Sensors

**Thermostat • Infrared Detectors • Air Pressure Sensor
Pressure Sensor • Humidity Type Sensor**

雅士博科技股份有限公司　　ARGO TECHNOLOGY CO., LTD.
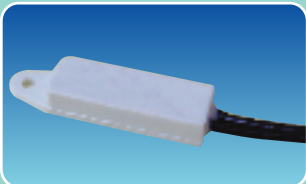
CONTENT

Temperature Power Sensor (Controller)

The TPS enables the temperature control of precision measurement equipment and electronic equipment, which is the role of the electronic controller, via the bimetal. Furthermore, we have attained ultra high temperature control at a 400 degree level, which is the first time in the world.
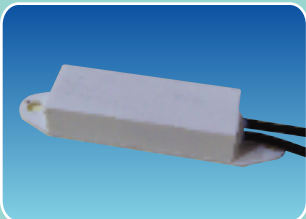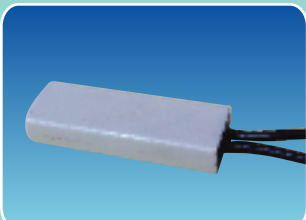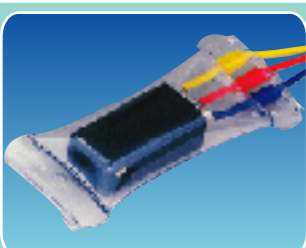
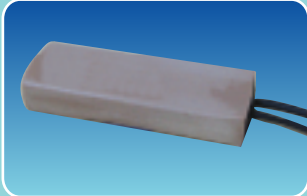## 2 Amp. series for ordinary temperatures (-10C ~ 110C)

LIFE CYCLE 100K~1000K Times

Type	Rating & Characteristics	Feature
MQT8K	Operating Voltage : AC125V, DC12V/2A ; AC250V, DC24V/1.3A Maximum operating voltage : AC250V max., DC48V max Temperature setting range : - 10°C~110°C Differential : A rank(3±1), B rank(4.5±1.5), C rank(6.5±1.5), D rank(10±2) Temperature setting tolerance : ±3 when the temperature is below 50°C	Standard model of the 2 Amp. series with mounting holes. With a 150 mm lead Size: 44 x 12.5 x 6.4 mm
MQT8KT		With a #110 tab. A receptacle with two holes (female housing) is provided. Receptacles can be used separately for each terminal Size: 44 x 12.5 x 6.4 mm
MQT11H		11k consist of built-in fuse for dual safety. Size: 34.5 x 18.2 x 6.4 mm

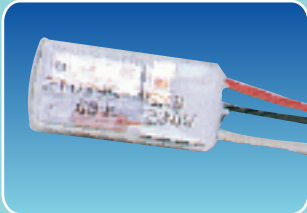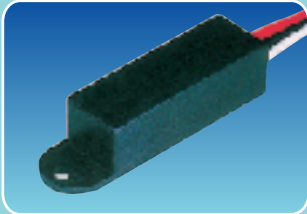## 5 Amp. series for ordinary temperatures (-10C ~ 110C)

LIFE CYCLE 100K~1000K Times

Type	Rating & Characteristics	Feature
M3	Operating Voltage : AC125V, DC12V/5A AC250V, DC24V/3A Maximum operating voltage : AC250V max., DC48V max Temperature setting range : -10°C~110°C Differential : A rank(4±1), B rank(4.5±1.5), C rank(6.5±1.5), D rank(10±2) Temperature setting tolerance : ±3 when the temperature is below 50°C	Standard 5 Amp. Series with 2 mounting holes. With a 150 mm lead Size: 68 x 15.5 x 10.8 mm
M2		Thin version of the 5 Amp. series. The differential is approximately 10°C. Long life model. Without a mounting hole. With a 150 mm lead Size: 45.5 x 16 x 7.5 mm
MQT5S		Sealed in a vinyl tube A back contact model (with 3 lead wires) is also available Size: 100 x 42 x 19 mm

Type	Rating & Characteristics	Feature
M2H	Same as 5 Amp. series	This is the high temperature type of the M series. It covers a range 120°C~160°C. It can be easily distinguished from other M series products by its brown case.

