	5m	03430480140205
KTH610-FDS10M	Sintered stainless steel	4-20mA (3 wire)	10m	03430480140206
KTH610-GDS3M	Sintered stainless steel	0-10V (3 wire)	3m	03430480140304
KTH610-GDS5M	Sintered stainless steel	0-10V (3 wire)	5m	03430480140305
KTH610-GDS10M	Sintered stainless steel	0-10V (3 wire)	10m	03430480140306
KTH610-HDS3M	Sintered stainless steel	RS485	3m	03430480140404
KTH610-HDS5M	Sintered stainless steel	RS485	5m	03430480140405
KTH610-HDS10M	Sintered stainless steel	RS485	10m	03430480140406
KTH610-EDP3M	PTFE	4-20mA (2 wire)	3m	03430480150104
KTH610-EDP5M	PTFE	4-20mA (2 wire)	5m	03430480150105
KTH610-EDP10M	PTFE	4-20mA (2 wire)	10m	03430480150106
KTH610-FDP3M	PTFE	4-20mA (3 wire)	3m	03430480150204
KTH610-FDP5M	PTFE	4-20mA (3 wire)	5m	03430480150205
KTH610-FDP10M	PTFE	4-20mA (3 wire)	10m	03430480150206
KTH610-GDP3M	PTFE	0-10V (3 wire)	3m	03430480150304
KTH610-GDP5M	PTFE	0-10V (3 wire)	5m	03430480150305
KTH610-GDP10M	PTFE	0-10V (3 wire)	10m	03430480150306
KTH610-HDP3M	PTFE	RS485	3m	03430480150404
KTH610-HDP5M	PTFE	RS485	5m	03430480150405
KTH610-HDP10M	PTFE	RS485	10m	03430480150406
KTH610-E-P3M	PTFE	4-20mA (2 wire)	3m	03430490140104
KTH610-E-P5M	PTFE	4-20mA (2 wire)	5m	03430490140105
KTH610-E-P10M	PTFE	4-20mA (2 wire)	10m	03430490140106
KTH610-F-P3M	PTFE	4-20mA (3 wire)	3m	03430490140204
KTH610-F-P5M	PTFE	4-20mA (3 wire)	5m	03430490140205
KTH610-F-P10M	PTFE	4-20mA (3 wire)	10m	03430490140206
KTH610-G-P3M	PTFE	0-10V (3 wire)	3m	03430490140304
KTH610-G-P5M	PTFE	0-10V (3 wire)	5m	03430490140305
KTH610-G-P10M	PTFE	0-10V (3 wire)	10m	03430490140306
KTH610-H-P3M	PTFE	RS485	3m	03430490140404
KTH610-H-P5M	PTFE	RS485	5m	03430490140405
KTH610-H-P10M	PTFE	RS485	10m	03430490140406
KTH610-E-S3M	Sintered stainless steel	4-20mA (2 wire)	3m	03430490150104
KTH610-E-S5M	Sintered stainless steel	4-20mA (2 wire)	5m	03430490150105
KTH610-E-S10M	Sintered stainless steel	4-20mA (2 wire)	10m	03430490150106
KTH610-F-S3M	Sintered stainless steel	4-20mA (3 wire)	3m	03430490150204
KTH610-F-S5M	Sintered stainless steel	4-20mA (3 wire)	5m	03430490150205
KTH610-F-S10M	Sintered stainless steel	4-20mA (3 wire)	10m	03430490150206
KTH610-G-S3M	Sintered stainless steel	0-10V (3 wire)	3m	03430490150304
KTH610-G-S5M	Sintered stainless steel	0-10V (3 wire)	5m	03430490150305
KTH610-G-S10M	Sintered stainless steel	0-10V (3 wire)	10m	03430490150306
KTH610-H-S3M	Sintered stainless steel	RS485	3m	03430490150404
KTH610-H-S5M	Sintered stainless steel	RS485	5m	03430490150405
KTH610-H-S10M	Sintered stainless steel	RS485	10m	03430490150406

HTP110 Temperature and Humidity Transmitter

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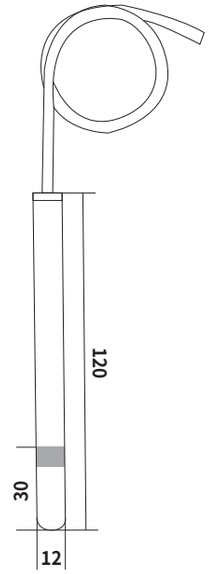
Description

HTP110 is a digital output temperature and humidity probe, which is stable and durable, and can be easily installed and removed. HTP110 probe can be easily and quickly connected to the cable through the M12 interface, or other M12 interface compatible cables can be used according to the installation requirements.

HTP110 uses a plastic casing with a protection level of IP65, which can meet the working environment under various extreme conditions.

Dimensions (mm)



Application

- Agriculture
- HVAC system
- Cleanroom
- Refrigeration system measurement
- Commercial building automation system
- Transportation hub

Features

- Low power consumption
- Easy disassembly
- Pluggable cable with standard M12 connector
- IP65 degree of protection

Technical Data

	Model	HTP110
	Power Supply	3.8V-5V
	Operating temperature	-40℃ ⋯ 80℃
	Storage temperature	-40℃ ⋯ 60℃
Temperature	Accuracy	±0.2℃ at +5℃~+60℃
Humidity	Range	0~100 % RH
	Accuracy	2% at 25℃ & 20~80%RH
	Repeat stability	<±0.5% RH / year
	Sensitive component protection	Coating process
	Housing material	316 Stainsless steel
	Protection class	IP65 / NEMA 4
	Cable gland	M12*1

Ordering Guide

Model	Output	Cable length	Product number
HTP110-E-1M	4-20mA	1m	03430140260100
HTP110-G-1M	0-10V	3m	03430140260300
HTP110-H-1M	RS485	5m	03430140260400
HTP110-E-3M	4-20mA	1m	03430140160100
HTP110-G-3M	0-10V	3m	03430140160300
HTP110-H-3M	RS485	5m	03430140160400
HTP110-E-5M	4-20mA	1m	03430140170100
HTP110-G-5M	0-10V	3m	03430140170300
HTP110-H-5M	RS485	5m	03430140170400

HTP120 Temperature and Humidity Transmitter

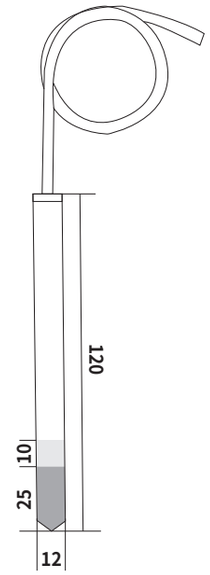
KeramControls®
启元控制

Description

HTP120 is a digital output temperature and humidity probe, which is stable and durable, and can be easily installed and removed. The HTP120 probe can be easily and quickly connected to the cable through the M12 interface, or other M12 interface compatible cables can be used according to the installation requirements.

HTP120 uses a stainless steel casing with a protection level of IP65, which can meet the working environment under various extreme conditions.

Dimensions（mm）



Application

- Agriculture
- HVAC system
- Cleanroom
- Refrigeration system measurement
- Commercial building automation system
- Transportation hub

Features

- Low power consumption
- Easy disassembly
- Pluggable cable with standard M12
- connector IP65 degree of protection

Technical Data

	Model	HTP120
	Power Supply	3.8V-5V
	Operating temperature	-40℃ ⋯ 80℃
	Storage temperature	-40℃ ⋯ 60℃
Temperature	Accuracy	±0.2℃ at +5℃~+60℃
Humidity	Range	0~100 % RH
	Accuracy	2% at 25℃ & 20~80%RH
	Repeat stability	<±0.5% RH / year
	Sensitive component protection	Coating process
	Housing material	316Stainsless steel
	Protection class	IP65 / NEMA 4
	Cable gland	M12*1

Ordering Guide

Model	Output	Cable length	Product number
HTP120-E-1M	4-20mA	1m	03440140260100
HTP120-G-1M	0-10V	3m	03440140260300
HTP120-H-1M	RS485	5m	03440140260400
HTP120-E-3M	4-20mA	1m	03440140160100
HTP120-G-3M	0-10V	3m	03440140160300
HTP120-H-3M	RS485	5m	03440140160400
HTP120-E-5M	4-20mA	1m	03440140170100
HTP120-G-5M	0-10V	3m	03440140170300
HTP120-H-5M	RS485	5m	03440140170400

Flexible and reliable temperature measurement device

Keram Controls temperature sensors cover active and passive series, and the active series provide range setting and switching to meet various measurement needs.
A variety of installation types, novel and convenient installation methods to meet all typical applications.

KeramControls®

KTC110 Temperature Sensor

Description

KTC110 series sensors are low-cost temperature sensors specially designed for temperature measurement in the field of HVAC, and are suitable for process control of commercial building automation systems.
KTC110 series adopts passive resistance signal output, and is used for passive temperature output with NTC10K, Pt100, Pt1000 and other temperature sensitive components. The IP65 cable interface can effectively ensure the waterproof performance of the sensor.

Application

- Building automation
- HVAC Environmental control

Features

- High protection level
- A variety of temperature sensitive elements and cable
- Lengths are available A variety of accessories are available

Technical Data

Model	KTC110	
Temperature sensor	Sensitive components	Standard resistance
	NTC10K B3435	R_{25}:10KΩ±1%
	Pt100	R_0: 100Ω
	Pt1000	R_0:1000Ω
Component connection	2 wire or 3 wire	
Cable material	PVC	
Sensor probe material	316 Stainless steel	
Protection class	IP65/NEMA4	
Operating temperature	-30 ··· +100°C	
Storage temperature	-30 ··· +70°C	

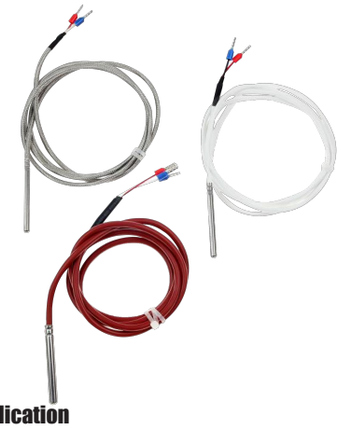
Dimensions (mm)

KTC110 Temperature Sensor

Ordering Guide

Model	Sensitive components	Cable length	Wiring	Product number
KTC110-2EJ	NTC 10K	1m	2 line	04260520261300
KTC110-3EJ			3 line	04260520261400
KTC110-2EK		2m	2 line	04260520271300
KTC110-3EK			3 line	04260520271400
KTC110-2EL		3m	2 line	04260520161300
KTC110-3EL			3 line	04260520161400
KTC110-2EM		4m	2 line	04260520291300
KTC110-3EM			3 line	04260520291400
KTC110-2EN		5m	2 line	04260520171300
KTC110-3EN			3 line	04260520171400
KTC110-2EO		10m	2 line	04260520181300
KTC110-3EO			3 line	04260520181400
KTC110-2FJ	PT100	1m	2 line	04260530261300
KTC110-3FJ			3 line	04260530261400
KTC110-2FK		2m	2 line	04260530271300
KTC110-3FK			3 line	04260530271400
KTC110-2FL		3m	2 line	04260530161300
KTC110-3FL			3 line	04260530161400
KTC110-2FM		4m	2 line	04260530291300
KTC110-3FM			3 line	04260530291400
KTC110-2FN		5m	2 line	04260530171300
KTC110-3FN			3 line	04260530171400
KTC110-2FO		10m	2 line	04260530181300
KTC110-3FO			3 line	04260530181400
KTC110-2GJ	PT1000	1m	2 line	04260540261300
KTC110-3GJ			3 line	04260540261400
KTC110-2GK		2m	2 line	04260540271300
KTC110-3GK			3 line	04260540271400
KTC110-2GL		3m	2 line	04260540161300
KTC110-3GL			3 line	04260540161400
KTC110-2GM		4m	2 line	04260540291300
KTC110-3GM			3 line	04260540291400
KTC110-2GN		5m	2 line	04260540171300
KTC110-3GN			3 line	04260540171400
KTC110-2GO		10m	2 line	04260540181300
KTC110-3GO			3 line	04260540181400

KTC111 Temperature Sensor



Application

- Building automation
- HVAC Environmental control

Description

KTC111 series temperature sensor is specially designed for high temperature measurement in HVAC and various industrial process control fields. KTC111 series adopts passive resistance signal output, and is equipped with various temperature sensitive components such as NTC10K, Pt100, Pt1000, etc. IP65 cable interface can effectively guarantee the sensor waterproof performance.

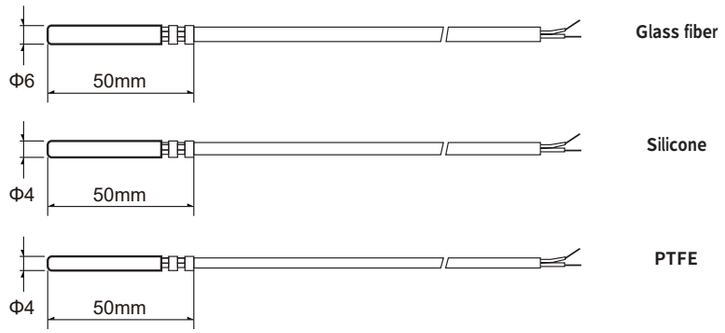
Features

- High protection level
- A variety of temperature sensitive elements and cable
- Lengths are available A variety of accessories are available

Technical Data

Model	KTC111	
Temperature sensor	Sensitive components	Standard resistance
	NTC10K B3435	R_{25}:10KΩ±1%
	Pt100	R_0: 100Ω
	Pt1000	R_0:1000Ω
Component connection	2 wire or 3 wire	
Cable material	Glass fiber、Silicone、PTFE	
Sensor probe material	316 Stainless steel	
Protection class	IP65/NEMA4	
Operating temperature	Glass fiber	0 ··· 350°C
	Silicone	-60 ··· 180°C
	PTFE	-20 ··· 250°C
Storage temperature	-30 ··· +70°C	

Dimensions (mm)



KTC111 Temperature Sensor

Ordering Guide

Model	Sensitive components	Cable length	Wiring	Cable material	Product number
KTC111-2EJA	NTC 10K	1m	2 wire	Glass fiber	04270520261307
KTC111-2EJB				Silicone	04270520261308
KTC111-2EJC				PTFE	04270520261309
KTC111-3EJA			3 wire	Glass fiber	04270520261407
KTC111-3EJB				Silicone	04270520261408
KTC111-3EJC				PTFE	04270520261409
KTC111-2EKA		2m	2 wire	Glass fiber	04270520271307
KTC111-2EKB				Silicone	04270520271308
KTC111-2EKC				PTFE	04270520271309
KTC111-3EKA			3 wire	Glass fiber	04270520271407
KTC111-3EKB				Silicone	04270520271408
KTC111-3EKC				PTFE	04270520271409
KTC111-2ELA		3m	2 wire	Glass fiber	04270520161307
KTC111-2ELB				Silicone	04270520161308
KTC111-2ELC				PTFE	04270520161309
KTC111-3ELA			3 wire	Glass fiber	04270520161407
KTC111-3ELB				Silicone	04270520161408
KTC111-3ELC				PTFE	04270520161409
KTC111-2EMA		4m	2 wire	Glass fiber	04270520291307
KTC111-2EMB				Silicone	04270520291308
KTC111-2EMC				PTFE	04270520291309
KTC111-3EMA			3 wire	Glass fiber	04270520291407
KTC111-3EMB				Silicone	04270520291408
KTC111-3EMC				PTFE	04270520291409
KTC111-2ENA		5m	2 wire	Glass fiber	04270520171307
KTC111-2ENB				Silicone	04270520171308
KTC111-2ENC				PTFE	04270520171309
KTC111-3ENA			3 wire	Glass fiber	04270520171407
KTC111-3ENB				Silicone	04270520171408
KTC111-3ENC				PTFE	04270520171409
KTC111-2EOA		10m	2 wire	Glass fiber	04270520181307
KTC111-2EOB				Silicone	04270520181308
KTC111-2EOC				PTFE	04270520181309
KTC111-3EOA			3 wire	Glass fiber	04270520181407
KTC111-3EOB				Silicone	04270520181408
KTC111-3EOC				PTFE	04270520181409
KTC111-2FJA	PT100	1m	2 wire	Glass fiber	04270530261307
KTC111-2FJB				Silicone	04270530261308
KTC111-2FJC				PTFE	04270530261309
KTC111-3FJA			3 wire	Glass fiber	04270530261407
KTC111-3FJB				Silicone	04270530261408
KTC111-3FJC				PTFE	04270530261409
KTC111-2FKA		2m	2 wire	Glass fiber	04270530271307
KTC111-2FKB				Silicone	04270530271308
KTC111-2FKC				PTFE	04270530271309
KTC111-3FKA			3 wire	Glass fiber	04270530271407
KTC111-3FKB				Silicone	04270530271408
KTC111-3FKC				PTFE	04270530271409
KTC111-2FLA		3m	2 wire	Glass fiber	04270530161307
KTC111-2FLB				Silicone	04270530161308
KTC111-2FLC				PTFE	04270530161309
KTC111-3FLA			3 wire	Glass fiber	04270530161407
KTC111-3FLB				Silicone	04270530161408
KTC111-3FLC				PTFE	04270530161409

Ordering Guide

Model	Sensitive components	Cable length	Wiring	Cable material	Product number
KTC111-2FMA	PT100	3m	2 wire	Glass fiber	04270530171307
KTC111-2FMB				Silicone	04270530171308
KTC111-2FMC				PTFE	04270530171309
KTC111-3FMA		4m	3 wire	Glass fiber	04270530171407
KTC111-3FMB				Silicone	04270530171408
KTC111-3FMC				PTFE	04270530171409
KTC111-2FNA			2 wire	Glass fiber	04270530181307
KTC111-2FNB				Silicone	04270530181308
KTC111-2FNC				PTFE	04270530181309
KTC111-3FNA		5m	3 wire	Glass fiber	04270530181407
KTC111-3FNB				Silicone	04270530181408
KTC111-3FNC				PTFE	04270530181409
KTC111-2FOA		10m	2 wire	Glass fiber	04270530181307
KTC111-2FOB				Silicone	04270530181308
KTC111-2FOC				PTFE	04270530181309
KTC111-3FOA			3 wire	Glass fiber	04270530181407
KTC111-3FOB				Silicone	04270530181408
KTC111-3FOC				PTFE	04270530181409
KTC111-2GJA	PT1000	1m	2 wire	Glass fiber	04270540261307
KTC111-2GJB				Silicone	04270540261308
KTC111-2GJC				PTFE	04270540261309
KTC111-3GJA			3 wire	Glass fiber	04270540261407
KTC111-3GJB				Silicone	04270540261408
KTC111-3GJC				PTFE	04270540261409
KTC111-2GKA		2m	2 wire	Glass fiber	04270540271307
KTC111-2GKB				Silicone	04270540271308
KTC111-2GKC				PTFE	04270540271309
KTC111-3GKA			3 wire	Glass fiber	04270540271407
KTC111-3GKB				Silicone	04270540271408
KTC111-3GKC				PTFE	04270540271409
KTC111-2GLA		3m	2 wire	Glass fiber	04270540161307
KTC111-2GLB				Silicone	04270540161308
KTC111-2GLC				PTFE	04270540161309
KTC111-3GLA			3 wire	Glass fiber	04270540161407
KTC111-3GLB				Silicone	04270540161408
KTC111-3GLC				PTFE	04270540161409
KTC111-2GMA		4m	2 wire	Glass fiber	04270540171307
KTC111-2GMB				Silicone	04270540171308
KTC111-2GMC				PTFE	04270540171309
KTC111-3GMA			3 wire	Glass fiber	04270540171407
KTC111-3GMB				Silicone	04270540171408
KTC111-3GMC				PTFE	04270540171409
KTC111-2GNA		5m	2 wire	Glass fiber	04270540181307
KTC111-2GNB				Silicone	04270540181308
KTC111-2GNC				PTFE	04270540181309
KTC111-3GNA			3 wire	Glass fiber	04270540181407
KTC111-3GNB				Silicone	04270540181408
KTC111-3GNC				PTFE	04270540181409
KTC111-2GOA		10m	2 wire	Glass fiber	04270540181307
KTC111-2GOB				Silicone	04270540181308
KTC111-2GOC				PTFE	04270540181309
KTC111-3GOA			3 wire	Glass fiber	04270540181407
KTC111-3GOB				Silicone	04270540181408
KTC111-3GOC				PTFE	04270540181409

KTS100 Temperature Sensor

KeramControls
启元控制

Description

KTS100 series wall-mounted sensor is a low-cost temperature sensor specially designed for temperature measurement in the field of HVAC; it is suitable for building automation control systems (BA systems) in commercial buildings and other conventional buildings.

The IP65 protection level is also convenient for outdoor measurement.

Features

- Temperature range from -40 °C to +200°C
- Resistance output
- Standard precision, visible attribute parameter table
- Protection level: IP65/NEMA4

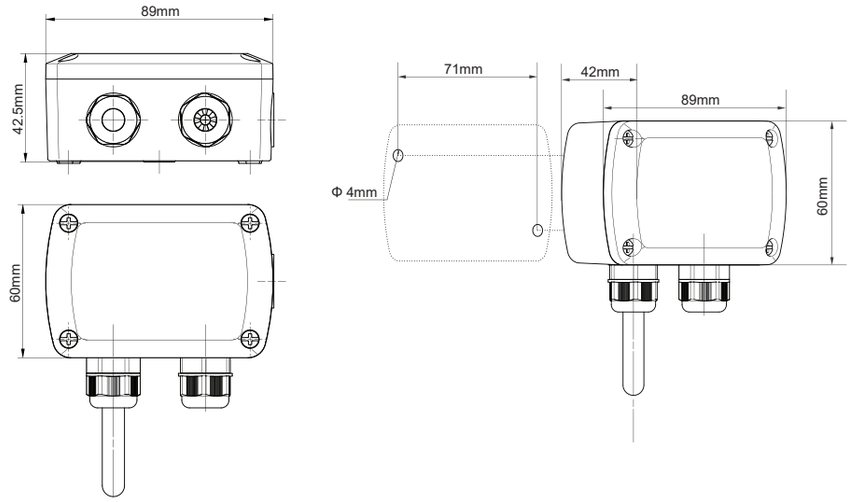
Application

KTS100 temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTS100
Temperature sensitive element	PT100 Class A sensitivity ± (0.15+0.002t)
	PT 1000 Class A sensitivity± (0.15+0.002t)
	NTC 10k B3950 sensitivityB:3989K±1%
	NTC 10k B3435 sensitivityB:3435K±1%
	NTC 1k sensitivity B:3500K±1%
	NTC 2k sensitivity B:3977K±0.3%
Response time	<1min
Component connection	2 wire
Media	Air or liquid
Operating temperature	-40 ⋯ +70℃
Storage temperature	-30 ⋯ +70℃
Measurement range	-40 ⋯ +200℃
Housing material	PC&ABS,UL94-V0
Protection class	IP65/NEMA 4
Cable gland	M16*1.5

Dimensions (mm)



Note On Disposal

Most Keram Controls products may contain valuable materials that should be recycled rather than treated as domestic waste.Please pay attention to the relevant regulations of local disposal.

Product Certification

CE

The certification of the products can be found on our website Https//: www.keramcontrols.com.

Ordering Guide

Model	Sensitive components	Product number
KTS100-1	PT100	04290530000000
KTS100-2	PT1000	04290540000000
KTS100-3	NTC 10K 3950	04290550000000
KTS100-4	NTC 10K 3435	04290520000000
KTS100-5	NTC 1K	04290560000000
KTS100-6	NTC 2K	04290570000000

KTS110 Temperature Sensor

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Description

KTS110 series pipe installation sensor is a low-cost temperature sensor specially designed for temperature measurement in the field of HVAC. It is suitable for building automatic control system (BA system) of commercial buildings and other conventional buildings.IP65 protection level is also convenient for outdoor measurement.

Features

- Temperature range from -40 °C to +200 °C
- Resistance output
- Standard precision, see attribute parameter table
- Protection class: IP65/NEMA4

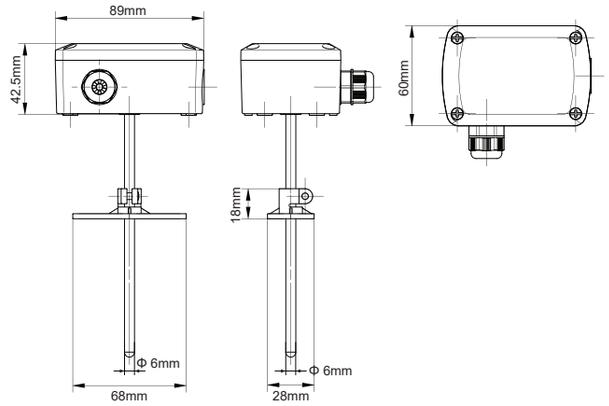
Application

KTS110temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTS110
Temperature sensitive element	PT100 Class A sensitivity ± （0.15+0.002t）
	PT 1000 Class A sensitivity± （0.15+0.002t）
	NTC 10k B3950 sensitivityB:3989K±1%
	NTC 10k B3435 sensitivityB:3435K±1%
	NTC 1k sensitivity B:3500K±1%
	NTC 2k sensitivity B:3977K±0.3%
Response time	<1min, 3m/s (590ft/min)/< 30s in the air pipeline, measuring the liquid in the pipeline
Component connection	2 wire
Media	Air or liquid
Operating temperature	-40 ⋯ +110℃(Air duct)/-40 ⋯ +200℃(liquid duct)
Storage temperature	-30 ⋯ +70℃
Measurement range	-40 ⋯ +200℃
Housing material	PC&ABS,UL94-V0
Protection class	IP65/NEMA 4
Cable gland	M16*1.5

Dimensions（mm）



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Product Certification

CE

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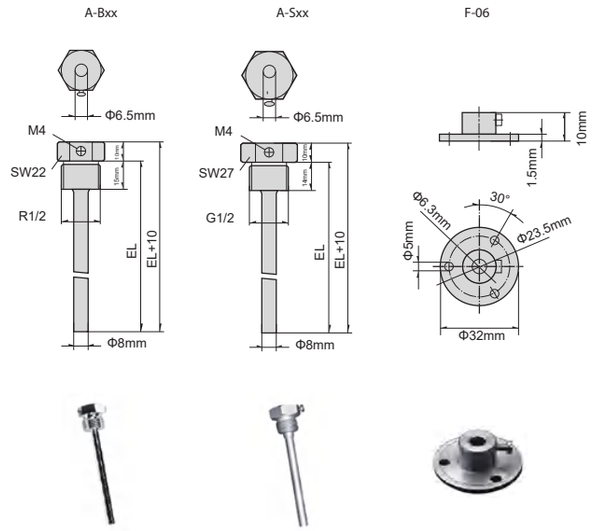
Accessory Dimension drawing



Accessory

Model	Immersion casing diameter	Media	Maximum pressure	Max working temperature	Insertion length（EL）
A-B 50MM	8mm	Nickel-plated brass	10bar	150℃	50mm
A-B 100MM					100mm
A-B 150MM					150mm
A-B 200MM					200mm
A-B 250MM					250mm
A-B 300MM					300mm
A-B 350MM					350mm
A-B 400MM					400mm

Note: with neck tube(90mm)

Model	Immersion casing diameter	Media	Maximum pressure	Max working temperature	Insertion length（EL）
A-S 50MM	8mm	Nickel-plated brass	40bar	600℃	50mm
A-S 100MM					100mm
A-S 150MM					150mm
A-S 200MM					200mm
A-S 250MM					250mm
A-S 300MM					300mm
A-S 350MM					350mm
A-S 400MM					400mm

Note: with neck tube(90mm)

Model	Diameter	Maximum allowable diameter of metal pipe	Max working temperature	Material
F-06	32mm	6.3mm	700℃	Galvanized steel

Note: with neck tube(90mm)

Ordering Guilde

Model	Sensitive components	Probe length	Product number
KTS110-4A	NTC 10K 3435	65mm	04280520300000
KTS110-4B		120mm	04280520310000
KTS110-4C		150mm	04280520210000
KTS110-4D		300mm	04280520240000
KTS110-1A	PT100	65mm	04280530300000
KTS110-1B		120mm	04280530310000
KTS110-1C		150mm	04280530210000
KTS110-1D		300mm	04280530240000
KTS110-2A	PT1000	65mm	04280540300000
KTS110-2B		120mm	04280540310000
KTS110-2C		150mm	04280540210000
KTS110-2D		300mm	04280540240000
KTS110-3A	NTC 10K 3950	65mm	04280550300000
KTS110-3B		120mm	04280550310000
KTS110-3C		150mm	04280550210000
KTS110-3D		300mm	04280550240000
KTS110-5A	NTC 1K	65mm	04280560300000
KTS110-5B		120mm	04280560310000
KTS110-5C		150mm	04280560210000
KTS110-5D		300mm	04280560240000
KTS110-6A	NTC 2K	65mm	04280570300000
KTS110-6B		120mm	04280570310000
KTS110-6C		150mm	04280570210000
KTS110-6D		300mm	04280570240000

KTS120 Temperature Sensor

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Description

KTS120 series cable sensor is a low-cost temperature sensor specially designed for temperature measurement in various working environments. It can measure the temperature in air ducts and liquid pipes through different installation and fixing accessories.

Features

- Temperature range from -40 °C to +200 °C
- Resistance output
- Standard precision, see attribute parameter table
- Protection class: IP65/NEMA4

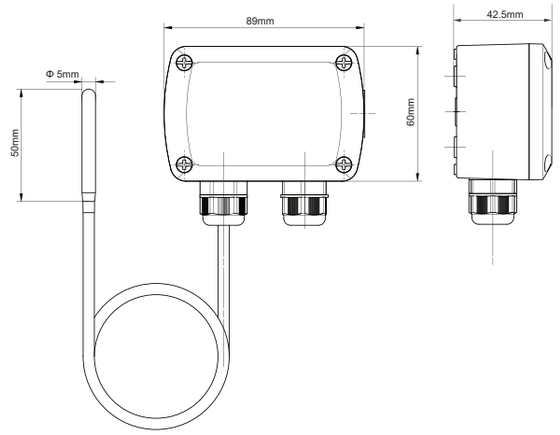
Application

KTS110temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTS120
Temperature sensitive element	PT100 Class A sensitivity ±（0.15+0.002t）
	PT 1000 Class A sensitivity±（0.15+0.002t）
	NTC 10k B3950 sensitivityB:3989K±1%
	NTC 10k B3435 sensitivityB:3435K±1%
	NTC 1k sensitivity B:3500K±1%
	NTC 2k sensitivity B:3977K±0.3%
Response time	<1min/<30s，measure liquids in pipes
Component connection	2 wire
Media	Air or liquid
Operating temperature	-30 ⋯ +70℃（Cable）/-30 ⋯ +200℃（Probe）
Storage temperature	-30 ⋯ +70℃
Measurement range	-40 ⋯ +200℃
Housing material	PC&ABS, UL94-V0
Protection class	IP65/NEMA 4
Cable gland	M16*1.5

Dimension（mm）



Accessory

Temperature compensation

Cable length	Cable resistance	Temperature compensation
0.5m	0.086 Ω	0.22°C
2m	0.344 Ω	0.88°C
3m	0.516 Ω	1.32°C

* When the temperature resistance of high resistance value (R>1000 Ω), the temperature compensation is negligible.

Ordering Guide

Model	Sensitive components	Cable length	Product number
KTS120-4L	NTC 10K 3435	3m	04300520160000
KTS120-4K		2m	04300520170000
KTS120-4P		0.5m	04300520320000
KTS120-1L	PT100	3m	04300530160000
KTS120-1K		2m	04300530170000
KTS120-1P		0.5m	04300530320000
KTS120-2L	PT1000	3m	04300540160000
KTS120-2K		2m	04300540170000
KTS120-2P		0.5m	04300540320000
KTS120-3L	NTC 10K 3950	3m	04300550160000
KTS120-3K		2m	04300550170000
KTS120-3P		0.5m	04300550320000
KTS120-5L	NTC 1K	3m	04300560160000
KTS120-5K		2m	04300560170000
KTS120-5P		0.5m	04300560320000
KTS120-6L	NTC 2K	3m	04300570160000
KTS120-6K		2m	04300570170000
KTS120-6P		0.5m	04300570320000

KTS130 Temperature Sensor

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Description

KTS130 series cable sensor is a low-cost temperature sensor specially designed for temperature measurement in various working environments. It can measure the temperature in air ducts and liquid pipes through different installation and fixing accessories.

Features

- Temperature range from -40 °C to +200 °C
- Resistance output
- Standard precision, see attribute parameter table
- Protection class: IP65/NEMA4

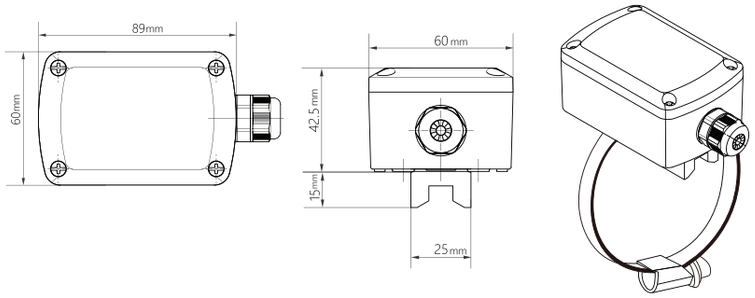
Application

KTS110 temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

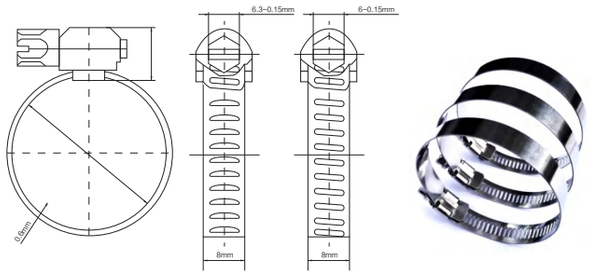
Technical Data

Model	KTS130
Temperature sensitive element	PT100 Class A sensitivity ± （0.15+0.002t）
	PT 1000 Class A sensitivity± （0.15+0.002t）
	NTC 10k B3950 sensitivityB:3989K±1%
	NTC 10k B3435 sensitivityB:3435K±1%
	NTC 1k sensitivity B:3500K±1%
	NTC 2k sensitivity B:3977K±0.3%
Response time	<1min
Component connection	2 wire
Media	Air or liquid
Operating temperature	-40 ⋯ +70℃
Storage temperature	-30 ⋯ +70℃
Measurement range	-40 ⋯ +200℃
Housing material	PC&ABS, UL94-V0
Protection class	IP65/NEMA 4
Cable gland	M16*1.5

Dimension（mm）



Accessory Dimension drawing



Model	Material	Max working temperature	Applicable pipe diameter
S-250MM	Stainless steel	300℃	250-400mm
S-400MM			400-600mm
S-600MM			600-800mm
S-800MM			800-1000mm
S-1000MM			1000-1600mm

KTS130 Temperature Sensor

Ordering Guide

Model	Sensitive components	Clamp model	Product number
KTS130-4V	NTC 10K 3435	250mm	04310520330000
KTS130-4W		400mm	04310520340000
KTS130-4X		600mm	04310520350000
KTS130-4Y		800mm	04310520360000
KTS130-4Z		1000mm	04310520370000
KTS130-1V	PT100	250mm	04310530330000
KTS130-1W		400mm	04310530340000
KTS130-1X		600mm	04310530350000
KTS130-1Y		800mm	04310530360000
KTS130-1Z		1000mm	04310530370000
KTS130-2V	PT1000	250mm	04310540330000
KTS130-2W		400mm	04310540340000
KTS130-2X		600mm	04310540350000
KTS130-2Y		800mm	04310540360000
KTS130-2Z		1000mm	04310540370000
KTS130-3V	NTC 10K 3950	250mm	04310550330000
KTS130-3W		400mm	04310550340000
KTS130-3X		600mm	04310550350000
KTS130-3Y		800mm	04310550360000
KTS130-3Z		1000mm	04310550370000
KTS130-5V	NTC 1K	250mm	04310560330000
KTS130-5W		400mm	04310560340000
KTS130-5X		600mm	04310560350000
KTS130-5Y		800mm	04310560360000
KTS130-5Z		1000mm	04310560370000
KTS130-6V	NTC 2K	250mm	04310570330000
KTS130-6W		400mm	04310570340000
KTS130-6X		600mm	04310570350000
KTS130-6Y		800mm	04310570360000
KTS130-6Z		1000mm	04310570370000

KTP110 Temperature Sensor

Description

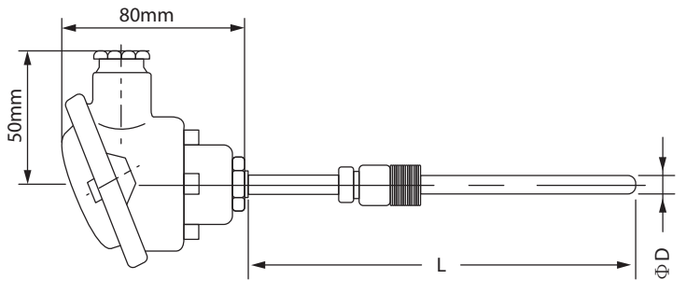
KTP110 resistive temperature sensor passive output, with aluminum connector and straight protective tube, pipeline temperature sensor is used to detect the temperature in liquid or gaseous medium; used in pipelines, heating engineering, compact district heating stations, cold Hot water system, oil and lubrication circulation system, machine fields of mechanical and plant engineering.

Technical Data

Model	KTP110
Temperature Sensor	Element Standard resistance
	NTC10K B3435 R_{25}: 10KΩ±1%
	Pt100 R_0: 100Ω
	Pt1000 R_0: 1000Ω
Component connection	2 wire
	4 wire (optional)
Size	See dimension drawing
Connector	Aluminum
	Ambient temperature -20 ... +100°C
Protective tube	SS316
	Φ: 6mm
	Insertion length (EL) 50mm-400mm (see table)
Housing protection	IP54
Operating temperature	-35 ... +150°C
Storage temperature	-30 ... +70°C
Humidity	<95% RH,no precipitation air
Accessory	See table
F-06	Mounting flange
	Galvanized steel
	Φ: 32mm
	Max temperature：700°C
A-B/xx	Immersion socket, brass, nickel-plated
	Φ: 8mm
	Max temperature：150°C
	Max pressure：10bar
A-Sxx	Immersion sleeve, stainless steel
	Φ: 8mm
	Max temperature：600°C
	Max pressure：40bar

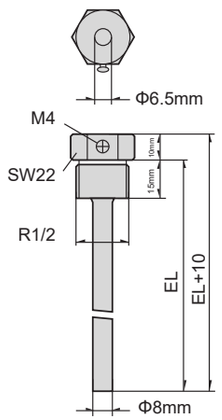
KTP110 Temperature Sensor

Dimension (mm)

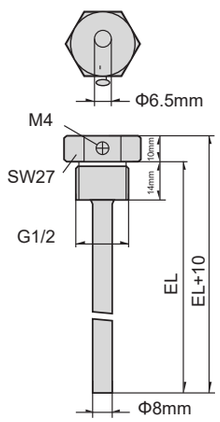


Accessory Dimension drawing

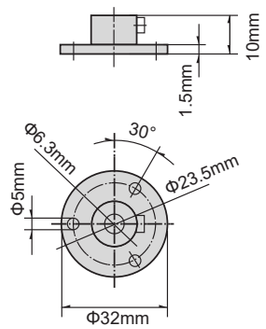
A-Bxx



A-Sxx



F-06



Accessory

Model	Immersion sleeve diameter	Material	Pmax	Tmax	Insertion length (EL)
A-B 50MM	8mm	Nickel-plated brass	40bar	150℃	50mm
A-B 100MM					100mm
A-B 150MM					150mm
A-B 200MM					200mm
A-B 250MM					250mm
A-B 300MM					300mm
A-B 350MM					350mm
A-B 400MM					400mm

Note: with neck tube(90mm)

Model	Immersion sleeve diameter	Material	Pmax	Tmax	Insertion length (EL)
A-S 50MM	8mm	Nickel-plated brass	40bar	600℃	50mm
A-S 100MM					100mm
A-S 150MM					150mm
A-S 200MM					200mm
A-S 250MM					250mm
A-S 300MM					300mm
A-S 350MM					350mm
A-S 400MM					400mm

Note: with neck tube(90mm)

Model	Diameter	Tube gland	Tmax	Material
F-06	32mm	6.3mm	700℃	Galvanized steel

Note: with neck tube(90mm)

KTP110 Temperature Sensor

Ordering Guide

Model	Sensitive components	Probe length	Wiring	Product number
KTP110-2EJ	NTC 10K	50mm	2 wire	04250520191300
KTP110-3EJ			3 wire	04250520191400
KTP110-4EJ			4 wire	04250520191500
KTP110-2EK		100mm	2 wire	04250520201300
KTP110-3EK			3 wire	04250520201400
KTP110-4EK			4 wire	04250520201500
KTP110-2EL		150mm	2 wire	04250520211300
KTP110-3EL			3 wire	04250520211400
KTP110-4EL			4 wire	04250520211500
KTP110-2EM		200mm	2 wire	04250520221300
KTP110-3EM			3 wire	04250520221400
KTP110-4EM			4 wire	04250520221500
KTP110-2EN		250mm	2 wire	04250520231300
KTP110-3EN			3 wire	04250520231400
KTP110-4EN			4 wire	04250520231500
KTP110-2EO		300mm	2 wire	04250520251300
KTP110-3EO			3 wire	04250520251400
KTP110-4EO			4 wire	04250520251500
KTP110-2EP		400mm	2 wire	04250520251300
KTP110-3EP			3 wire	04250520251400
KTP110-4EP			4 wire	04250520251500
KTP110-2FJ	PT100	50mm	2 wire	04250530191300
KTP110-3FJ			3 wire	04250530191400
KTP110-4FJ			4 wire	04250530191500
KTP110-2FK		100mm	2 wire	04250530201300
KTP110-3FK			3 wire	04250530201400
KTP110-4FK			4 wire	04250530201500
KTP110-2FL		150mm	2 wire	04250530211300
KTP110-3FL			3 wire	04250530211400
KTP110-4FL			4 wire	04250530211500
KTP110-2FM		200mm	2 wire	04250530221300
KTP110-3FM			3 wire	04250530221400
KTP110-4FM			4 wire	04250530221500
KTP110-2FN		250mm	2 wire	04250530231300
KTP110-3FN			3 wire	04250530231400
KTP110-4FN			4 wire	04250530231500
KTP110-2FO		300mm	2 wire	04250530251300
KTP110-3FO			3 wire	04250530251400
KTP110-4FO			4 wire	04250530251500
KTP110-2FP		400mm	2 wire	04250530251300
KTP110-3FP			3 wire	04250530251400
KTP110-4FP			4 wire	04250530251500
KTP110-2GJ	PT1000	50mm	2 wire	04250540191300
KTP110-3GJ			3 wire	04250540191400
KTP110-4GJ			4 wire	04250540191500
KTP110-2GK		100mm	2 wire	04250540201300
KTP110-3GK			3 wire	04250540201400
KTP110-4GK			4 wire	04250540201500
KTP110-2GL		150mm	2 wire	04250540211300
KTP110-3GL			3 wire	04250540211400
KTP110-4GL			4 wire	04250540211500
KTP110-2GM		200mm	2 wire	04250540221300
KTP110-3GM			3 wire	04250540221400
KTP110-4GM			4 wire	04250540221500
KTP110-2GN		250mm	2 wire	04250540231300
KTP110-3GN			3 wire	04250540231400
KTP110-4GN			4 wire	04250540231500
KTP110-2GO		300mm	2 wire	04250540251300
KTP110-3GO			3 wire	04250540251400
KTP110-4GO			4 wire	04250540251500
KTP110-2GP		400mm	2 wire	04250540251300
KTP110-3GP			3 wire	04250540251400
KTP110-4GP			4 wire	04250540251500

Flexible and reliable temperature measurement device

Keram Controls temperature sensors cover active and passive series, and the active series provide range setting and switching to meet various measurement needs. A variety of installation types, novel and convenient installation methods to meet all typical applications.