Remote Control Thermostat (Variable Thermostat)

LIFE CYCLE 100K~1000K Times

Type	Rating & Characteristics	Feature
MQT11LV	Operating Voltage : AC125V, DC12V/2A ; AC250V, DC24V/1.3A Maximum operating voltage : AC250V max., DC48V max Temperature setting range : - 10°C~110°C Differential : A rank(3±1), B rank(4.5±1.5), C rank(6.5±1.5), D rank (10±2) Temperature setting tolerance : ±3 when the temperature is below 50°C	This is a variable type of the 2 Amp. standard model MQT8 Size:35 x 17 x 6 mm
MQT6V		Variable type of the 5 Amp. model Size: 80 x 16.5 x 14 mm

Liquid Temperature Control Thermostat

LIFE CYCLE 100K~1000K Times

Type	Rating & Characteristics	Feature
MQT81P 2 Amp. Type	Operating Voltage : AC125V, DC12V/2A ; AC250V, DC24V/1.3A Maximum operating voltage : AC250V max., DC48V max Temperature setting range : - 10°C~110°C Differential : A rank(3±1), B rank(4.5±1.5), C rank(6.5±1.5), D rank(10±2) Temperature setting tolerance : ±3 when the temperature is below 50°C	It is a completely sealed thermostat which is screwed into a threaded hole on the side of a liquid tank. While the inside of the tank is waterproof, the lead section is not. For a PT3/8" screw. The body is made of brass and 304 stainless steel. Size: 50 mm x 13Ø
MQT83P 2 Amp. Type		It is a type that is inserted from the top of the tank. The body is made of 304 stainless steel Size: (L) mm x 14Ø
MQT72P 5 Amp. Type	The same 5 Amp.	It comes with a DIN connector which is screwed into a threaded hole on the side of a liquid tank. For a PT3/4" screw. The body is made of brass Size: 78.6 mm x 21.5Ø

Obtaining very high quality raw materials to ensure the best product for your temperature control needs.

Core Products

LIFE CYCLE 100K Times

Type	Rating & Characteristics	Size
03 Type Automatic & Typical	Contact N:125 VAC 15A/250 VAC 10A 03(Black/Phenol) Max. 150°C Contact P:250 VAC 0.2A/42 VDC 0.2A 03T (Green/Polyester) Max. 150°C for trucking 21(Gray/Vylograss) Max.180°C Temperature range: Max. 260°C 52 (White/Ceramic) Max. 260°C UL/CSA/VDE/BEAB/CMJ	Height: 12 mm (0.47") Dia: 16 mm (0.630")
05 Type Manual Reset	Contact N:125 VAC 15A/250 VAC 10A 05(Black/Phenol) Max. 150°C Contact P:250 VAC 0.2A/42 VDC 0.2A 15(White / Ceramic) Max. 230°C 25(Green/Polyester) Max.150°C Temperature range: Max. 230°C for trucking UL/CSA/VDE/ CMJ 75(Gray/Vylograss) Max.180°C	Height: 16.1 mm Dia: 20 mm
43 Type 3/4 Inch Thermostat	250 VAC 25A & 45A /480 VAC 13A Temperature range:Max. 150°C UL/CSA/VDE Automatic reset & Manual reset (will be line up soon)	Height: Dia: 27 mm
SS1 Type The Thinnest Type	125 VAC 2A (3A) *Height =4 mm Temperature range: Max. 105°C UL/CSA/CMJ	Length: 27.5 mm (1.083") Height: 12 mm (0.47") Thickness : 3.4 mm (0.134")

Automatic reset/Manual reset

LIFE CYCLE 100K Times

Type	Rating & Characteristics	Size
23 Type Manual Reset	120 VAC 15A / 250 VAC 10A Temperature range: Max. 230°C UL/VDE/CSA/CMJ Case has 4 leg (Castellated)	Height: 27.5 mm Dia: 16.2 mm