KeramControls®

KTT100 Temperature Transmitter

KeramControls®
启元控制

Description

KTT100 series wall-mounted transmitter is a low-cost temperature transmitter designed for temperature measurement in the field of HVAC. It is suitable for building automatic control system (BA system) of commercial buildings and other conventional buildings

IP65 protection level is convenient for outdoor measurement at the same time; it's output has 4-20mA, 0-10V and RS485.

Features

- Temperature range from -40℃ to +200℃
- 4-20mA, 0-10V, RS-485 output
- Standard accuracy ±0.3
- Protection class: IP65/NEMA4

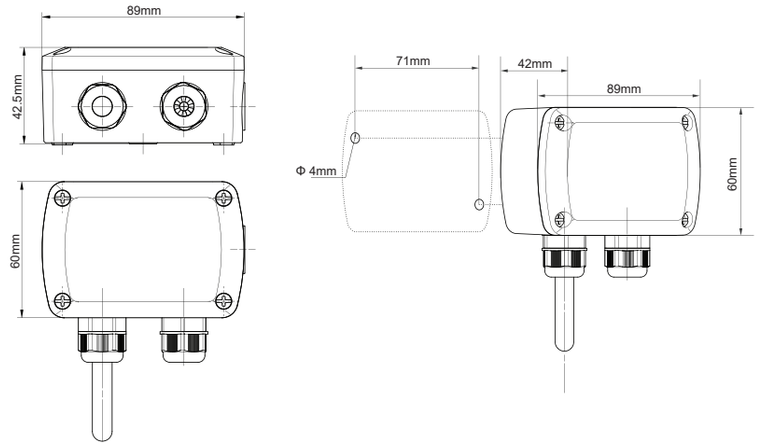
Application

KTT100 temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTT100
Accuracy	±0.3℃ @20℃
Response time	< 1min
Repeat stability	±0.01 % at FS/year
Media	Air and neutral gases
Operating temperature	-40℃ ⋯ +70℃
Storage temperature	-30℃ ⋯ +70℃
Measurement range	-40℃ ⋯ +200℃
Power consumption	< 1.5W
Power supply	24VAC/DC ±10%
Output	4-20mA（2 wire）
	4-20mA（3 wire）
	0~5 /0~10VDC（3 wire）
	RS-485
Housing material	PC&ABS，UL94V-0
Protection class	IP65/NEMA4
Cable gland	M16*1.5

Dimension（mm）



Measurement Range Adjustment

ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3
-40 ⋯ +70℃	0 ⋯ +50℃	0 ⋯ +100℃	-30 ⋯ +200℃	-40 ⋯ +140℃

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Ordering Guide

Model	Output	Sensitive components	Product number
KTT100-E	4-20mA (2-wire)	PT1000	04320000380000
KTT100-F	4-20mA (3-wire)		04320000390000
KTT100-G	0-10V		04320000400000
KTT100-H	RS485		04320000410000

KTT110 Temperature transmitter

KeramControls®
启元控制

Description

The KTT110 series duct mount transmitter is a low-cost temperature transmitter designed for temperature measurement in the HVAC field; it is suitable for building automation systems (BA systems) in commercial buildings and other conventional buildings

IP65 degree of protection facilitates simultaneous outdoor measurements; the transmitter output has 4-20mA, 0-10V and RS-485.

Features

- Temperature range from -40°C to +200°C
- 4-20mA, 0-10V, RS-485 output
- Standard accuracy ±0.3
- Protection class: IP65/NEMA4

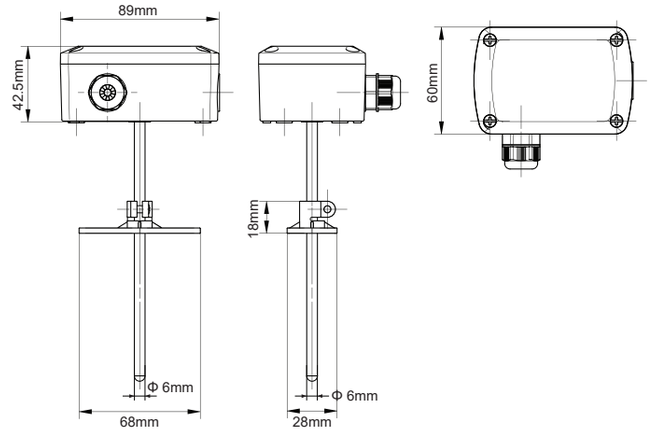
Application

KTT100 temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTT110
Accuracy	±0.3℃@20℃
Response time	<1 min, in 3m/s(590ft/min) air duct; <30 s, testing the liquid in pipe
Repeat stability	±0.01 % at FS/year
Media	Air and liquid
Operating temperature	-40 ⋯ +110℃(air duct)/-40 ⋯ +200℃ (lquid duct)
Storage temperature	-30℃ ⋯ +70℃
Measurement range	-40℃ ⋯ +200℃
Working & storage humidity range	5% RH ⋯ 95% RH，non-condensing
Power consumption	< 1.5W
Power supply	24VAC/DC ±10%
Output	4-20mA（2 wire）
	4-20mA（3 wire）
	0~5/0~10VDC（3 wire）
	RS-485
Housing material	PC& ABS，UL94V-0
Protection class	IP65/NEMA4
Cable gland	M16*1.5

Dimensions（mm）

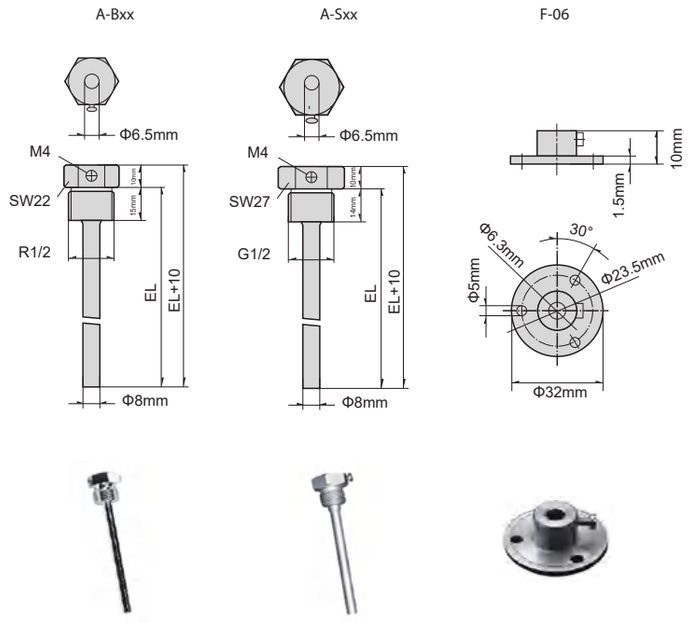


Measurement Range Adjustment

ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3
-40 ⋯ +70℃	0 ⋯ +50℃	0 ⋯ +100℃	-30 ⋯ +200℃	-40 ⋯ +140℃

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Accessory Dimension drawing



KTT110 Temperature Transmitter

Accessory

Model	Immersion sleeve diameter	Material	Maximum pressure	Max working temperature	Insertion length（EL）
A-B 50MM	8mm	Nickel-plated brass	10bar	150℃	50mm
A-B 100MM					100mm
A-B 150MM					150mm
A-B 200MM					200mm
A-B 250MM					250mm
A-B 300MM					300mm
A-B 350MM					350mm
A-B 400MM					400mm

Note: with neck tube(90mm)

Model	Immersion sleeve diameter	Material	Maximum pressure	Max working temperature	Insertion length（EL）
A-S 50/90MM	8mm	stainless steel	40bar	600℃	50mm
A-S 100/90MM					100mm
A-S 150/90MM					150mm
A-S 200/90MM					200mm
A-S 250/90MM					250mm
A-S 300/90MM					300mm

Note: with neck tube(90mm)

Model	Diameter	Maximum	Max working temperature	Material
F-06	32mm	6.3mm	700℃	Galvanized steel

Note: with neck tube(90mm)

Ordering Guilde

Model	Output	Sensitive components	Probe length	Product number
KTT110-AE	4-20mA (2 wire)	PT1000	65mm	04320300380000
KTT110-AF	4-20mA (3 wire)			04320300390000
KTT110-AG	0-10V			04320300400000
KTT110-AH	RS485			04320300410000
KTT110-BE	4-20mA (2 wire)		120mm	04320310380000
KTT110-BF	4-20mA (3 wire)			04320310390000
KTT110-BG	0-10V			04320310400000
KTT110-BH	RS485			04320310410000
KTT110-CE	4-20mA (2 wire)		150mm	04320210380000
KTT110-CF	4-20mA (3 wire)			04320210390000
KTT110-CG	0-10V			04320210400000
KTT110-CH	RS485			04320210410000
KTT110-DE	4-20mA (2 wire)		300mm	04320240380000
KTT110-DF	4-20mA (3 wire)			04320240390000
KTT110-DG	0-10V			04320240400000
KTT110-DH	RS485			04320240410000

KTT120 Temperature Transmitter

Description

KTT120 series cable transmitter is a low-cost temperature transmitter specially designed for temperature measurement, suitable for temperature measurement in various working environments; it can measure the temperature in air ducts and liquid pipes in different installations and Fixed accessories; the transmitter output has 4-20mA, 0-10V and RS-485.

Features

- Temperature range from -40°C to +200°C
- 4-20mA, 0-10V, RS-485 output
- Standard accuracy ±0.3
- Protection class: IP65/NEMA4

Application

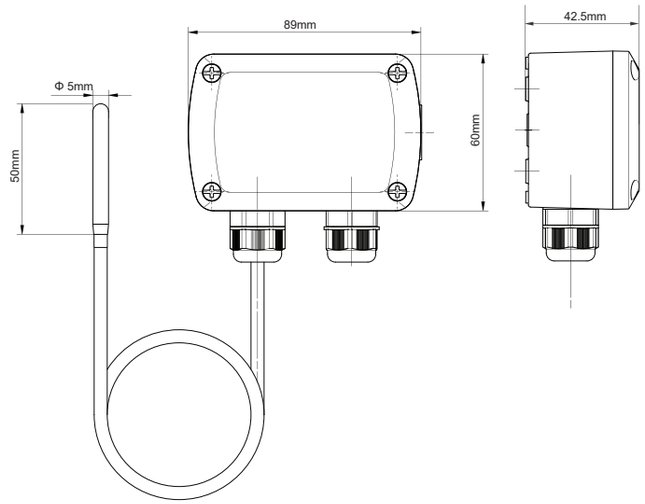
KTT100 temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTT120
Accuracy	±0.3℃@20℃
Response time	<1min，in 3m/s（590ft/min）In the air duct /<30s，Measure liquids in pipes
Repeat stability	±0.01 % at FS/year
Media	Air and liquid
Operating temperature	-30 ⋯ +200℃(probe)
	-30 ⋯ +70℃(body)
Storage temperature	-30℃ ⋯ +70℃
Measurement range	-40℃ ⋯ +200℃
Working & storage humidity range	5% RH ⋯ 95% RH，non-condensing
Power consumption	< 1.5W
Power supply	24VAC/DC ±10%
Output	4-20mA（2 wire）
	4-20mA（3 wire）
	0-5/0~10VDC（3 wire）
	RS-485
Housing material	PC& ABS，UL94V-0
Protection class	IP65/NEMA4
Cable gland	M16*1.5

KTT120 Temperature Transmitter

Dimensions（mm）



Measurement Range Adjustment

ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3
-40 ··· +70℃	0 ··· +50℃	0 ··· +100℃	-30 ··· +200℃	-40 ··· +140℃

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Ordering Guide

Model	Output	Sensitive components	Probe length	Product number
KTT120-LE	4-20mA (2 wire)	PT1000	3m	04340000160100
KTT120-KE			2m	04340000160200
KTT120-PE			0.5m	04340000160300
KTT120-LF	4-20mA (3 wire)		3m	04340000160400
KTT120-KF			2m	04340000170100
KTT120-PF			0.5m	04340000170200
KTT120-LG	0-10V		3m	04340000170300
KTT120-KG			2m	04340000170400
KTT120-PG			0.5m	04340000320100
KTT120-LH	RS485		3m	04340000320200
KTT120-KH			2m	04340000320300
KTT120-PH			0.5m	04340000320400

KTT130 Temperature Transmitter

Description

KTT130 series bundled transmitter is a low-cost temperature transmitter specially designed for pipe surface temperature measurement. Suitable for temperature measurement in various applications. The transmitter output mode has standard 4-20mA, 0-10V and RS-485.

Features

- Temperature range from -40℃ to +200℃
- 4-20mA, 0-10V, RS-485 output
- Standard accuracy ±0.3
- Protection class: IP65/NEMA4

Application

KTT100 temperature sensor for temperature measurement in heating, ventilation and air conditioning systems.

Technical Data

Model	KTT130
Accuracy	±0.3℃@20℃
Response time	<1min
Repeat stability	Air and liquid
Media	±0.01% at FS/year
Operating temperature	-30 ··· +70℃
Storage temperature	-30℃ ··· +70℃
Measurement range	-40℃ ··· +140℃
Working & storage humidity range	5% RH ··· 95% RH，non-condensing
Power consumption	< 1.5W
Power supply	24VAC/DC ±10%
Output	4-20mA（2 wire）
	4-20mA（3 wire）
	0-5/0~10VDC（3 wire）
	RS-485
Housing material	PC& ABS，UL94V-0
Protection class	IP65/NEMA4
Cable gland	M16*1.5

KTT130 Temperature Transmitter

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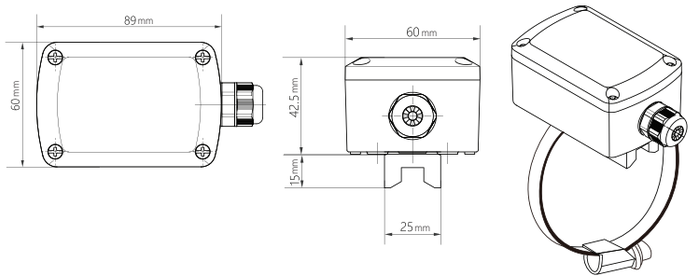
Dimension（mm）



Measurement Range Adjustment

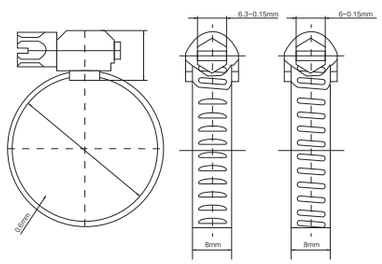
ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3	ON 1 2 3
-40 ··· +70℃	0 ··· +50℃	0 ··· +100℃	-30 ··· +200℃	-40 ··· +140℃

Output Setting（3 wire model）

ON 4 5	ON 4 5	ON 4 5
0-5V	0-10V	4-20mA

Note: During the installation process of the device, the device cannot be powered on; you can set it by the DIP switch; after the device is assembled, it can be connected to the power supply.

Accessory Dimension drawing



Model	Material	Max working temperature	Applicable pipe diameter
S-250MM	Stainless steel	300℃	250-400mm
S-400MM			400-600mm
S-600MM			600-800mm
S-800MM			800-1000mm
S-1000MM			1000-1600mm

Ordering Guide

Model	Output	Sensitive components	Clamp model	Product number
KTT130-VE	4-20mA (2 wire)	PT1000	250mm	04350000330100
KTT130-VF	4-20mA (3 wire)			04350000330200
KTT130-VG	0-10V			04350000330300
KTT130-VH	RS485			04350000330400
KTT130-WE	4-20mA (2 wire)		400mm	04350000340100
KTT130-WF	4-20mA (3 wire)			04350000340200
KTT130-WG	0-10V			04350000340300
KTT130-WH	RS485			04350000340400
KTT130-XE	4-20mA (2 wire)		600mm	04350000350100
KTT130-XF	4-20mA (3 wire)			04350000350200
KTT130-XG	0-10V			04350000350300
KTT130-XH	RS485			04350000350400
KTT130-YE	4-20mA (2 wire)		800mm	04350000360100
KTT130-YF	4-20mA (3 wire)			04350000360200
KTT130-YG	0-10V			04350000360300
KTT130-YH	RS485			04350000360400
KTT130-ZE	4-20mA (2 wire)		1000mm	04350000370100
KTT130-ZF	4-20mA (3 wire)			04350000370200
KTT130-ZG	0-10V			04350000370300
KTT130-ZH	RS485			04350000370400

Stable & high-precision wind speed and air volume measurement equipment

Measuring air speed and volume in ventilation and air conditioning systems helps maintain good air quality and efficient circulation in buildings.
Maintaining good air circulation in buildings is critical to maintaining the indoor environment, Especially in some specific environments, such as computer room, kinetic energy machine room, power equipment room and so on.

KeramControls®

KAV110 Wind Speed Transmitter

Description

KAV110 series ducted air velocity transmitter is an air velocity transmitter specially designed for obtaining accurate measurement results in building control applications and various ventilation systems.
KAV110 series wind speed transmitter adopts VTQ type wind speed sensitive element. The structural characteristics of the product shell and the mounting flange equipped in the box are convenient for quick installation and replacement on site.

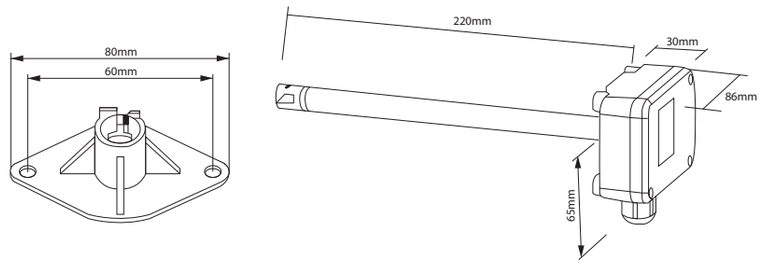
Features

- HVAC
- Filter pressure drop monitoring
- Flue gas treatment
- Suitable for textile, chemical industry, aviation, power plant, coal mine
- Ducted air flow, variable air volume systems, biological safety cabinets
- Small wind speed measurement in operating room, clean room, biological laboratory, electronics, medical environment and others

Technical Data

Model	KAV110
Power supply	16-24VAC or VDC
Output	4-20mA/ 0-5V/ 0-10V/ RS-485
Operating temperature	-5 ··· +70°C
Storage temperature	-20 ··· +70°C
Humidity range	0 ··· 90%RH
Measuring range	1~30m/s
Accuracy	0.2%FS
Working frequency	50Hz
Maximum wind speed/flow speed	30m/s
Electromagnetic compatibility	EN61326-1 (Industrial environment)
Housing material	ABS
Protection class	IP65/ NEMA4
Cable gland	M16*1.5

Dimension（mm）



KAV110 Wind Speed Transmitter

Ordering Guide

■Display ×No display

Model	Output	Range	Display	Product number
KAV110-1DE	4-20mA (2 wire)	0-1m/s	■	02090320010100
KAV110-2DE		0-2m/s		02090330010100
KAV110-3DE		0-5m/s		02090340010100
KAV110-4DE		0-10m/s		02090350010100
KAV110-5DE		0-15m/s		02090360010100
KAV110-6DE		0-20m/s		02090370010100
KAV110-7DE		0-30m/s		02090380010100
KAV110-1-E		0-1m/s	×	02090320020100
KAV110-2-E		0-2m/s		02090330020100
KAV110-3-E		0-5m/s		02090340020100
KAV110-4-E		0-10m/s		02090350020100
KAV110-5-E		0-15m/s		02090360020100
KAV110-6-E		0-20m/s		02090370020100
KAV110-7-E		0-30m/s		02090380020100
KAV110-1DF	4-20mA (3 wire)	0-1m/s	■	02090320010200
KAV110-2DF		0-2m/s		02090330010200
KAV110-3DF		0-5m/s		02090340010200
KAV110-4DF		0-10m/s		02090350010200
KAV110-5DF		0-15m/s		02090360010200
KAV110-6DF		0-20m/s		02090370010200
KAV110-7DF		0-30m/s		02090380010200
KAV110-1-F		0-1m/s	×	02090320020200
KAV110-2-F		0-2m/s		02090330020200
KAV110-3-F		0-5m/s		02090340020200
KAV110-4-F		0-10m/s		02090350020200
KAV110-5-F		0-15m/s		02090360020200
KAV110-6-F		0-20m/s		02090370020200
KAV110-7-F		0-30m/s		02090380020200
KAV110-1DG	0-10V	0-1m/s	■	02090320010300
KAV110-2DG		0-2m/s		02090330010300
KAV110-3DG		0-5m/s		02090340010300
KAV110-4DG		0-10m/s		02090350010300
KAV110-5DG		0-15m/s		02090360010300
KAV110-6DG		0-20m/s		02090370010300
KAV110-7DG		0-30m/s		02090380010300
KAV110-1-G		0-1m/s	×	02090320020300
KAV110-2-G		0-2m/s		02090330020300
KAV110-3-G		0-5m/s		02090340020300
KAV110-4-G		0-10m/s		02090350020300
KAV110-5-G		0-15m/s		02090360020300
KAV110-6-G		0-20m/s		02090370020300
KAV110-7-G		0-30m/s		02090380020300
KAV110-1DH	RS485	0-1m/s	■	02090320010400
KAV110-2DH		0-2m/s		02090330010400
KAV110-3DH		0-5m/s		02090340010400
KAV110-4DH		0-10m/s		02090350010400
KAV110-5DH		0-15m/s		02090360010400
KAV110-6DH		0-20m/s		02090370010400
KAV110-7DH		0-30m/s		02090380010400
KAV110-1-H		0-1m/s	×	02090320020400
KAV110-2-H		0-2m/s		02090330020400
KAV110-3-H		0-5m/s		02090340020400
KAV110-4-H		0-10m/s		02090350020400
KAV110-5-H		0-15m/s		02090360020400
KAV110-6-H		0-20m/s		02090370020400
KAV110-7-H		0-30m/s		02090380020400

KAV120 Wind Speed Transmitter

Description

KAV120 series wind speed transmitter adopts high temperature resistant and corrosion resistant material shell, which can achieve stable and reliable performance even in harsh working environment. Compared with traditional speed sensors, better stability can be obtained, faster and more accurate small air volume measurement and accuracy can be guaranteed, wide turndown ratio, full-scale accurate calibration of measurement data through internal microcontroller, linear compensation and The temperature compensation is all digital, resulting in excellent performance of high precision and high resolution.

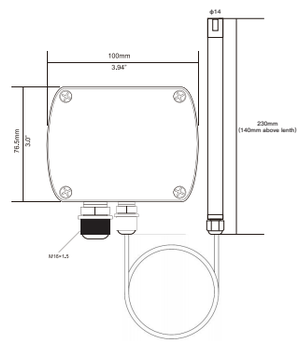
Features

- HVAC
- Filter pressure drop monitoring
- Flue gas treatment
- Suitable for textile, chemical industry, aviation, power plant, coal mine Ducted air flow, variable air volume systems, biological safety cabinets
- Small wind speed measurement in operating room, clean room, biological laboratory, electronics, medical environment and other fields

Technical Data

Model	KAV120
wer supply	16-24VAC or VDC
Output	4-20mA/ 0-5V/ 0-10V/ RS-485
Operating temperature	-5 ··· +70℃
Storage temperature	-20 ··· +70℃
Humidity range	0 ··· 90%RH
Measuring range	1~30m/s
Accuracy	0.2%FS
Working frequency	50Hz
Maximum wind speed/flow speed	30m/s
Electromagnetic compatibility	EN61326-1 (Industrial environment)
Housing material	ABS
Protection class	IP65/ NEMA4
Cable gland	M16*1.5

Dimension（mm）



KAV120 Wind Speed Transmitter

KeramControls®
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Ordering Guide

■Display ×No display

Model	Output	Range	Display	Cable length	Product number
KAV120-1D1ME	4-20mA (2 wire)	0-1m/s	■	1m	02100320010201
KAV120-2D1ME		0-2m/s			02100330010201
KAV120-3D1ME		0-5m/s			02100340010201
KAV120-4D1ME		0-10m/s			02100350010201
KAV120-5D1ME		0-15m/s			02100360010201
KAV120-6D1ME		0-20m/s			02100370010201
KAV120-7D1ME		0-30m/s			02100380010201
KAV120-1-1ME		0-1m/s	×		02100320020201
KAV120-2-1ME		0-2m/s			02100330020201
KAV120-3-1ME		0-5m/s			02100340020201
KAV120-4-1ME		0-10m/s			02100350020201
KAV120-5-1ME		0-15m/s			02100360020201
KAV120-6-1ME		0-20m/s			02100370020201
KAV120-7-1ME		0-30m/s			02100380020201
KAV120-1D1MF	4-20mA (3 wire)	0-1m/s	■		02100320010201
KAV120-2D1MF		0-2m/s			02100330010201
KAV120-3D1MF		0-5m/s			02100340010201
KAV120-4D1MF		0-10m/s			02100350010201
KAV120-5D1MF		0-15m/s			02100360010201
KAV120-6D1MF		0-20m/s			02100370010201
KAV120-7D1MF		0-30m/s			02100380010201
KAV120-1-1MF		0-1m/s	×		02100320020201
KAV120-2-1MF		0-2m/s			02100330020201
KAV120-3-1MF		0-5m/s			02100340020201
KAV120-4-1MF		0-10m/s			02100350020201
KAV120-5-1MF		0-15m/s			02100360020201
KAV120-6-1MF		0-20m/s			02100370020201
KAV120-7-1MF		0-30m/s			02100380020201
KAV120-1D1MG	0-10V	0-1m/s	■		02100320010301
KAV120-2D1MG		0-2m/s			02100330010301
KAV120-3D1MG		0-5m/s			02100340010301
KAV120-4D1MG		0-10m/s			02100350010301
KAV120-5D1MG		0-15m/s			02100360010301
KAV120-6D1MG		0-20m/s			02100370010301
KAV120-7D1MG		0-30m/s			02100380010301
KAV120-1-1MG		0-1m/s	×		02100320020301
KAV120-2-1MG		0-2m/s			02100330020301
KAV120-3-1MG		0-5m/s			02100340020301
KAV120-4-1MG		0-10m/s			02100350020301
KAV120-5-1MG		0-15m/s			02100360020301
KAV120-6-1MG		0-20m/s			02100370020301
KAV120-7-1MG		0-30m/s			02100380020301
KAV120-1D1MH	RS485	0-1m/s	■		02100320010401
KAV120-2D1MH		0-2m/s			02100330010401
KAV120-3D1MH		0-5m/s			02100340010401
KAV120-4D1MH		0-10m/s			02100350010401
KAV120-5D1MH		0-15m/s			02100360010401
KAV120-6D1MH		0-20m/s			02100370010401
KAV120-7D1MH		0-30m/s			02100380010401
KAV120-1-1MH		0-1m/s	×		02100320020401
KAV120-2-1MH		0-2m/s			02100330020401
KAV120-3-1MH		0-5m/s			02100340020401
KAV120-4-1MH		0-10m/s			02100350020401
KAV120-5-1MH		0-15m/s			02100360020401

Ordering Guide

■Display ×No display

Model	Output	Range	Display	Cable length	Product number
KAV120-6-1MH	RS485	0-20m/s	×	1m	02100370020401
KAV120-7-1MH		0-30m/s			02100380020401
KAV120-1D3ME	4-20mA (2 wire)	0-1m/s	■	3m	02100320010102
KAV120-2D3ME		0-2m/s			02100330010102
KAV120-3D3ME		0-5m/s			02100340010102
KAV120-4D3ME		0-10m/s			02100350010102
KAV120-5D3ME		0-15m/s			02100360010102
KAV120-6D3ME		0-20m/s			02100370010102
KAV120-7D3ME		0-30m/s			02100380010102
KAV120-1-3ME		0-1m/s	×		02100320020102
KAV120-2-3ME		0-2m/s			02100330020102
KAV120-3-3ME		0-5m/s			02100340020102
KAV120-4-3ME		0-10m/s			02100350020102
KAV120-5-3ME		0-15m/s			02100360020102
KAV120-6-3ME		0-20m/s			02100370020102
KAV120-7-3ME		0-30m/s			02100380020102
KAV120-1D3MF	4-20mA (3 wire)	0-1m/s	■		02100320010202
KAV120-2D3MF		0-2m/s			02100330010202
KAV120-3D3MF		0-5m/s			02100340010202
KAV120-4D3MF		0-10m/s			02100350010202
KAV120-5D3MF		0-15m/s			02100360010202
KAV120-6D3MF		0-20m/s			02100370010202
KAV120-7D3MF		0-30m/s			02100380010202
KAV120-1-3MF		0-1m/s	×		02100320020202
KAV120-2-3MF		0-2m/s			02100330020202
KAV120-3-3MF		0-5m/s			02100340020202
KAV120-4-3MF		0-10m/s			02100350020202
KAV120-5-3MF		0-15m/s			02100360020202
KAV120-6-3MF		0-20m/s			02100370020202
KAV120-7-3MF		0-30m/s			02100380020202
KAV120-1D3MG	0-10V	0-1m/s	■		02100320010302
KAV120-2D3MG		0-2m/s			02100330010302
KAV120-3D3MG		0-5m/s			02100340010302
KAV120-4D3MG		0-10m/s			02100350010302
KAV120-5D3MG		0-15m/s			02100360010302
KAV120-6D3MG		0-20m/s			02100370010302
KAV120-7D3MG		0-30m/s			02100380010302
KAV120-1-3MG		0-1m/s	×		02100320020302
KAV120-2-3MG		0-2m/s			02100330020302
KAV120-3-3MG		0-5m/s			02100340020302
KAV120-4-3MG		0-10m/s			02100350020302
KAV120-5-3MG		0-15m/s			02100360020302
KAV120-6-3MG		0-20m/s			02100370020302
KAV120-7-3MG		0-30m/s			02100380020302
KAV120-1D3MH	RS485	0-1m/s	■		02100320010402
KAV120-2D3MH		0-2m/s			02100330010402
KAV120-3D3MH		0-5m/s			02100340010402
KAV120-4D3MH		0-10m/s			02100350010402
KAV120-5D3MH		0-15m/s			02100360010402
KAV120-6D3MH		0-20m/s			02100370010402
KAV120-7D3MH		0-30m/s			02100380010402
KAV120-1-3MH		0-1m/s	×		02100320020402
KAV120-2-3MH		0-2m/s			02100330020402
KAV120-3-3MH		0-5m/s			02100340020402

KAV120 Wind Speed Transmitter

Ordering Guide

■Display ×No display

Model	Output	Range	Display	Cable length	Product number
KAV120-4-3MH	RS485	0-10m/s	×	3m	02100350020402
KAV120-5-3MH		0-15m/s			02100360020402
KAV120-6-3MH		0-20m/s			02100370020402
KAV120-7-3MH		0-30m/s			02100380020402
KAV120-1D5ME	4-20mA (2 wire)	0-1m/s	■	5m	02100320010103
KAV120-2D5ME		0-2m/s			02100330010103
KAV120-3D5ME		0-5m/s			02100340010103
KAV120-4D5ME		0-10m/s			02100350010103
KAV120-5D5ME		0-15m/s			02100360010103
KAV120-6D5ME		0-20m/s			02100370010103
KAV120-7D5ME		0-30m/s			02100380010103
KAV120-1-5ME		0-1m/s	×		02100320020103
KAV120-2-5ME		0-2m/s			02100330020103
KAV120-3-5ME		0-5m/s			02100340020103
KAV120-4-5ME		0-10m/s			02100350020103
KAV120-5-5ME		0-15m/s			02100360020103
KAV120-6-5ME		0-20m/s			02100370020103
KAV120-7-5ME		0-30m/s			02100380020103
KAV120-1D5MF	4-20mA (3 wire)	0-1m/s	■		02100320010203
KAV120-2D5MF		0-2m/s			02100330010203
KAV120-3D5MF		0-5m/s			02100340010203
KAV120-4D5MF		0-10m/s			02100350010203
KAV120-5D5MF		0-15m/s			02100360010203
KAV120-6D5MF		0-20m/s			02100370010203
KAV120-7D5MF		0-30m/s			02100380010203
KAV120-1-5MF		0-1m/s	×		02100320020203
KAV120-2-5MF		0-2m/s			02100330020203
KAV120-3-5MF		0-5m/s			02100340020203
KAV120-4-5MF		0-10m/s			02100350020203
KAV120-5-5MF		0-15m/s			02100360020203
KAV120-6-5MF		0-20m/s			02100370020203
KAV120-7-5MF		0-30m/s			02100380020203
KAV120-1D5MG	0-10V	0-1m/s	■		02100320010303
KAV120-2D5MG		0-2m/s			02100330010303
KAV120-3D5MG		0-5m/s			02100340010303
KAV120-4D5MG		0-10m/s			02100350010303
KAV120-5D5MG		0-15m/s			02100360010303
KAV120-6D5MG		0-20m/s			02100370010303
KAV120-7D5MG		0-30m/s			02100380010303
KAV120-1-5MG		0-1m/s	×		02100320020303
KAV120-2-5MG		0-2m/s			02100330020303
KAV120-3-5MG		0-5m/s			02100340020303
KAV120-4-5MG		0-10m/s			02100350020303
KAV120-5-5MG		0-15m/s			02100360020303
KAV120-6-5MG		0-20m/s			02100370020303
KAV120-7-5MG		0-30m/s			02100380020303
KAV120-1D5MH	RS485	0-1m/s	■		02100320010403
KAV120-2D5MH		0-2m/s			02100330010403
KAV120-3D5MH		0-5m/s			02100340010403
KAV120-4D5MH		0-10m/s			02100350010403
KAV120-5D5MH		0-15m/s			02100360010403
KAV120-6D5MH		0-20m/s			02100370010403
KAV120-7D5MH		0-30m/s			02100380010403
KAV120-1-5MH		0-1m/s	×		02100320020403
KAV120-2-5MH		0-2m/s			02100330020403
KAV120-3-5MH		0-5m/s			02100340020403
KAV120-4-5MH		0-10m/s			02100350020403
KAV120-5-5MH		0-15m/s			02100360020403
KAV120-6-5MH		0-20m/s			02100370020403
KAV120-7-5MH		0-30m/s			02100380020403

P 85-86

Flexible and efficient flow measurement equipment

As a sensor for gas and liquid flow measurement, it is widely used in water supply systems and drainage systems.The flow switch is made of plastic-reinforced glass optical fiber. When the fluid passes through, a magnetic field is generated and drives the reed switch, and then the signal is output.

Long-term stability

he measuring element is completely isolated from the medium and does not need spring return, so the product has a long service life and good stability.

KeramControls®

KAFS Air Flow Switch

KeramControls®
启元控制

Description

KAFS adjustable air flow switch is used to control and monitor the flow of air and non-corrosive gases in ducts, ideal for ducts, air conditioning and air handling systems.

Application

Control and monitor the flow of air and non corrosive gases in pipes, chambers, and heating, cooling, air conditioning equipment, etc.

Feature

- New SPDT micro switch to ensure reliable switching function
- Stainless steel paddle
- Cut in and cut out
- Brass lever
- IP65

Technical Data

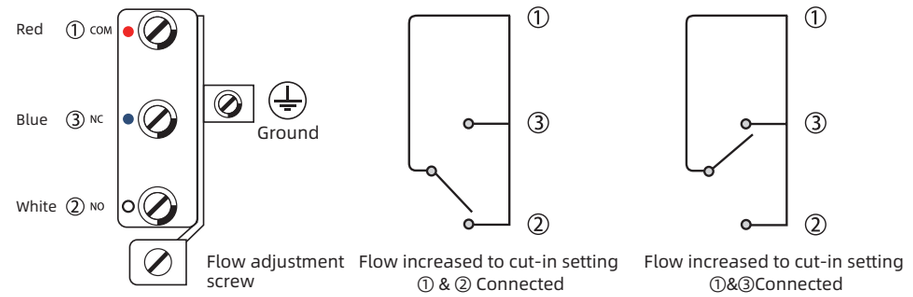
Model	KAFS
Operation type	On/Off, Single Stage, SPDT
Flow rate switch	
- cut out	min 1.0 m/ sec，max 8.0m/ sec
- cut in	min 2.5 m/ sec，max 9.2m/ sec
Flow setting adjustment	Internal thread screw
Sensing element	Paddle
Paddle size	3.2 x 6.9 in（80 x 175mm）
Paddle W/ level-length	7.9 in（200mm）
Operating temperature	Air and non-corrosive gases
Paddle material	Stainless steel
Paddle lever material	Brass
Operating temperature	
- Housing	-40°F至 185°F（-40°C至 85°C）
- Paddle	14°F至 185°F（-10°C至 85°C）
Operating temperature	10 ⋯ 90%RH，no condensation
Cable interface	M18
Housing material	ABS+PC
- Color	White
Protection class	IP54
Installation	Duct-mounted
Weight	0.7kg

Installation

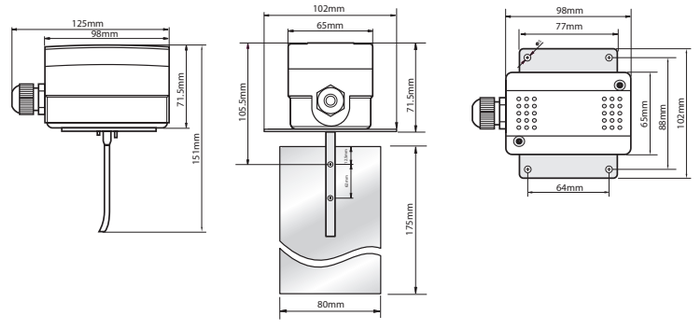
The flow switch should be installed in the pipe or chamber where the paddle can move downward freely. In order to avoid air vortex and paddle instability, the installation position should be in the middle of the distance from upstream to downstream, and the distance should be at least the diameter of the pipe 5 times the size.

Note:
These units are factory calibrated to the minimum shut-off value, if the set point needs to be increased, just adjust the span screw clockwise; due to the risk of breakage at air velocities above 5.0m/s, the paddles must be on the marked side Cutoff, when the

Electrical Wiring



Dimension（mm）



Ordering Guide

Model	Product number
KAFS	02110000000000

KWFS Liquid Flow Switch

KeramControls®
启元控制

Description

KWFS series liquid flow switch are suitable for piping in industrial plants: heating and air conditioning, refrigeration systems and heat pumps; flow control of water and general liquid media.

Features

- Flow control of water and common media
- New SPDT micro switch to ensure reliable switching function
- 15 (8A) 250VAC rated output value
- IP65
- Adjustable set value
- Stainless steel paddle
- Brass material
- Maximum fluid temperature 120°C
- Maximum working pressure 13.5Ba

Application

Applications for controlling and monitoring liquid flow in boilers, pumps, etc. of heating, cooling and air conditioning equipment.