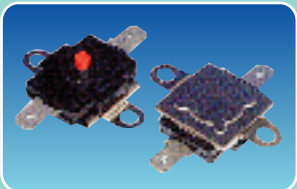| 50 Type 4 Leg	Contact N: 120 VAC 15A/250 VAC 16A Contact P: 250 VAC 0.2A/42 VDC 0.2A Temperature range: Max. 150°C UL/CSA/VDE/CMJ	Height: 12 mm (0.47") Dia: 16 mm (0.630")
04 Type For Large Electrical Load	(Open) 250 VAC 30A (Water proof) 250 VAC 15A Temperature range: Max. 230°C SPST & SPDT (3 terminals) Automatic , Manual & Water proof	Height: 19 mm Dia: 27 mm

Water Moisture Applications

LIFE CYCLE 100K Times

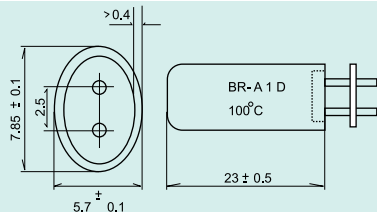| Type	Rating & Characteristics	Size
12 Type Water Proof	Contact N: 125 VAC 15A/250 VAC 8A Contact P: 125 VAC 0.1A/30 VDC 0.1A Temperature range: Max. 70°C	Height: 22 mm Dia:16 mm
60 & 61 Type Splash Proof	Contact N: 125 VAC 10A/250 VAC 7A Contact P: 250 VAC 0.2A/42 VDC 0.2A Temperature range: Max. 120°C Automatic (60) & Manual (61)	Height: 15 mm (0.59") Dia: 16 mm (0.630")
MH Type	125 VAC 3A/250 VAC 2A Temperature range: Max. 70°C UL/CSA Water Proof & Dust Proof	L W H 22 x14.5 x 6

Special Products

LIFE CYCLE 100K Times

Type	Rating & Characteristics	Size
90T Type Thermistor Sensor	Temperature range: Max. 150°C Thermal time constant = T = about 5 seconds (on aluminum board) Ceramic case available: Max. 300°C	Height: 11.7 mm Dia: 16.7 mm
BT 1 & 2 Thin Type	250 VAC 10A Temperature range: Max. 120°C Height: 6 mm CMJ Automatic (BT1) & Manual (BT2)	L W H 20 x 17 x 6

ARGO THE FREQUENCY CONTROLLER

BR Series

LIFE CYCLE 5000 TIME

Type	Rating & Characteristic	Size
BR-A1D	24V-DC 12A 125V-AC 12A 250V-AC 8 A Open Temperature Range (50 +/- 5 °C ~ 150 +/- 5 °C)	L W H (Common) 15+-0.4 6.5+/-0.2 3.1+/-0.1 (Enforced) 15.5+/-0.4 7.1+/-0.2 3.7+/-0.1
BR-A1	24V-DC 12A 125V-AC 12A 250V-AC 8 A Open Temperature Range (50 +/- 5 °C ~ 150 +/- 5 °C) The same A1D type	> 0.4 7.85 ± 0.1 2.5 5.7 ± 0.1 BR-A 1 D 100°C 23 ± 0.5
BR-B	24V-DC 12A 125V-AC 12A 250V-AC 8 A Open Temperature Range (50 +/- 5 °C ~ 150 +/- 5 °C)	Type L W H BR-B2D 15+/-0.4 7.3+/-0.2 73.9+/-0.1 BR-B3D 18.0+/-0.4 8.0+/-0.2 4.0+/-0.1 BR-B4D 21.0+/-0.4 8.0+/-0.2 4.0+/-0.1
BR-C	24V-DC 12A 125V-AC 12A 250V-AC 8 A Open Temperature Range (120 +/- 5 °C ~ 145 +/- 5 °C)	Type L W H (LINE) BR-C 32+/-2 10.8+/-0.2 7.8+/-0.2 L+/-10
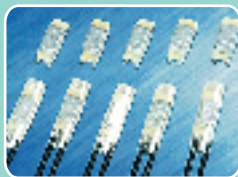
DBR-A Series

LIFE CYCLE 6000 TIME

Type	Rating & Characteristic	Size
DBR-A	125V-AC 22A 250V-AC 15A Open Temperature Range (70+/-5.0°C ~ 150+/-7.0°C)	Type L W H DBR-A 20.5+/-0.3 8.2+/-0.2 4.7+/-0.2