Technical Data

Operation type	On/Off, Single Stage, SPDT
Output	SPDT，15(8A) 24/250VAC
Flow	See flow chart
Flow setting adjustment	Internal thread screw
Sensing element	Paddle
Media	Hot, cold, well, pool and sea water, brine or glycol
Materials of parts in contact with fluid	Brass
Paddle material	Stainless steel
Liquid temperature	-20°C ··· 120°C
Operating temperature	-40°C ··· 85°C
Operating humidity	10 ··· 90%RH，no condensation
Cable interface	M18
Housing material	ABS+PC
Protection class	IP65
Color	white
Weight	1.0Kg

Model

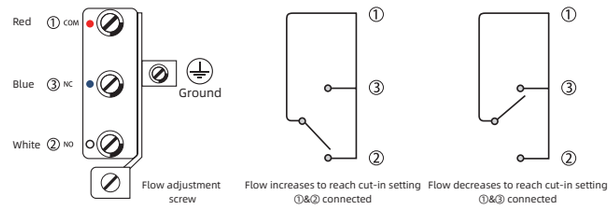
Mode	Connection
KWFS-1	1/2"-14 NPT
KWFS-2	3/4"-14 NPT
KWFS-3	1" -11½NPT

Liquid Flow Rate Table

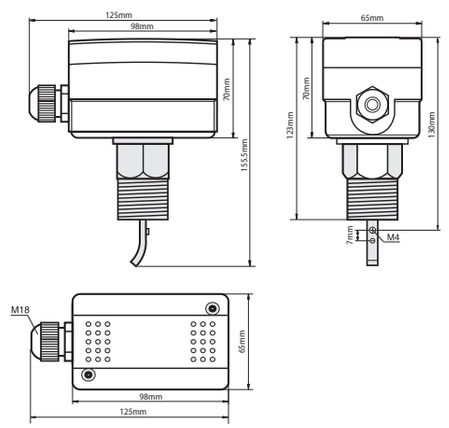
Line Pipe Size(in.)		1	1-¼	1-½	2	2-½	3	4	4Z	5	5Z	6	6Z	8	8Z
Min. flow	Flow increase ①&② connected	4.2 (1.0)	5.8 (1.3)	7.5 (1.7)	13.7 (3.1)	17.6 (4.0)	27.5 (6.2)	64.7 (14.7)	35.2 (8.0)	12.5 (28.4)	57.01 (12.9)	90.0 (43.1)	74.0 (16.8)	374.7 (85.1)	204.7 (46.5)
	Flow decrease ①&③ connected	2.5 (0.6)	3.7 (0.8)	5.0 (1.1)	13.7 (2.2)	11.9 (2.7)	19 (4.3)	50.1 (11.4)	26.9 (6.1)	101.1 (22.9)	41.0 (9.3)	158.0 (35.9)	54.0 (12.3)	319.7 (72.6)	170.0 (38.6)
Max. flow	Flow increase ①&② connected	9.2 (2.1)	13.3 (3.0)	17.6 (4.0)	26.9 (6.1)	30.8 (7.0)	50.2 (11.4)	127.6 (29.0)	81.0 (18.4)	245.0 (55.6)	118.0 (18.4)	374.7 (85.1)	144.0 (32.7)	759.5 (172.5)	415.0 (94.2)
	Flow decrease ①&③ connected	8.1 (1.9)	12.5 (2.8)	16.3 (3.7)	25.1 (5.7)	28.6 (6.5)	471 (10.7)	122.0 (27.7)	76.2 (17.3)	234.7 (53.3)	111.0 (25.2)	359.7 (81.7)	134.7 (30.6)	729.6 (165.7)	400.6 (90.8)

Note :
①The flow rate suffixed with "Z" must be installed with 6-inch blades; ②The flow unit in the above table is GPM (m/h).

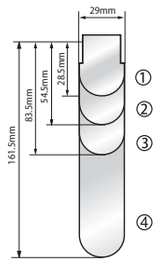
Electrical Wiring



Dimension（mm）



Paddle



Install paddle	
Pipe size	No.
1″	1
1 ¼″	1
1 ½″	1
2″	1,2
2 ½″	1,2
3″	1,2,3
4″	1,2,3
4″Z	1,2,3,4
5″	1,2,3,
5″Z	1,2,3,4
6″	1,2,3
6″Z	1,2,3,4
8″	1,2,3
8″Z	1,2,3,4

Ordering Guide

Model	Connection	Product number
KWFS-1	1/2''-14NPT	02120000101600
KWFS-2	3/4''-14NPT	02120000111600
KWFS-3	1''-11 1/2NPT	02120000121600

KWFS(S) Liquid Flow Switch

KeramControls®
启元控制

Application

Applications for controlling and monitoring liquid flow in boilers, pumps, etc. of heating, cooling and air conditioning equipment.

Description

KWFS（S）series liquid flow switch are suitable for piping in industrial plants: heating and air conditioning, refrigeration systems and heat pumps; flow control of water and general liquid media.

Features

- Flow control of water and common media
- New SPDT micro switch to ensure reliable switching function
- 15 (8A) 250VAC rated output value
- IP65
- Adjustable set value
- Stainless steel paddle
- 304 stainless steel material
- Maximum fluid temperature 120°C
- Maximum working pressure 13.5Ba

Technical Data

Operation type	On/Off, Single Stage, SPDT
Output	SPDT，15(8A) 24/250VAC
Flow	See flow chart
Flow setting adjustment	Internal thread screw
Sensing element	Paddle
Media	Hot, cold, well, pool and sea water, brine or glycol
Materials of parts in contact with fluid	304 Stainless steel
Paddle material	Stainless steel
Liquid temperature	-20°C ··· 120°C
Operating temperature	-40°C ··· 85°C
Operating humidity	10 ··· 90%RH，no condensation
Cable interface	M18
Housing material	ABS+PC
Protection class	IP65
Color	white
Weight	1.0Kg

Model

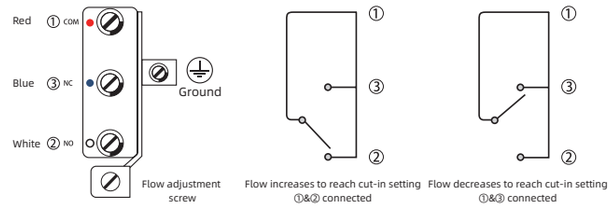
Model	Connection
KWFS(S)-1	1/2"-14 NPT
KWFS(S)-2	3/4"-14 NPT
KWFS(S)-3	1" -11½NPT

Liquid Flow Rate Table

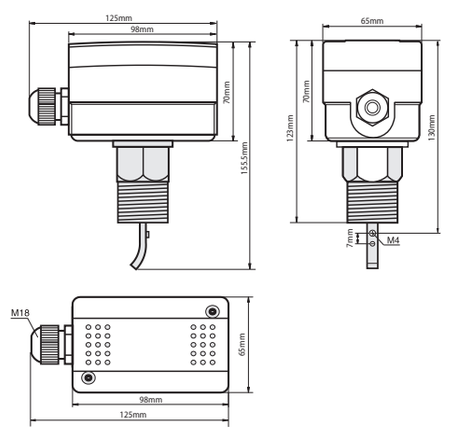
Line Pipe Size(in.)		1	1-¼	1-½	2	2-½	3	4	4Z	5	5Z	6	6Z	8	8Z
Min. flow	Flow increase ①&② connected	4.2 (1.0)	5.8 (1.3)	7.5 (1.7)	13.7 (3.1)	17.6 (4.0)	27.5 (6.2)	64.7 (14.7)	35.2 (8.0)	12.5 (28.4)	57.01 (12.9)	90.0 (43.1)	74.0 (16.8)	374.7 (85.1)	204.7 (46.5)
	Flow decrease ①&③ connected	2.5 (0.6)	3.7 (0.8)	5.0 (1.1)	13.7 (2.2)	11.9 (2.7)	19 (4.3)	50.1 (11.4)	26.9 (6.1)	101.1 (22.9)	41.0 (9.3)	158.0 (35.9)	54.0 (12.3)	319.7 (72.6)	170.0 (38.6)
Max. flow	Flow increase ①&② connected	9.2 (2.1)	13.3 (3.0)	17.6 (4.0)	26.9 (6.1)	30.8 (7.0)	50.2 (11.4)	127.6 (29.0)	81.0 (18.4)	245.0 (55.6)	118.0 (18.4)	374.7 (85.1)	144.0 (32.7)	759.5 (172.5)	415.0 (94.2)
	Flow decrease ①&③ connected	8.1 (1.9)	12.5 (2.8)	16.3 (3.7)	25.1 (5.7)	28.6 (6.5)	471 (10.7)	122.0 (27.7)	76.2 (17.3)	234.7 (53.3)	111.0 (25.2)	359.7 (81.7)	134.7 (30.6)	729.6 (165.7)	400.6 (90.8)

Note :
①The flow rate suffixed with "Z" must be installed with 6-inch blades; ②The flow unit in the

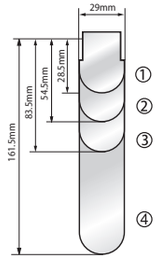
Electrical Wiring



Dimension（mm）



Paddle



Install paddle	
Pipe size	No.
1″	1
1 ¼″	1
1 ½″	1
2″	1,2
2 ½″	1,2
3″	1,2,3
4″	1,2,3
4″Z	1,2,3,4
5″	1,2,3,
5″Z	1,2,3,4
6″	1,2,3
6″Z	1,2,3,4
8″	1,2,3
8″Z	1,2,3,4

Ordering Guide

Model	Connection	Product number
KWFS(S)-1	1/2"-14NPT	02370000101700
KWFS(S)-2	3/4''-14NPT	02370000111700
KWFS(S)-3	1"-11 1/2NPT	02370000121700

JWFS Liquid Flow Switch

KeramControls®
启元控制

Application

Applications for controlling and monitoring liquid flow in boilers, pumps, etc. of heating, cooling and air conditioning equipment.

Description

JWFS liquid flow switch are suitable for piping in industrial plants: heating and air conditioning, refrigeration systems and heat pumps; flow control of water and general liquid media.

Features

- Flow control of water and common media
- New SPDT micro switch to ensure reliable switching function
- 15 (8A) 250VAC rated output value
- IP65
- Adjustable set value
- Stainless steel paddle
- Brass material
- Maximum fluid temperature 120°C
- Maximum working pressure 13.5Ba

Technical Data

Model	JWFS
Operation type	On/Off, Single Stage, SPDT
Output	单刀双掷 15(8A)24/250VAC
Flow	See flow chart
Flow setting adjustment	Internal thread screw
Sensing element	Paddle
Media	Hot, cold, well, pool and sea water, brine or glycol
Materials of parts in contact with fluid	Brass
Paddle material	Stainless steel
Liquid temperature	-20℃ ⋯ 120℃
Operating temperature	-40℃ ⋯ 85℃
Operating humidity	10 ⋯ 90%RH,no condensation
Cable interface	M18 Fitting
Protection class	IP65
Color	Grey
Weight	1.3Kg

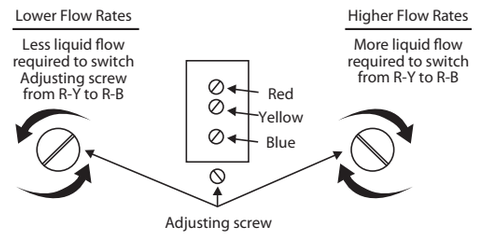
Model

Model	Connection
JWFS-1	1/2"-14 NPT
JWFS-2	3/4"-14 NPT
JWFS-3	1-11 NPT12

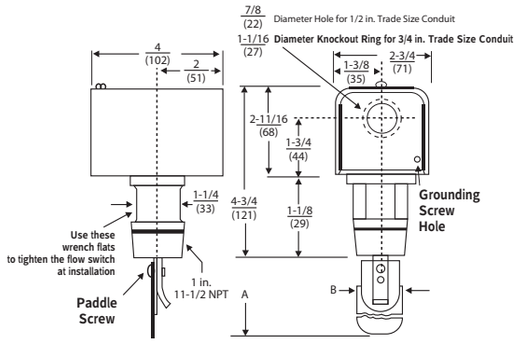
Liquid Flow Rate Table

GPM(m³ /hr) Required to Actuate Switch											
Pipe Size(in.)		1	1-1/4[1]	1-1/2[1]	2	2-1/2[2]	3	4[3]	5[3]	6[3]	8[3]
Min adjustment	Flow increse (R to Y close)	4.2 (0.95)	5.8 (1.32)	7.50 (1.70)	13.7 (3.11)	18.0 (4.09)	27.5 (6.24)	65.0 (14.8)	125 (28.4)	190 (43.2)	375 (85.2)
	Flow decrese (R to B close)	2.20 (0.57)	3.70 (0.84)	5.00 (0.84)	9.50 (2.16)	12.5 (2.16)	19.0 (4.32)	50.0 (11.4)	101 (22.9)	158 (35.9)	320 (727)
Max adjustment	Flow increse (R to Y close)	8.80 (2.00)	13.3 (3.02)	19.2 (4.36)	29.0 (6.59)	34.5 (7.84)	53.0 (12.0)	128 (29.1)	245 (55.6)	375 (85.2)	760 (173)
	Flow decrese (R to B close)	8.50 (1.93)	12.5 (2.84)	18.0 (4.01)	27.0 (6.13)	32.0 (7.27)	50.01 (11.4)	122 (27.7)	235 (53.4)	360 (81.8)	730 (166)

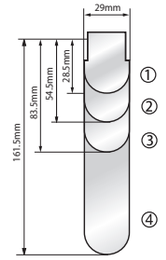
Electrical Wiring



Dimension (mm)



Paddle



Install paddle	
Pipe size	No.
1″	1
1 ¼″	1
1 ½″	1
2″	1,2
2 ½″	1,2
3″	1,2,3
4″	1,2,3
4″Z	1,2,3,4
5″	1,2,3,
5″Z	1,2,3,4
6″	1,2,3
6″Z	1,2,3,4
8″	1,2,3
8″Z	1,2,3,4

Ordering Guide

Model	Connection	Product number
JWFS-1	1/2''-14NPT	02140000100000
JWFS-2	3/4''-14NPT	02140000110000
JWFS-3	1''-11 1/2NPT	02140000120000

LQY Liquid Flow Switch

KeramControls®
启元控制

Description

LQY series liquid flow switch is used to monitor flow changes

The new SPDT micro switch ensures the reliability of the switching function

The maximum temperature of the medium is 120 ° C

Liquid pressure up to 1Mpa

3 stainless steel paddles, suitable for pipe diameter 25-75mm

6 additional paddles for 100-150mm pipe

Protection class IP54

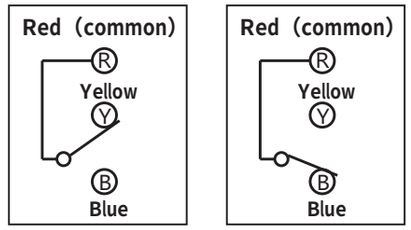
Various connections available on request

Maximum working pressure 13.5Bar

Power supply AC250V 10A

CE certification

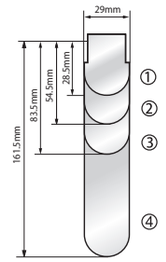
Contact Function



Flow increase

Flow decrease

Paddle

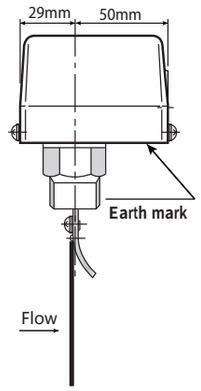


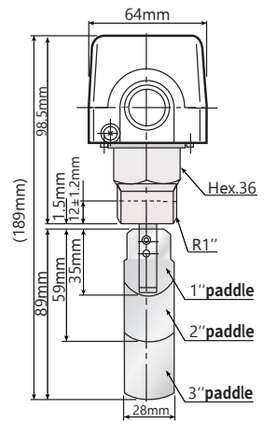
Install Paddle	
Pipe size	No.
1″	1
1 ¼″	1
1 ½″	1
2″	1,2
2 ½″	1,2
3″	1,2,3
4″	1,2,3
4″Z	1,2,3,4
5″	1,2,3,
5″Z	1,2,3,4
6″	1,2,3
6″Z	1,2,3,4
8″	1,2,3
8″Z	1,2,3,4

Liquid Flow Rate Table

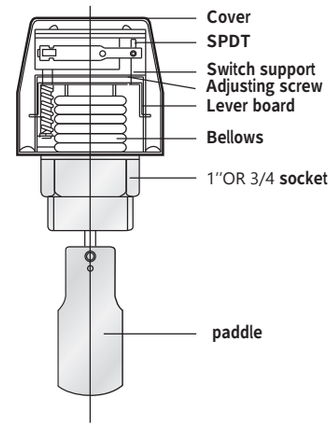
pipe size(in.)		1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8
Min flow	Flow Increase R to Y	1.0	1.3	1.7	3.1	4.1	6.2	8.4	12.9	16.8	46.6
	Flow decrease R to B	0.6	01	1.1	2.2	2.8	4.3	6.1	9.3	12.3	38.6
Max flow	Flow increase R to Y close	2.0	3.0	4.4	6.6	7.8	12.0	18.4	26.8	32.7	94.2
	Flow decrease R to B clese	1.9	2.8	4.1	6.1	7.3	11.4	17.3	25.2	30.7	90.8

Dimension（mm）





Structure



ModelModel

Model	Connection	Note
LQY50P	1″-11 1/2NPT	Plastic case
LQY50P-1	1″-11 1/2NPT	
LQY50P-2	1/2″-14 NPT	

Installation

The direction of the arrow on the shell should be consistent with the flow direction in the pipeline;

The water flow switch should be installed in a horizontal pipeline and must be installed vertically. If it needs to be installed on a vertical pipeline, the liquid flow should flow from bottom to top, and it is never allowed to be installed on a vertical pipeline that flows from top to bottom; the flow switch must be absolutely Reverse flow is not allowed to prevent the blades from breaking in reverse.

Ordering Guide

Model	Connection	Product number
LQY 50P-1	1/2"-14NPT	02130000100000
LQY 50P-2	3/4″-14NPT	02130000110000
LQY 50P-3	1"-11 1/2NPT	02130000120000

KFS1 Series Flow Switch

KeramControls®
启元控制

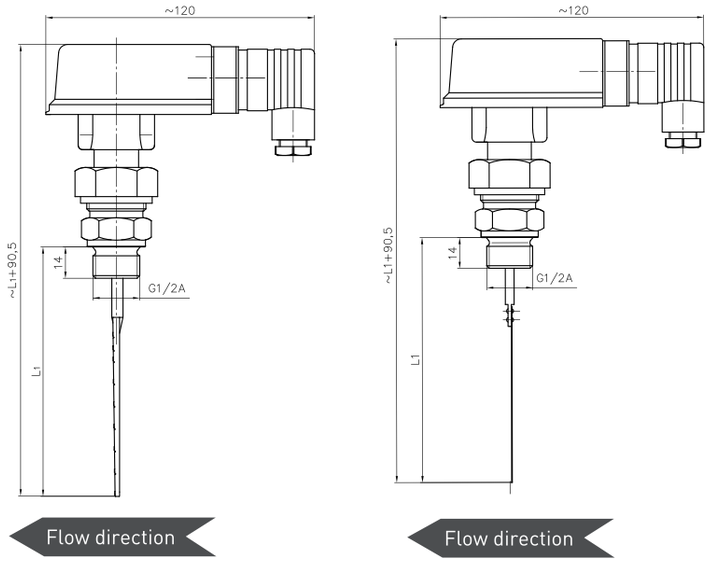
Description

KFS1 series flow switch adopts a new structural design to avoid contact between electrical parts and metal parts with large temperature fluctuations, and to avoid corrosion caused by condensed water in electrical parts. The use of high sensitivity micro switches ensures good repeatability of the product;The ABS+PC composite shell enhances the protection level of the product and improves the service life of the product; the product covers a variety of models to adapt to different application scenarios and measurement media, and is widely used in flow protection on HVAC automatic control and industrial fluid control.

Features

- HVAC system
- Industrial Automation System
- Air Compression & Industrial
- Refrigeration

Dimension（mm）



Technical Data

Model	KFS1
Max voltage	250 Vac, no status light
	24 Vdc±10%, status light
Max current	3A
Operating temperature	-20 ⋯ +90℃
Withstand voltage	PN 25/25 bar
Storage temperature	-20 ⋯ +70℃
Electrical connections	Regular outlet, Cable length 1.5m DIN EN 175301-803-A plug connector DIN EN 175301-803-A plug connector(LED status indicator) 4- Pin M12*1 aviation plug connector
Protection class	IP65
Average pressure loss	0.01 bar at Q.max
Material	Body: Nickel-plated brass Paddle: Stainless steel Seal: NBR Housing: PC+ABS
Media	Air or liquid

Ordering Guide

Model	T joint size	Paddle Material	Wiring	Product number
KFS-1SO	G3/4''	Stainlee steel	Normal connection	02410000131710
KFS-1SH			Regular Hirschman connection	02410000131711
KFS-1SH-LED			Hessmann+Led light connector	02410000131712
KFS-1SH-4pin			4-pin plug connector	02410000131713
KFS-1PO		Plastic	Normal connection	02410000131810
KFS-1PH			Regular Hirschman connection	02410000131811
KFS-1PH-LED			Hessmann+Led light connector	02410000131812
KFS-1PH-4pin			4-pin plug connector	02410000131813

KFS2 Series Flow Switch

KeramControls®
启元控制

Description

KFS2 liquid flow switch is made of brass or stainless steel. It has the characteristics of small size, unique design, excellent performance, high cost performance, and environmental protection. Compared with traditional flow switches, it has higher performance. KFS2 adopts plug-in installation, mechanical and magnetic switches.

Features

- Small pressure loss
- Good repeatability
- Dirty resistant
- Sealed separation of electrical and hydraulic
- Components without bellows
- Preservative

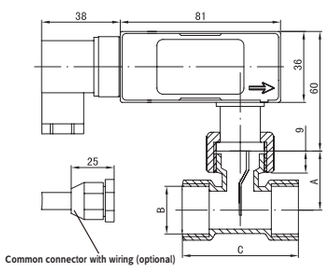
Application

It is mainly suitable for industrial automation/mechanical equipment/pneumatic industry/refrigeration and air conditioning; it can also work normally in sewage discharge systems due to the sealed separation of its electrical and hydraulic components.

Technical Data

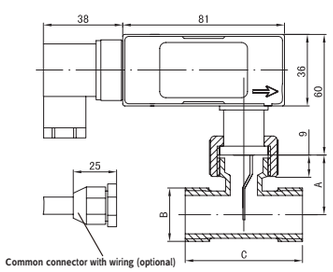
Max power supply	250VAC (no status light) 24VDC±10% (status light)
Max current	3A
connection method	DI 43650A c onnector/direct wiring (optional)
Output	SPST, one or two outputs optional, status light optional
Withstand voltage	25bar(optional)
Average pressure loss	0.01bar at maximum pressure
Operating temperature	-10~85℃
Protection class	IP65
Material	Valve body: nickel-plated brass; paddle: stainless steel; seal: NBR; housing: ABS+PC
Media	Water, oil and other non-corrosive gases

Dimension (with T-fitting) (mm)



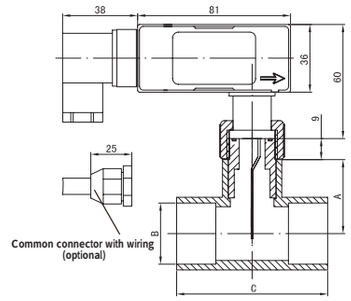
KFS2..BA with female thread T-fitting

Model	A	B	C
KFS2020BA	28	3/4"	58
KFS2025BA	34	1"	58
KFS2032BA	34	11/4"	72
KFS2040BA	34	11/2"	72
KFS2050BA	46	2"	72



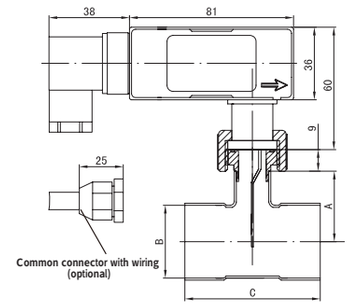
KFS2..BC with male tee

Model	A	B	C
KFS2020BC	28	3/4"	58
KFS2025BC	34	1"	58
KFS2032BC	34	11/4"	68



KFS2..BA with female thread T-fitting

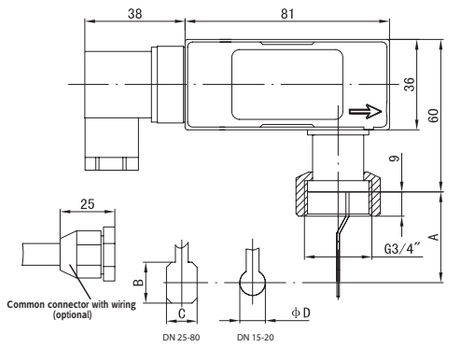
Model	A	B	C
KFS2025BH	34.5	Φ25	68
KFS2032BH	38.5	Φ32	80
KFS2040BH	42	Φ40	90
KFS2050BH	48	Φ50	98.5
KFS2063BH	55	Φ63	110



KFS2..BC with male thread T-fitting

Model	A	B	C
KFS2022BG	25	Φ22.3	55
KFS2025BG	27.5	Φ25.5	53
KFS2028BG	28.5	Φ28.8	56.7
KFS2032BG	32.8	Φ32.2	63.7
KFS2035BG	34.4	Φ35.1	66
KFS2042BG	35.4	Φ42.2	81.3

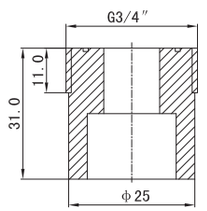
Dimension (No T-fitting) (mm)



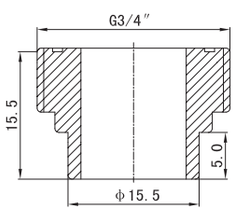
Model	A	B	C	D
KFS2020BD/F(20)	20	--	--	10
KFS2020BD/F (23)	24	--	--	10
KFS2020BD/F(24)	24	13.5	12	--
KFS2020BD/F(25)	26	16	12	--
KFS2020BD/F(26)	28	--	--	10
KFS2020BD/F(27)	28	13.5	12	--
KFS2020BD/F(28)	28	19	12	--
KFS2020BD/F (29)	30	16	12	--
KFS2020BD/F(30)	30	22	16	--
KFS2020BD/F(31)	32	--	--	10
KFS2020BD/F(32)	32	19	12	--
KFS2020BD/F(33)	34	13.5	12	--
KFS2020BD/F(34)	34	16	12	--
KFS2020BD/F (35)	34	22	16	--
KFS2020BD/F(36)	36	13.5	12	--
KFS2020BD/F (37)	36	19	12	--
KFS2020BD/F (38)	38	16	12	--
KFS2020BD/F (39)	38	22	16	--
KFS2020BD/F(40)	40	19	12	--
KFS2020BD/F(42)	42	22	16	--

Note: ( ) indicates the length of the paddle.

Optional Connector



PVC external thread adapter



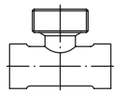
Solder Brass Connectors with copper T-fitting

Remark: "-A": Solder brass connector
"-B": PVC external thread adapter

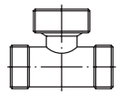
KFS2 Series Flow Switch

KeramControls®
启元控制

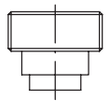
Optional T-fitting and Connectors



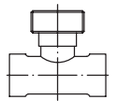
Female thread T-fitting
Brass
Stainless steel



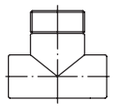
Male thread T-fitting
Brass
Stainless steel



Welding/soldering glue socket
Brass, Stainless steel,PVC



Welding T-fitting
Red copper



Glue T-fitting
PVC

Nomenclature

KFS2	008	B	A	1A	010	Specification
KFS2						KFSpaddle flow switch
	008					Nominal size：G1/4" (T-fitting size)
	010					Nominal size：G3/8" (T-fitting size)
	015					Nominal size：G1/2" (T-fitting size)
	020					Nominal size：G3/4" (T-fitting size)
	025					Nominal size：G1" (T-fitting size)
	032					Nominal size：G1-314" (T-fitting size)
	040					Nominal size：G1/2" (T-fitting size)
	...					...
		A				Body material：H59 brass
		B				Body Material: Nickel Plated Brass
		P				Body material: engineering plastics
		S				Body material: stainless steel
			A			Connection method: internal thread T-fitting
			C			Connection method: external thread T-fitting
			D			Connection method: Welding/soldering glue connector
			E			Connection method: female thread insertion (no T-fitting), inlet
			F			Thread：G3/4" and G1"
			H			Connection method: threaded/plug-in (no T-fitting), imported
			G			Thread：G3/4"
				1A		Connection method: U-PVC plastic T-fitting
				2A		Connection method: Copper T-fitting
					1	Cable: DIN43650, the letter indicates the connection method, see the wiring
					...	...

Before you order

1. Please indicate flow indication, measurement substance, nominal size and adjustable range in the order
2. For viscous liquids, please indicate the viscosity, temperature and measuring substance
3. For gaseous medium, please indicate the pressure (relative or absolute), temperature and measuring substance

Ordering Guide

Model	T-fitting size	T-fitting material	Wiring	Product number
KFS-2015BAO	G1/2"	Internal thread (brass)	Common qualifying	02400580141610
KFS-2020BAO	G3/4"			02400580131610
KFS-2025BAO	G1"			02400580461610
KFS-2032BAO	G1 1/4"			02400580471610
KFS-2040BAO	G1 1/2"			02400580481610
KFS-2050BAO	G2"			02400580491610
KFS-2015BCO	G1/2"	External thread (brass)		02400590141610
KFS-2020BCO	G3/4"			02400590131610
KFS-2025BCO	G1"			02400590461610
KFS-2032BCO	G1 1/4"			02400590471610
KFS-2040BCO	G1 1/2"			02400590481610
KFS-2050BCO	G2"			02400590491610
KFS-2025BHO	Φ25mm（PVC diameter）	PVC		02400600500010
KFS-2032BHO	Φ32mm（PVCdiameter）			02400600510010
KFS-2040BHO	Φ40mm（PVCdiameter）			02400600520010
KFS-2050BHO	Φ50mm（PVCdiameter）			02400600530010
KFS-2022BGO	Φ22.3mm(copper diameter)	Brazed joints		02400610540010
KFS-2025BGO	Φ25.5mm(copper diameter)			02400610550010
KFS-2028BGO	Φ28.8mm(copper diameter)			02400610560010
KFS-2032BGO	Φ32.2mm(copper diameter)			02400610570010
KFS-2015BAH	G1"	Internal thread (brass	Hirschman connection	02400580141611
KFS-2020BAH	G1 1/4"			02400580131611
KFS-2025BAH	G1 1/2"			02400580461611
KFS-2032BAH	G2"			02400580471611
KFS-2040BAH	G1/2"			02400580481611
KFS-2050BAH	G3/4"	External thread (brass)		02400580491611
KFS-2015BCH	G1"			02400590141611
KFS-2020BCH	G1 1/4"			02400590131611
KFS-2025BCH	G1 1/2"			02400590461611
KFS-2032BCH	G2"			02400590471611
KFS-2040BCH	G1/2"			02400590481611
KFS-2050BCH	G3/4"			02400590491611
KFS-2025BHH	Φ25mm（PVC diameter）	PVC		02400600500011
KFS-2032BHH	Φ32mm（PVC diameter）			02400600510011
KFS-2040BHH	Φ40mm（PVC diameter）			02400600520011
KFS-2050BHH	Φ50mm（PVC diameter）			02400600530011
KFS-2022BGH	Φ22.3mm(copper diameter)	Brazed joints		02400610540011
KFS-2025BGH	Φ25.5mm(copper diameter)			02400610550011
KFS-2028BGH	Φ28.8mm(copper diameter)			02400610560011
KFS-2032BGH	Φ32.2mm(copper diameter)			02400610570011
KFS-2015BAH-LED	G1 1/2"	Internal thread (brass)	Hessmann+ Led light connector	02400580141612
KFS-2020BAH-LED	G2"			02400580131612

KFS2 Series Flow Switch

Ordering Guide

Model	T-fitting size	T-fitting material	Wiring	Product number
KFS-2025BAH-LED	G1/2''	Internal thread (brass)	Hessmann+ Led light connector	02400580461612
KFS-2032BAH-LED	G3/4''			02400580471612
KFS-2040BAH-LED	G1''			02400580481612
KFS-2050BAH-LED	G1 1/4''			02400580491612
KFS-2015BCH-LED	G1 1/2''	External thread (brass)		02400590141612
KFS-2020BCH-LED	G2''			02400590131612
KFS-2025BCH-LED	G1/2''			02400590461612
KFS-2032BCH-LED	G3/4''			02400590471612
KFS-2040BCH-LED	G1''			02400590481612
KFS-2050BCH-LED	G1 1/4''			02400590491612
KFS-2025BHH-LED	Φ25mm（PVC diameter）	PVC		02400600500012
KFS-2032BHH-LED	Φ32mm（PVC diameter）			02400600510012
KFS-2040BHH-LED	Φ40mm（PVC diameter）			02400600520012
KFS-2050BHH-LED	Φ50mm（PVC diameter）			02400600530012
KFS-2022BGH-LED	Φ22.3mm(copper diameter)	Brazed joints		02400610540012
KFS-2025BGH-LED	Φ25.5mm(copper diameter)			02400610550012
KFS-2028BGH-LED	Φ28.8mm(copper diameter)			02400610560012
KFS-2032BGH-LED	Φ32.2mm(copper diameter)			02400610570012
KFS-2015BA-4pin	G1/2''	Internal thread (brass)	4-pin plug connector	02400580141613
KFS-2020BA-4pin	G3/4''			02400580131613
KFS-2025BA-4pin	G1''			02400580461613
KFS-2032BA-4pin	G1 1/4''			02400580471613
KFS-2040BA-4pin	G1 1/2''			02400580481613
KFS-2050BA-4pin	G2''			02400580491613
KFS-2015BC-4pin	G1/2''	External thread (brass)		02400590141613
KFS-2020BC-4pin	G3/4''			02400590131613
KFS-2025BC-4pin	G1''			02400590461613
KFS-2032BC-4pin	G1 1/4''			02400590471613
KFS-2040BC-4pin	G1 1/2''			02400590481613
KFS-2050BC-4pin	G2''			02400590491613
KFS-2025BH-4pin	Φ25mm（PVC diameter）	PVC		02400600500013
KFS-2032BH-4pin	Φ32mm（PVC diameter）			02400600510013
KFS-2040BH-4pin	Φ40mm（PVC diameter）			02400600520013
KFS-2050BH-4pin	Φ50mm（PVC diameter）			02400600530013
KFS-2022BG-4pin	Φ22.3mm(copper diameter)	Brazed joints		02400610540013
KFS-2025BG-4pin	Φ25.5mm(copper diameter)			02400610550013
KFS-2028BG-4pin	Φ28.8mm(copper diameter)			02400610560013
KFS-2032BG-4pin	Φ32.2mm(copper diameter)			02400610570013

KMFS1 Series Flow Switch

Description

KMFS1 electromagnetic flow switch is a target type paddle flow switch, mainly suitable for the refrigeration industry, indoor and commercial central air conditioners (water chillers)

Features

- Use reed switch sensor, magnetic control, no power consumption
- High sensitivity and stable performance
- High product reliability, key components have passed UL certification
- Using a magnetic reed switch as the sensing element, the product has a long service life.
- The switch depends on the flow rate and has no relevant with temperature and pressure.
- Flexible application, can be selected according to actual application
- Different mounting connections and adjustable target lengths

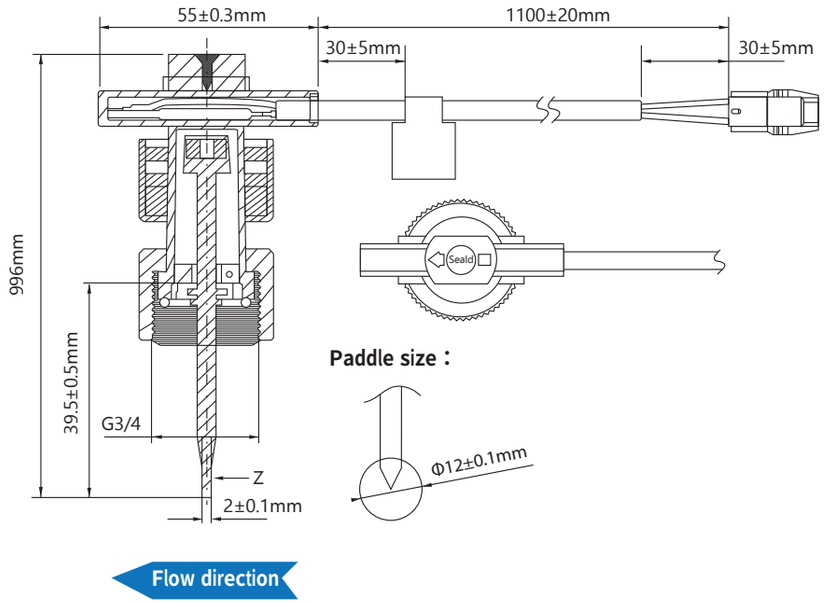
Technical Data

Model	KMFS1
Connection method	Normally open
perating temperature	–10~+ 70℃ (not frozen)
Maximum power supply	25W
Max voltage	AC 220V+ 15% (0.1A MAX)
Max current	1A
Protection class	IP65
Humidity	90–95%,40℃,48H
Media temperature	MAX +100℃
Media	Water(no frozen)
Rating pressure	PN10 (0.1Mpa)
Mounted position	Vertical tube, downward flow or horizontal tube, horizontal flow

Range

Nominal diameter	Threaded connection	Set value range		Max flow rate(L/min)
		Increase flow ON	Decrease flow OFF	
DN8	G1/4	2.7 ··· 3.0	2.6 ··· 2.9	15
DN10	G3/8	3.0 ··· 3.8	2.8 ··· 3.7	20
DN15	G1/2	3.8 ··· 5.1	3.6 ··· 4.9	30
DN15	G1/2 male	3.0 ··· 3.8	2.8 ··· 3.7	20
DN15	G3/4 male	3.0 ··· 3.8	2.8 ··· 3.7	20
DN20	G3/4	7.2 ··· 9.0	6.9 ··· 8.7	80
DN25	G1	13.0 ··· 16.5	12.3 ··· 15.9	130
DN32	G11/4	16.5 ··· 21.0	16.0 ··· 20.5	180
DN40	G1 1/2	27.0 ··· 33.5	25.5 ··· 32.5	300
DN50	G2	41.5 ··· 53.5	40.6 ··· 52.8	350

Dimension（mm）



Threaded connection D1	L1	L2	H
G1/4	11	50	27
G3/8	11	50	27
G1/2	11	50	27
G1/2male	10	60	--
G3/4male	11	50	--
G3/4	15	50	32
G1	15	50	41
G11/4	15	50	48
G1 1/2	15	50	55
G2	22	64	70

Ordering Guide

Model	T-fitting size	T-fitting material	Wiring	Product number
KMFS1-2015BAO	G1/2''	Internal thread (brass)	Common qualifying	02150580141610
KMFS1-2020BAO	G3/4''			02150580131610
KMFS1-2025BAO	G1''			02150580461610
KMFS1-2032BAO	G1 1/4''			02150580471610
KMFS1-2040BAO	G1 1/2''			02150580481610
KMFS1-2050BAO	G2''			02150580491610
KMFS1-2015BAH	G1/2''		Hirschman joint	02150580141611
KMFS1-2020BAH	G3/4''			02150580131611
KMFS1-2025BAH	G1''			02150580461611
KMFS1-2032BAH	G1 1/4''			02150580471611
KMFS1-2040BAH	G1 1/2''			02150580481611
KMFS1-2050BAH	G2''			02150580491611
KMFS1-2015BAH-LED	G1/2''		Hessmann+ Led light connector	02150580141612
KMFS1-2020BAH-LED	G3/4''			02150580131612
KMFS1-2025BAH-LED	G1''			02150580461612
KMFS1-2032BAH-LED	G1 1/4''			02150580471612
KMFS1-2040BAH-LED	G1 1/2''			02150580481612
KMFS1-2050BAH-LED	G2''			02150580491612
KMFS1-2015BA-4Pin	G1/2''		4-pin plug connector	02150580141613
KMFS1-2020BA-4Pin	G3/4''			02150580131613
KMFS1-2025BA-4Pin	G1''			02150580461613
KMFS1-2032BA-4Pin	G1 1/4''			02150580471613
KMFS1-2040BA-4Pin	G1 1/2''			02150580481613
KMFS1-2050BA-4Pin	G2''			02150580491613
KMFS1-2015BCO	G1/2''	External thread (brass)	Common qualifying	02150590141610
KMFS1-2020BCO	G3/4''			02150590131610
KMFS1-2025BCO	G1''			02150590461610
KMFS1-2032BCO	G1 1/4''			02150590471610
KMFS1-2040BCO	G1 1/2''			02150590481610
KMFS1-2050BCO	G2''			02150590491610
KMFS1-2015BCH	G1/2''		Hirschman joint	02150590141611
KMFS1-2020BCH	G3/4''			02150590131611
KMFS1-2025BCH	G1''			02150590461611
KMFS1-2032BCH	G1 1/4''			02150590471611
KMFS1-2040BCH	G1 1/2''			02150590481611
KMFS1-2050BCH	G2''			02150590491611
KMFS1-2015BCH-LED	G1/2''		Hessmann+ Led light connector	02150590141612
KMFS1-2020BCH-LED	G3/4''			02150590131612
KMFS1-2025BCH-LED	G1''			02150590461612
KMFS1-2032BCH-LED	G1 1/4''			02150590471612
KMFS1-2040BCH-LED	G1 1/2''			02150590481612
KMFS1-2050BCH-LED	G2''			02150580141610