TP-D Series
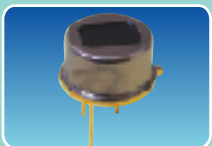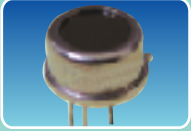
LIFE CYCLE 5000 TIME

Type	Rating & Characteristic	Size
17AM-D	16V-DC 20A 115V-AC 22A 250V-AC 8A Open Temperature Range (50+/-5.0°C ~ 155+/-5.0°C)	Type L W H A 26 8.2+/-0.1 4.7+/-0.2 B 28.8 8.2+/-0.1 4.7+/-0.2

Infrared Detectors   (Sensor)

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THE FREQUENCY CONTROLLER

Pyroelectric infrared detectors are extremely sensitive to a wide range of wavelengths, from near- to far-infrared, and are suitable for a wide range of applications.

Infrared Detectors

(Applications) Security devices. Automatic door switches. Temperature measurement

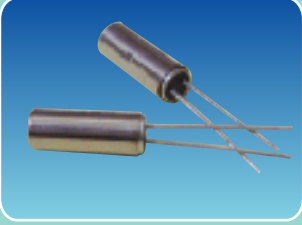| SPS Standard Type	Rv	Source Voltage	Windows Material	Spectral Response	IR Receiving Electrode	Supply Voltage	Operating Temp	Storage Temp
134 BA	1800 V/W	0.38 ~ 1.3V	Silicon 7 μm Cut-on filter	7 ~ 20 μm	Φ 1.6mm	2.0 ~ 1.0V	-20 ~ 70°C	-40 ~ 80°C
127 BA	2000 V/W	0.38 ~ 1.3V	Silicon 7 μm Cut-on filter	7 ~ 20 μm	1.0 * 2.0 (*2) mm	2.0 ~ 1.0V	-20 ~ 70°C	-40 ~ 80°C
221 BA	2300 V/W	0.38 ~ 1.3V	Silicon 7 μm Cut-on filter	7 ~ 20 μm	1.0 * 2.0 (*2) mm	2.0 ~ 1.0V	-20 ~ 70°C	-40 ~ 80°C
421 BA	2200 V/W	0.3 ~ 1.7V	Silicon 7 μm Cut-on filter	7 ~ 20 μm	1.0 * 2.0 (*2) mm	1.7 ~ 15V	-20 ~ 70°C	-30 ~ 80°C
241 EA	2200 V/W	0.38 ~ 1.3V	Silicon 5 μm Cut-on filter	5 ~ 20 μm	1.3* 1.3 (*4) mm	2.0 ~ 1.0V	-20 ~ 70°C	-40 ~ 80°C

Flame Detectors

(Applications)   Fire detection
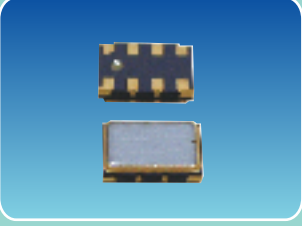
Pyroelectric infrared detector is specially designed for flame detection and gas analysis applications.

Thermally compensated Type	Element Size	Signal Sensitivity	Noise	Source Voltage	Supply Voltage	Load Resister	Operating Temp	Storage Temp
532 CA	Φ 1.6mm	typ. 4.2	Max. 170	0.38 ~ 1.3V	2.0 ~ 1.0V	10 ~ 1000 kΩ	-20 ~ 70°C	-40 ~ 80°C

Windows Material Code
A. General purpose   (Silicon, AR coated windows)
B. Human body detection systems   (Silicon, 7m cut-on filter)
C. Frame detection systems   (Silicon, 4.3m band pass filter)
E. Human body detection systems   (Silicon, 5m cut-on filter)