KMFS1 Series Flow Switch

Ordering Guide

Model	T-fitting size	T-fitting material	Wiring	Product number
KMFS1-2015BC-4Pin	G1/2''	External thread (brass)	4-pin plug connector	02150580131610
KMFS1-2020BC-4Pin	G3/4''			02150580461610
KMFS1-2025BC-4Pin	G1''			02150580471610
KMFS1-2032BC-4Pin	G1 1/4''			02150580481610
KMFS1-2040BC-4Pin	G1 1/2''			02150580491610
KMFS1-2050BC-4Pin	G2''			02150580141611
KMFS1-2025BHO	Φ25mm（PVC diameter）	PVC	Common qualifying	02150600500010
KMFS1-2032BHO	Φ32mm（PVC diameter）			02150600510010
KMFS1-2040BHO	Φ40mm（PVC diameter）			02150600520010
KMFS1-2050BHO	Φ50mm（PVC diameter）			02150600530010
KMFS1-2025BHH	Φ25mm（PVC diameter）		Hirschman joint	02150600500011
KMFS1-2032BHH	Φ32mm（PVC diameter）			02150600510011
KMFS1-2040BHH	Φ40mm（PVC diameter）			02150600520011
KMFS1-2050BHH	Φ50mm（PVC diameter）			02150600530011
KMFS1-2025BHH-LED	Φ25mm（PVC diameter）		Hessmann+ Led light connector	02150600500012
KMFS1-2032BHH-LED	Φ32mm（PVC diameter）			02150600510012
KMFS1-2040BHH-LED	Φ40mm（PVC diameter）			02150600520012
KMFS1-2050BHH-LED	Φ50mm（PVC diameter）			02150600530012
KMFS1-2025BH-4Pin	Φ25mm（PVC diameter）		4-pin plug connector	02150600500013
KMFS1-2032BH-4Pin	Φ32mm（PVC diameter）			02150600510013
KMFS1-2040BH-4Pin	Φ40mm（PVC diameter）			02150600520013
KMFS1-2050BH-4Pin	Φ50mm（PVC diameter）			02150600530013
KMFS1-2022BGO	Φ22.3mm(copper diameter)	Brazed joints	Common qualifying	02150610540010
KMFS1-2025BGO	Φ25.5mm(copper diameter)			02150610550010
KMFS1-2028BGO	Φ28.8mm(copper diameter)			02150610560010
KMFS1-2032BGO	Φ32.2mm(copper diameter)			02150610570010
KMFS1-2022BGH	Φ22.3mm(copper diameter)		Hirschman joint	02150610540011
KMFS1-2025BGH	Φ25.5mm(copper diameter)			02150610550011
KMFS1-2028BGH	Φ28.8mm(copper diameter)			02150610560011
KMFS1-2032BGH	Φ32.2mm(copper diameter)			02150610570011
KMFS1-2022BGH-LED	Φ22.3mm(copper diameter)		Hessmann+ Led light connector	02150610540012
KMFS1-2025BGH-LED	Φ25.5mm(copper diameter)			02150610550012
KMFS1-2028BGH-LED	Φ28.8mm(copper diameter)			02150610560012
KMFS1-2032BGH-LED	Φ32.2mm(copper diameter)			02150610570012
KMFS1-2022BG-4Pin	Φ22.3mm(copper diameter)		4-pin plug connector	02150610540013
KMFS1-2025BG-4Pin	Φ25.5mm(copper diameter)			02150610550013
KMFS1-2028BG-4Pin	Φ28.8mm(copper diameter)			02150610560013
KMFS1-2032BG-4Pin	Φ32.2mm(copper diameter)			02150610570013

KMFS2 Series Flow Switch

Description

KMFS2 electromagnetic flow switch is a target type paddle flow switch, mainly suitable for the refrigeration industry, indoor and commercial central air conditioners (water chillers)

Features

- Use reed switch sensor, magnetic control, no power consumption
- High sensitivity and stable performance
- High product reliability, key components have passed UL certification
- Using a magnetic reed switch as the sensing element, the product has a long service life.
- The switch depends on the flow rate and has nothing to do with temperature and pressure.
- Flexible application, can be selected according to actual application
- Different mounting connections and adjustable target lengths

Technical Data

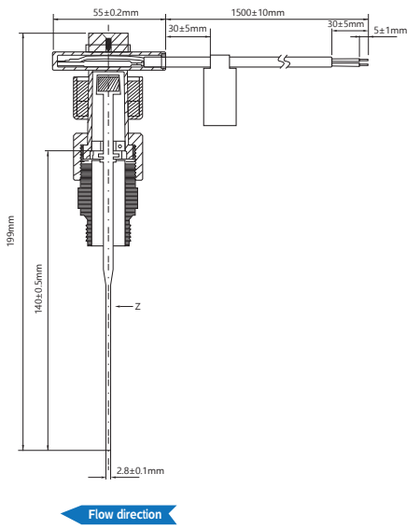
Model	KMFS2
Connection method	Normally open
perating temperature	-10~+70℃ (not frozen)
Maximum power supply	25W
Max voltage	AC 220V+ 15% (0.1A MAX)
Max current	1A
Protection class	IP 65
Humidity	90-95%,40℃,48H
Media temperature	Max+100℃
Media	Water(no frozen)
Rating pressure	PN10 (0.1Mpa)
Mounted position	Tee and Solder Sockets

Range

Nominal diameter	Set value range		Max flow rate(L/min)
	Increase flow ON	Decrease flow OFF	
DN25	1 ··· 1.2	0.9 ··· 1	10
DN32	1.7 ··· 2	1.5 ··· 1.7	20
DN40	2 ··· 3.3	1.8 ··· 3	34
DN50	2.6 ··· 4.8	2.4 ··· 4.6	55
DN65	4.5 ··· 8.8	4.2 ··· 8.5	50
DN80	5.1 ··· 13.8	4.7 ··· 11.3	80
DN100	6.2 ··· 18.8	5.9 ··· 16.3	110
DN150	15.7 ··· 27	14.3 ··· 25	150
DN200	30 ··· 45	29 ··· 43.5	230

KMFS2 Series Flow Switch

Dimension（mm）



Technical Data

Pressure	PN10
Temperature	
Media temperature	-25~100℃
Operating temperature	-25~70℃
Electrical data	
Electrical connections	**1.5mPVC Sheathed cable**
Current	Max.1A
Voltage	Max.230VAC, 48VDC
Max power	Max, 26VA, 20W
Protection class	IP65
Protection class	Class II

Ordering Guide

Model	T-fitting size	T-fitting material	wiring	Product number
KMFS2-SO	G3/4''	Stainless steel	Normal connection	02160000131710
KMFS2-SH			Hirschman connection	02160000131711
KMFS2-SH-LED			Hessmann+Led light connector	02160000131712
KMFS2-S-4Pin			4-pin plug connector	02160000131713
KMFS2-PO		Plastic	Normal connection	02160000131810
KMFS2-PH			Hirschman connection	02160000131811
KMFS2-PH-LED			Hessmann+Led light connector	02160000131812
KMFS2-P-4Pin			4-pin plug connector	02160000131813

Air Quality Sensors for Various Applications

Keram Controls air quality sensors cover a variety of air quality measurement applications, At the same time, the ventilation can be optimized and controlled on demand, so as to achieve energy saving and emission reduction. The product has high precision, multi-group parameter combination models, and various installation types.

KeramControls®

KAQ-CO2 Transmitter

KeramControls®
启元控制

Description

KAQ CO2 wall mounted transmitter for detection of CO2 in various room and oce spaces. For direct connection to a DDC or a monitoring system, using 4-20mA, 0-10V, Rs-485 outputs.

KAQ CO2 adopts single light source infrared measurement technology, which has high anti-pollution ability, long service life and high stability.

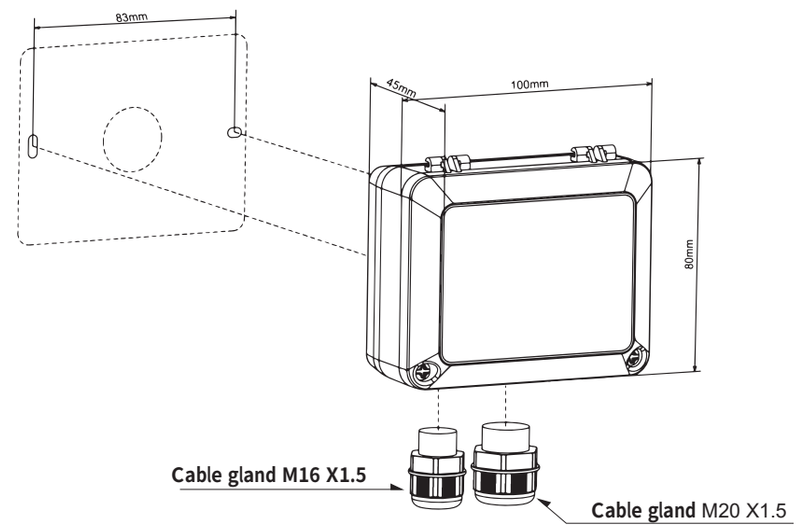
Application

- HVAC system
- Energy-saving ventilation control
- Building automation

Features

- Shell connected by hinge
  - More convenient wiring and setting
- M16、M20 double cable connector
  - Meet the tribute to the installation of ϕ12mm cable
- Smooth and at surface
  - Prevent the pollution of the shell surface in harsh environment
- CO2 automatic calibration
- Long-term stability
- Temperature compensation

Dimension（mm）



Technical Data

Model	KAQ CO2
Power supply	16-30V DC (2 wire 4-20mA)
	16-30V AC or V DC (0-10V/RS 485)
Output	4-20mA / 0-10V/ Rs 485
Operating temperature	-10 ··· +50℃
Operating humidity	0-95% non-condensing
Storage temperature	-30 ··· +70℃
Response time	30s
Data Refresh Frequency	1s
Measuring range	0-10000 ppm
Accuracy	±50 ppm+5% measurements
Cable gland	M16*1.5 and M20*1.5

Ordering Guide

Model	Output	Measuring range	Product number
KAQ CO2-E-2K	4-20mA (2 wire)	0-2000 ppm	05450000000114
KAQ CO2-E-5K		0-5000 ppm	05450000000115
KAQ CO2-E-10K		0-10000 ppm	05450000000116
KAQ CO2-G-2K	0-10V	0-2000 ppm	05450000000314
KAQ CO2-G-5K		0-5000 ppm	05450000000315
KAQ CO2-G-10K		0-10000 ppm	05450000000316
KAQ CO2-H-2K	RS485	0-2000 ppm	05450000000414
KAQ CO2-H-5K		0-5000 ppm	05450000000415
KAQ CO2-H-10K		0-10000 ppm	05450000000416

KTHP100 Diff pressure & temp and RH Transmitter

KeramControls®
启元控制

Application

HVAC System
Greenhouse
Food transportation
Refrigeration
Clean room environment

Description

KTHP100 Series Temperature Humidity & Differential Pressure Transmitters are used to measure relative humidity, temperature and differential pressure in various application areas, as well as monitor building energy management systems.KTHP100 series temperature, humidity & differential pressure transmitters are easy to install, have high precision, stable and reliable operation, and are ideal for various harsh environments.

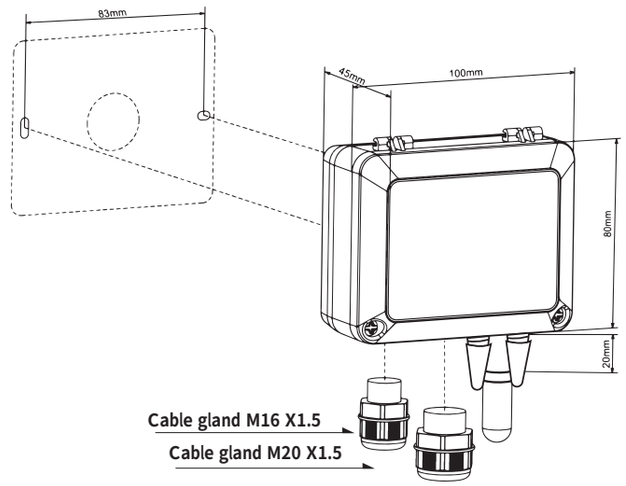
Features

Shell connected by hinge
● More convenient wiring and setting
M16、M20 double cable connector
● Meet the tribute to the installation of ϕ12mm cable
Smooth and at surface
● Prevent the pollution of the shell surface in harsh environment
IP65/NEMA4

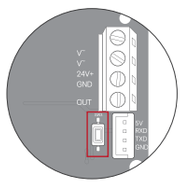
Technical Data

Model	KTHP100
Power supply	16-30V DC（2 wire 4-20mA)/16-30V AC or VDC (0-5V/0-10V/RS 485)
Output	4-20mA / 0-5V / 0-10V/ RS 485
Operating temperature	-35℃ ⋯ +70℃
Storage temperature	-40℃ ⋯ +80℃
Operating humidity	0~100%RH
Temperature range	DIP
Display	Backlight LCD
Max wind speed/flow rate	30m/s
Electromagnetic compatibility	EN61326-1（industrial environment）
Housing material	PC+ABS(UL-V0)
Protection class	IP65/NEMA 4
Cable gland	M16*1.5/M20*1.5
Measuring Performance - Temperature	
Measuring range	-35 ⋯ +80℃
Accuracy	±0.3℃(20-60℃)
Temperature Coefficient	±0.01℃/℃
Measuring Performance - Humidity	
Measuring range	0 ⋯ 100%RH
Accuracy	±2%(0-90%@25℃)/±3%(90-100%@25℃)
Humidity Coefficient	±1%RH/year
Measuring Performance - differential pressure	
Measuring unit	Pa,mmH_2O,inWG,mmHG,kPa,mbar
Accuracy	< ±1%FS@-5 to + 65℃
Response time	0.5s
Repeat stability	±0.01% at FS/year
Resolution	0.1 Pa;0.1 mmH_2O;0.01mbar;0.01mmHG

Dimension（mm）



Manual Zero-point Correction



In normal operation zero point correction should be executed every 12 months. For executing zero point correction the power supply must be connected one hour before.

- Release both connection tubes from the pressure terminals + and -
- Press and hold the button for 3 seconds
- Reinstall the connection tubes

Accessory（optional）

Pressure connection components2m PVC hose and 2 ABS pressure fittings

Note On Diposal

Most Keram Controls products may contain valuable materials which should be recycled rather than treated as domestic wast.Please pay attention to the relevant regulations of local disposal.

Product Certification

CE

The declaration of conformity of the products can be found on our website https//: www.keramcontrols.com

Accessory - Pipe Tee

Ordering Guide

■Display ×No display

Model	Pressure range	Output	Display	Filter	Product number
KTHP100-2DEP	±1000Pa	4-20mA (2 wire)	■	PTFE	05460010010117
KTHP100-2DES				Stainless steel	05460010010118
KTHP100-2DGP		0-10V		PTFE	05460010010317
KTHP100-2DGS				Stainless steel	05460010010318
KTHP100-2DHP		RS485		PTFE	05460010010417
KTHP100-2DHS				Stainless steel	05460010010418
KTHP100-2EP		4-20mA (2 wire)	×	PTFE	05460010020117
KTHP100-2ES				Stainless steel	05460010020118
KTHP100-2GP		0-10V		PTFE	05460010020317
KTHP100-2GS				Stainless steel	05460010020318
KTHP100-2HP		RS485		PTFE	05460010020417
KTHP100-2HS				Stainless steel	05460010020418
KTHP100-3DEP	±2000Pa	4-20mA (2 wire)	■	PTFE	05460020010117
KTHP100-3DES				Stainless steel	05460020010118
KTHP100-3DGP		0-10V		PTFE	05460020010317
KTHP100-3DGS				Stainless steel	05460020010318
KTHP100-3DHP		RS485		PTFE	05460020010417
KTHP100-3DHS				Stainless steel	05460020010418
KTHP100-3EP		4-20mA (2 wire)	×	PTFE	05460020020117
KTHP100-3ES				Stainless steel	05460020020118
KTHP100-3GP		0-10V		PTFE	05460020020317
KTHP100-3GS				Stainless steel	05460020020318
KTHP100-3HP		RS485		PTFE	05460020020417
KTHP100-3HS				Stainless steel	05460020020418
KTHP100-4DEP	±10000Pa	4-20mA (2 wire)	■	PTFE	05460030010117
KTHP100-4DES				Stainless steel	05460030010118
KTHP100-4DGP		0-10V		PTFE	05460030010317
KTHP100-4DGS				Stainless steel	05460030010318
KTHP100-4DHP		RS485		PTFE	05460030010417
KTHP100-4DHS				Stainless steel	05460030010418
KTHP100-4EP		4-20mA (2 wire)	×	PTFE	05460030020117
KTHP100-4ES				Stainless steel	05460030020118
KTHP100-4GP		0-10V		PTFE	05460030020317
KTHP100-4GS				Stainless steel	05460030020318
KTHP100-4HP		RS485		PTFE	05460030020417
KTHP100-4HS				Stainless steel	05460030020418
KTHP100-1DEP	±100Pa	4-20mA (2 wire)	■	PTFE	05460640010117
KTHP100-1DES				Stainless steel	05460640010118
KTHP100-1DGP		0-10V		PTFE	05460640010317
KTHP100-1DGS				Stainless steel	05460640010318
KTHP100-1DHP		RS485		PTFE	05460640010417
KTHP100-1DHS				Stainless steel	05460640010418
KTHP100-1EP		4-20mA (2 wire)	×	PTFE	05460640020117
KTHP100-1ES				Stainless steel	05460640020118
KTHP100-1GP		0-10V		PTFE	05460640020317
KTHP100-1GS				Stainless steel	05460640020318
KTHP100-1HP		RS485		PTFE	05460640020417
KTHP100-1HS				Stainless steel	05460640020418

Product Picture

Ordering Guide

Model	Type	Material	Size	Product number
SP-FC-15FB	Internal thread T fitting	Brass	DN15	0647058042016000
SP-FC-15FS				0647058042017000
SP-FC-20FB			DN20	0647058043016000
SP-FC-20FS				0647058043017000
SP-FC-25FB			DN25	0647058044016000
SP-FC-25FS				0647058044017000
SP-FC-32FB			DN32	0647058045016000
SP-FC-32FS				0647058045017000
SP-FC-40FB			DN40	0647058046016000
SP-FC-40FS				0647058046017000
SP-FC-15MB	External thread T fitting		DN15	0647059042016000
SP-FC-15MS				0647059042017000
SP-FC-20MB			DN20	0647059043016000
SP-FC-20MS				0647059043017000
SP-FC-25MB			DN25	0647059044016000
SP-FC-25MS				0647059044017000
SP-FC-32MB			DN32	0647059045016000
SP-FC-32MS				0647059045017000
SP-FC-40MB			DN40	0647059046016000
SP-FC-40MS				0647059046017000
SP-FC-25P	PVC-T fitting	PVC	Φ25mm	0647060047000000
SP-FC-32P			Φ32mm	0647060048000000
SP-FC-40P			Φ40mm	0647060049000000
SP-FC-50P			Φ50mm	0647060050000000
SP-FC-22W	Brazed T-fitting	Brass	Φ22.3mm	0647061051000000
SP-FC-25W			Φ25.5mm	0647061052000000
SP-FC-28W			Φ28.8mm	0647061053000000
SP-FC-32W			Φ32.2mm	0647061054000000

Accessory - Humidity Sensor Filter

Product Picture

SP-RH-Filter-01

SP-RH-Filter-02

SP-RH-Filter-03

SP-RH-Filter-04

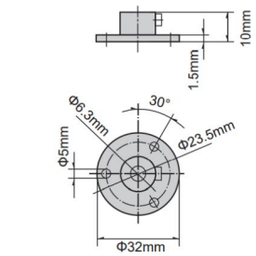
Ordering Guide

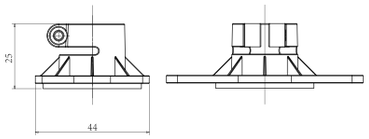
Model	Interface thread	Outer diameter	Material	Product number
SP-RH-Filter-01	M10*1.0	Φ12mm	Stainless steel	0648062055017000
SP-RH-Filter-02	M10*1.0		PTFE	0648062055019000
SP-RH-Filter-03	M10*1.0		Plastic	0648062055020000
SP-RH-Filter-04	M12*1.0	Φ14.6mm	Stainless steel	0648063056017000

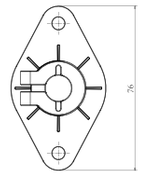
Accessory - Humidity Sensor Flange

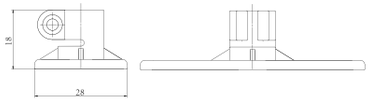
Product Picture

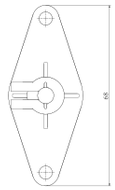
Dimension(mm)











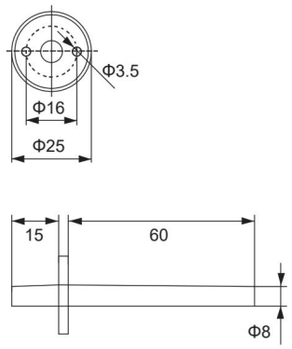
Ordering Guide

Model	Output	Measuring range	Product number
SP-RH-Flange-01	Φ12mm	Plastic	0649000055020000
SP-RH-Flange-02	Φ6mm		0649000057020000
SP-RH-Flange-03	Φ6mm	Stainless steel	0649000057017000

Accessory - Pressure nipples

Product Picture

Dimension(mm)



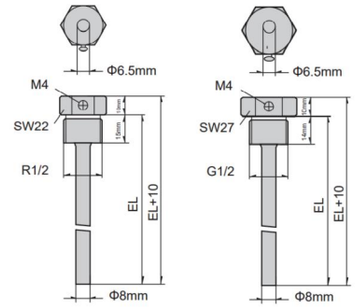
Ordering Guide

Model	Components	Product number
SP-PC-01	2m PVC hose	0650000000020000
	2*ABS Pressure taker	
	4*Fixing screws	

Accessory - Immersion sleeve

Product Picture

Dimension(mm)



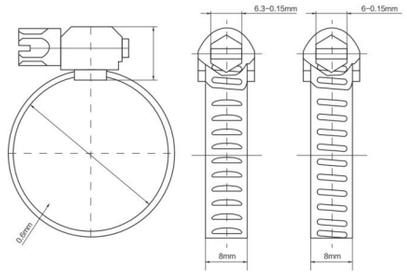
Ordering Guide

Model	Pipe diameter	Length	Material	Product number
SP-T-Pockets-B-100-6	Φ6mm	100mm	Brass	0651065057016000
SP-T-Pockets-S-100-6			Stainless steel	0651065057017000
SP-T-Pockets-B-100-8	Φ8mm		Brass	0651065058016000
SP-T-Pockets-S-100-8			Stainless steel	0651065058017000
SP-T-Pockets-B-150-6	Φ6mm	150mm	Brass	0651066057016000
SP-T-Pockets-S-150-6			Stainless steel	0651066057017000
SP-T-Pockets-B-150-8	Φ8mm		Brass	0651066058016000
SP-T-Pockets-S-150-8			Stainless steel	0651066058017000
SP-T-Pockets-B-200-6	Φ6mm	200mm	Brass	0651067057016000
SP-T-Pockets-S-200-6			Stainless steel	0651067057017000
SP-T-Pockets-B-200-8	Φ8mm		Brass	0651067058016000
SP-T-Pockets-S-200-8			Stainless steel	0651067058017000
SP-T-Pockets-B-250-6	Φ6mm	250mm	Brass	0651068057016000
SP-T-Pockets-S-250-6			Stainless steel	0651068057017000
SP-T-Pockets-B-250-8	Φ8mm		Brass	0651068058016000
SP-T-Pockets-S-250-8			Stainless steel	0651068058017000
SP-T-Pockets-B-300-6	Φ6mm	300mm	Brass	0651069057016000
SP-T-Pockets-S-300-6			Stainless steel	0651069057017000
SP-T-Pockets-B-300-8	Φ8mm		Brass	0651069058016000
SP-T-Pockets-S-300-8			Stainless steel	0651069058017000

Accessory - Hose Clamps

Product Picture

Dimension(mm)



Ordering Guide

Model	Pipe diameter	Material	Product number
SP-T-Clamp-S-250MM	Φ250~400mm	Stainless steel	0652000059017000
SP-T-Clamp-S-400MM	Φ400~600mm		0652000060017000
SP-T-Clamp-S-600MM	Φ600~800mm		0652000061017000
SP-T-Clamp-S-800MM	Φ800~1000mm		0652000062017000
SP-T-Clamp-S-1000MM	Φ1000~1600mm		0652000063017000

Certification

ISO Certification

Appearance Design Patent Certificate

CE

Temperature Resistance Table

NTC10K B3950 Resistance Value (Ω)

TEMP （℃）	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-40	343.6326	367.7258	393.7107	421.7511	452.0267	484.7341	520.089	558.3278	599.71	644.5208
-30	179.2666	190.9144	203.4118	216.8273	231.2355	246.7177	263.3624	281.266	300.5339	321.2809
-20	97.8396	103.7512	110.0648	116.8107	124.0216	131.7332	139.9837	148.8151	158.2726	168.4053
-10	55.5953	58.7288	62.0616	65.6077	69.3823	73.4018	77.6837	82.2471	87.1124	92.302
0	32.7547	34.4817	36.3117	38.2516	40.3086	42.4906	44.8062	47.2643	49.8747	52.648
	0	1	2	3	4	5	6	7	8	9
0	32.7547	31.1243	29.5847	28.1301	26.7556	25.4562	24.2274	23.065	21.965	20.9239
10	19.938	19.0041	18.1193	17.2807	16.4857	15.7317	15.0164	14.3376	13.6933	13.0816
20	12.5005	11.9485	11.4239	10.9252	10.451	10	9.5709	9.1626	8.7738	8.4037
30	8.0512	7.7154	7.3953	7.0903	6.7995	6.5221	6.2576	6.0051	5.7642	5.5342
40	5.3146	5.1049	4.9045	4.713	4.53	4.3551	4.1878	4.0278	3.8748	3.7283
50	3.5882	3.454	3.3255	3.2025	3.0846	2.9717	2.8635	2.7597	2.6603	2.5649
60	2.4734	2.3856	2.3014	2.2206	2.1431	2.0686	1.997	1.9283	1.8623	1.7989
70	1.738	1.6794	1.6231	1.5689	1.5168	1.4667	1.4185	1.3722	1.3275	1.2845
80	1.2431	1.2033	1.1649	1.1279	1.0923	1.058	1.0249	0.993	0.9623	0.9326
90	0.904	0.8764	0.8498	0.8241	0.7994	0.7754	0.7523	0.73	0.7085	0.6877
100	0.6676	0.6482	0.6295	0.6113	0.5938	0.5769	0.5605	0.5447	0.5293	0.5145
110	0.5002	0.4863	0.4729	0.4599	0.4474	0.4352	0.4234	0.412	0.4009	0.3902
120	0.3799	0.3698	0.3601	0.3506	0.3415	0.3326	0.324	0.3157	0.3076	0.2998
130	0.2922	0.2848	0.2776	0.2707	0.264	0.2574	0.2511	0.2449	0.2389	0.2331
140	0.2274	0.222	0.2166	0.2114	0.2064	0.2015	0.1968	0.1922	0.1877	0.1833
150	0.1791	0.1749	0.1709	0.167	0.1632	0.1595	0.1559	0.1524	0.149	0.1457
160	0.1425	0.1394	0.1363	0.1333	0.1304	0.1276	0.1249	0.1222	0.1196	0.117
170	0.1146	0.1121	0.1098	0.1075	0.1053	0.1031	0.101	0.0989	0.0969	0.0949
180	0.093	0.0911	0.0893	0.0875	0.0858	0.0841	0.0824	0.0808	0.0792	0.0777
190	0.0762	0.0747	0.0733	0.0719	0.0705	0.0692	0.0679	0.0666	0.0654	0.0642
200	0.063	0.0618	0.0607	0.0596	0.0585	0.0574	0.0564	0.0554	0.0544	0.0534

NTC10K B3435 Resistance Value (Ω)

TEMP （℃）	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-40	202.2693	214.2231	226.981	240.6035	255.1561	270.7097	287.3413	305.1344	324.1796	344.5753
-30	116.5089	122.8985	129.6879	136.9052	144.5807	152.7468	161.4387	170.6944	180.5546	191.0637
-20	69.6931	73.2523	77.0194	81.0082	85.2332	89.7101	94.4558	99.4883	104.8272	110.4932
-10	43.1172	45.1743	47.3439	49.633	52.049	54.5998	57.2939	60.1402	63.1485	66.3291
0	27.4936	28.7225	30.0145	31.3734	32.8029	34.3074	35.891	37.5587	39.3153	41.1663
	0	1	2	3	4	5	6	7	8	9
0	27.4936	26.3245	25.2119	24.1527	23.1442	22.1835	21.2682	20.3959	19.5644	18.7714
10	18.0151	17.2935	16.6048	15.9475	15.3198	14.7203	14.1475	13.6003	13.0772	12.5771
20	12.0988	11.6413	11.2037	10.7848	10.3839	10	9.6324	9.2802	8.9428	8.6195
30	8.3096	8.0124	7.7275	7.4541	7.1919	6.9403	6.6987	6.4669	6.2442	6.0304
40	5.825	5.6276	5.438	5.2557	5.0804	4.9119	4.7498	4.5939	4.4439	4.2995
50	4.1605	4.0268	3.898	3.7739	3.6544	3.5393	3.4284	3.3215	3.2185	3.1191
60	3.0234	2.931	2.8419	2.7559	2.6729	2.5929	2.5156	2.441	2.369	2.2994
70	2.2322	2.1673	2.1046	2.044	1.9854	1.9288	1.874	1.8211	1.7699	1.7204
80	1.6725	1.6262	1.5813	1.5379	1.4959	1.4553	1.4159	1.3778	1.3408	1.3051
90	1.2704	1.2368	1.2043	1.1728	1.1422	1.1126	1.0839	1.056	1.029	1.0028
100	0.9774	0.9527	0.9288	0.9055	0.883	0.8611	0.8399	0.8193	0.7992	0.7798
110	0.7609	0.7425	0.7247	0.7074	0.6906	0.6742	0.6583	0.6429	0.6278	0.6132
120	0.599	0.5852	0.5718	0.5587	0.546	0.5336	0.5216	0.5098	0.4984	0.4873
130	0.4765	0.466	0.4558	0.4458	0.4361	0.4266	0.4174	0.4084	0.3997	0.3911
140	0.3828	0.3747	0.3669	0.3592	0.3517	0.3444	0.3372	0.3303	0.3235	0.3169
150	0.3104	0.3042	0.298	0.292	0.2862	0.2805	0.2749	0.2695	0.2642	0.259
160	0.254	0.249	0.2442	0.2395	0.2349	0.2304	0.226	0.2218	0.2176	0.2135
170	0.2095	0.2056	0.2018	0.198	0.1944	0.1908	0.1874	0.1839	0.1806	0.1774
180	0.1742	0.1711	0.168	0.165	0.1621	0.1593	0.1565	0.1538	0.1511	0.1485
190	0.1459	0.1434	0.141	0.1386	0.1362	0.1339	0.1317	0.1295	0.1273	0.1252
200	0.1231	0.1211	0.1191	0.1172	0.1153	0.1134	0.1116	0.1098	0.108	0.1063

Temperature Resistance Table

KeramControls®
启元控制

PT100 Resistance Value（Ω）

TEMP （℃）	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-40	84.27	83.87	83.48	83.08	82.69	82.29	81.89	81.5	81.1	80.7
-30	88.22	87.83	87.43	87.04	86.64	86.25	85.85	85.46	85.06	84.67
-20	92.16	91.77	91.37	90.98	90.59	90.19	89.8	89.4	89.01	88.62
-10	96.09	95.69	95.3	94.91	94.52	94.12	93.73	93.34	92.95	92.55
0	100	99.61	99.22	98.83	98.44	98.04	97.65	97.26	96.87	96.48
	0	1	2	3	4	5	6	7	8	9
0	100	100.39	100.78	101.17	101.56	101.95	102.34	102.73	103.12	103.51
10	103.9	104.29	104.68	105.07	105.46	105.85	106.24	106.63	107.02	107.4
20	107.79	108.18	108.57	108.96	109.35	109.73	110.12	110.51	110.9	111.29
30	111.67	112.06	112.45	112.83	113.22	113.61	114	114.38	114.77	115.15
40	115.54	115.93	116.31	116.7	117.08	117.47	117.86	118.24	118.63	119.01
50	119.4	119.78	120.17	120.55	120.94	121.32	121.71	122.09	122.47	122.86
60	123.24	123.63	124.01	124.39	124.78	125.16	125.54	125.93	126.31	126.69
70	127.08	127.46	127.84	128.22	128.61	128.99	129.37	129.75	130.13	130.52
80	130.9	131.28	131.66	132.04	132.42	132.8	133.18	133.57	133.95	134.33
90	134.71	135.09	135.47	135.85	136.23	136.61	136.99	137.37	137.75	138.13
100	138.51	138.88	139.26	139.64	140.02	140.4	140.78	141.16	141.54	141.91
110	142.29	142.67	143.05	143.43	143.8	144.18	144.56	144.94	145.31	145.69
120	146.07	146.44	146.82	147.2	147.57	147.95	148.33	148.7	149.08	149.46
130	149.83	150.21	150.58	150.96	151.33	151.71	152.08	152.46	152.83	153.21
140	153.58	153.96	154.33	154.71	155.08	155.46	155.83	156.2	156.58	156.95
150	157.33	157.7	158.07	158.45	158.82	159.19	159.56	159.94	160.31	160.68
160	161.05	161.43	161.8	162.17	162.54	162.91	163.29	163.66	164.03	164.4
170	164.77	165.14	165.51	165.89	166.26	166.63	167	167.37	167.74	168.11
180	168.48	168.85	169.22	169.59	169.96	170.33	170.7	171.07	171.43	171.8
190	172.17	172.54	172.91	173.28	173.65	174.02	174.38	174.75	175.12	175.49
200	175.86	176.22	176.59	176.96	177.33	177.69	178.06	178.43	178.79	179.16

NTC1K B3950 Resistance Value（Ω）

TEMP （℃）	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-30	18.8125	20.0726	21.4278	22.8863	24.4567	26.1486	27.9724	29.9395	32.0623	34.3545
-20	10.1015	10.7273	11.3969	12.1137	12.8816	13.7045	14.5869	15.5334	16.5494	17.6403
-10	5.6702	5.9961	6.3433	6.7134	7.1079	7.5287	7.9778	8.4572	8.9693	9.5165
0	3.3112	3.4884	3.6764	3.876	4.0878	4.3128	4.552	4.8061	5.0765	5.3641
	0	1	2	3	4	5	6	7	8	9
0	3.3112	3.1441	2.9865	2.8378	2.6974	2.5648	2.4396	2.3212	2.2094	2.1035
10	2.0034	1.9087	1.819	1.7341	1.6537	1.5774	1.5052	1.4367	1.3717	1.31
20	1.2515	1.1959	1.1431	1.093	1.0453	1	0.9569	0.916	0.877	0.8399
30	0.8046	0.7709	0.7389	0.7084	0.6793	0.6516	0.6251	0.5999	0.5758	0.5529
40	0.5309	0.51	0.49	0.4709	0.4527	0.4352	0.4185	0.4026	0.3873	0.3727
50	0.3588	0.3454	0.3326	0.3204	0.3086	0.2974	0.2866	0.2763	0.2664	0.2569
60	0.2478	0.239	0.2306	0.2226	0.2149	0.2074	0.2003	0.1935	0.1869	0.1806
70	0.1745	0.1687	0.1631	0.1577	0.1525	0.1475	0.1427	0.1381	0.1336	0.1293
80	0.1252	0.1212	0.1174	0.1137	0.1101	0.1067	0.1034	0.1002	0.0971	0.0942
90	0.0913	0.0886	0.0859	0.0833	0.0808	0.0785	0.0761	0.0739	0.0717	0.0697
100	0.0677	0.0657	0.0638	0.062	0.0602	0.0585	0.0569	0.0553	0.0538	0.0523
110	0.0508	0.0494	0.0481	0.0468	0.0455	0.0443	0.0431	0.042	0.0408	0.0398
120	0.0387	0.0377	0.0367	0.0358	0.0348	0.0339	0.0331	0.0322	0.0314	0.0306
130	0.0298	0.0291	0.0284	0.0277	0.027	0.0263	0.0257	0.0251	0.0244	0.0239
140	0.0233	0.0227	0.0222	0.0216	0.0211	0.0206	0.0202	0.0197	0.0192	0.0188
150	0.0183	0.0179	0.0175	0.0171	0.0167	0.0164	0.016	0.0156	0.0153	0.0149
160	0.0146	0.0143	0.014	0.0137	0.0134	0.0131	0.0128	0.0125	0.0123	0.012
170	0.0117	0.0115	0.0113	0.011	0.0108	0.0106	0.0103	0.0101	0.0099	0.0097
180	0.0095	0.0093	0.0091	0.009	0.0088	0.0086	0.0084	0.0083	0.0081	0.0079
190	0.0078	0.0076	0.0075	0.0073	0.0072	0.0071	0.0069	0.0068	0.0067	0.0065

PT1000 Resistance Value（Ω）

TEMP （℃）	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-40	842.7	838.7	834.8	830.8	826.9	822.9	818.9	815	811	807
-30	882.2	878.3	874.3	870.4	866.4	862.5	858.5	854.6	850.6	846.7
-20	921.6	917.7	913.7	909.8	905.9	901.9	898	894	890.1	886.2
-10	960.9	956.9	953	949.1	945.2	941.2	937.3	933.4	929.5	925.5
0	1000	996.1	992.2	988.3	984.4	980.4	976.5	972.6	968.7	964.8
	0	1	2	3	4	5	6	7	8	9
0	1000	1003.9	1007.8	1011.7	1015.6	1019.5	1023.4	1027.3	1031.2	1035.1
10	1039	1042.9	1046.8	1050.7	1054.6	1058.5	1062.4	1066.3	1070.2	1074
20	1077.9	1081.8	1085.7	1089.6	1093.5	1097.3	1101.2	1105.1	1109	1112.9
30	1116.7	1120.6	1124.5	1128.3	1132.2	1136.1	1140	1143.8	1147.7	1151.5
40	1155.4	1159.3	1163.1	1167	1170.8	1174.7	1178.6	1182.4	1186.3	1190.1
50	1194	1197.8	1201.7	1205.5	1209.4	1213.2	1217.1	1220.9	1224.7	1228.6
60	1232.4	1236.3	1240.1	1243.9	1247.8	1251.6	1255.4	1259.3	1263.1	1266.9
70	1270.8	1274.6	1278.4	1282.2	1286.1	1289.9	1293.7	1297.5	1301.3	1305.2
80	1309	1312.8	1316.6	1320.4	1324.2	1328	1331.8	1335.7	1339.5	1343.3
90	1347.1	1350.9	1354.7	1358.5	1362.3	1366.1	1369.9	1373.7	1377.5	1381.3
100	1385.1	1388.8	1392.6	1396.4	1400.2	1404	1407.8	1411.6	1415.4	1419.1
110	1422.9	1426.7	1430.5	1434.3	1438	1441.8	1445.6	1449.4	1453.1	1456.9
120	1460.7	1464.4	1468.2	1472	1475.7	1479.5	1483.3	1487	1490.8	1494.6
130	1498.3	1502.1	1505.8	1509.6	1513.3	1517.1	1520.8	1524.6	1528.3	1532.1
140	1535.8	1539.6	1543.3	1547.1	1550.8	1554.6	1558.3	1562	1565.8	1569.5
150	1573.3	1577	1580.7	1584.5	1588.2	1591.9	1595.6	1599.4	1603.1	1606.8
160	1610.5	1614.3	1618	1621.7	1625.4	1629.1	1632.9	1636.6	1640.3	1644
170	1647.7	1651.4	1655.1	1658.9	1662.6	1666.3	1670	1673.7	1677.4	1681.1
180	1684.8	1688.5	1692.2	1695.9	1699.6	1703.3	1707	1710.7	1714.3	1718
190	1721.7	1725.4	1729.1	1732.8	1736.5	1740.2	1743.8	1747.5	1751.2	1754.9
200	1758.6	1762.2	1765.9	1769.6	1773.3	1776.9	1780.6	1784.3	1787.9	1791.6

NTC2K B3950 Resistance Value（Ω）

TEMP （℃）	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-10	11.1525	11.7831	12.4541	13.1682	13.9285	14.7385	15.6015	16.5216	17.5029	18.55
0	6.5613	6.908	7.2755	7.6652	8.0785	8.517	8.9824	9.4766	10.0016	10.5594
	0	1	2	3	4	5	6	7	8	9
0	6.5613	6.234	5.9249	5.6331	5.3573	5.0966	4.8502	4.6171	4.3966	4.1878
10	3.9902	3.8031	3.6258	3.4578	3.2985	3.1475	3.0042	2.8683	2.7393	2.6168
20	2.5005	2.39	2.285	2.1851	2.0903	2	1.9141	1.8324	1.7547	1.6806
30	1.6101	1.5429	1.4789	1.4179	1.3597	1.3043	1.2514	1.2009	1.1527	1.1067
40	1.0628	1.0209	0.9808	0.9425	0.9059	0.8709	0.8375	0.8055	0.7749	0.7456
50	0.7176	0.6908	0.6651	0.6405	0.6169	0.5944	0.5727	0.552	0.5321	0.513
60	0.4947	0.4772	0.4603	0.4442	0.4287	0.4138	0.3995	0.3857	0.3725	0.3599
70	0.3477	0.336	0.3247	0.3139	0.3034	0.2934	0.2838	0.2745	0.2656	0.257
80	0.2487	0.2407	0.233	0.2256	0.2185	0.2116	0.205	0.1986	0.1925	0.1866
90	0.1808	0.1753	0.17	0.1648	0.1599	0.1551	0.1505	0.146	0.1417	0.1375
100	0.1335	0.1296	0.1259	0.1222	0.1187	0.1153	0.1121	0.1089	0.1058	0.1029
110	0.1	0.0972	0.0945	0.0919	0.0894	0.087	0.0846	0.0823	0.0801	0.078
120	0.0759	0.0739	0.0719	0.07	0.0682	0.0664	0.0647	0.063	0.0614	0.0598
130	0.0583	0.0568	0.0554	0.054	0.0526	0.0513	0.0501	0.0488	0.0476	0.0239
140	0.0453	0.0442	0.0432	0.0421	0.0411	0.0401	0.0392	0.0383	0.0374	0.0365