CRYSTAL Type Sensor

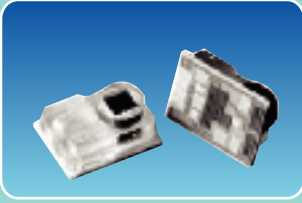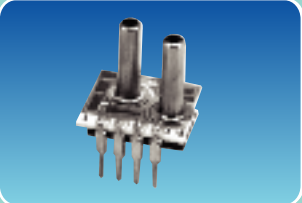| Type	Rating & Characteristics	Feature Size
HTS-206 (SHAKE)	Crystal used to sense the change in temperature 2 mm in diameter and 6 mm in length Good linearity frequency and temperature Low frequency (40kHz) enables low current consumption Suitable for DTCXO and temperature equipment Lead (Pb) –free: Contains high melting temperature type solder (Pb 85%)	Frequency range: 40 KHz Store temperature: -55 ~ 125°C Operating temperature: -40 ~ 85°C ESR: 30kΩ Max Frequency tolerance: +/- 2°C Size: length 6.0mm pin 4.0 mm diameter 2.0
XV-3500CB (GYRO)	Ultra Small Package size SMD (5x 3.2 x1.3 mm) Hermetic sealing provides excellent sustainable environmental Capability High stability using vibration crystal Clipped startup time and low power consumption with sleep mode Lead (Pb) –free: Lead free completely Detection picture stabilization of DVC and DSC Detection of moving with man machine interface	Drive frequency: 46.5 KHz & 50.3KHz Operating temperature: -20 ~ 80°C Operating Voltage: 3.3 V Output current: +/-100 A Size: length 5.0 mm (+/-0.2) Weight 3.2 mm (+/-0.2) High 1.3 mm (+/-0.2)

Air Pressure Module
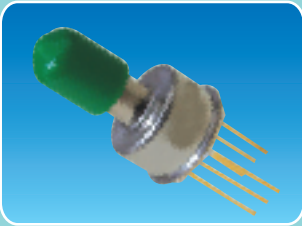
Manual for Ultrasensitive Air Pressure Sensor

Type	Rating & Characteristics	Feature Size
FD-4100	Brown (Aout): Analog output 0 ~ 2.7 Volt Red (-out): After the comparator works, open-drain turned on For 1 sec. Max. 100 mA Orange (+out): Comparator output (+) Pressurizing change Yellow (+V):Power supply voltage (+) 2.9 ~ 15.0 Volts Green (GND): Ground Current consumption: Standby time 100A Amplification rate: (Range of adj. 400 ~ 5200 times at 2Hz)	This module has the comparator output to be able to do the operation confirmation by which an analog output is connected with LED etc. Module amplifies the sensor signal of air pressure sensor FKS-111 which detects a minute pressure change Size:35 x35 x11mm 8 grams

Pressure Sensor

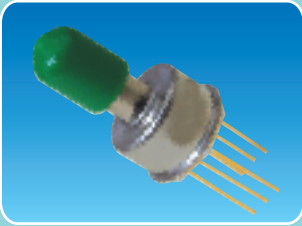| Type	Feature & Characteristic	Application
NPC-100 Blood Pressure Measurement	The NPC-100 is batch-manufactured in ceramic plate form and shipped as an intact array for easy customer automation. This assembly method draws from well-established manufacturing techniques used in the electronics industry in order to produce a quality, high volume product.	• Medical instrumentation • Blood pressure measurement • Infusion pumps • Kidney Dialysis machines
NPC-1210 Medical Ventilators	The NPC-1210 low pressure series of solid state pressure sensors are designed to provide the same cost effective solution as NovaSensor®´s other NPC-1210 pressure ranges. Packaged in a dual-in-line configuration, this NPC-1210 series is intended for printed circuit board mounting. Optional pressure port and lead configurations give superior flexibility in low profile applications where pressure connection orientation is critical	• Ventilation • Air flow monitors • Process control • Respirators • Medical equipment

Low Air Pressure Sensor
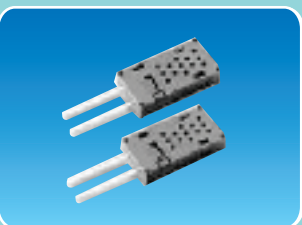
0–10" H2O, 0–1 psi, and 0–5psi

Type	Feature & Characteristic	Application
NPH series	• Available in Gage, Absolute, and Differential Pressure Versions • Media Compatible with Noncorrosive Gases and Dry air • Output Signal of 100mV @ 1.5mA • Thermal Accuracy FSO 0.5% Typical • Overpressure Capability to 5 Times Maximum Rated Pressure • Three Standard Ranges: 0–10" H2O, 0–1 psi, and 0–5psi • Nonlinearity 0.05% FSO Typical • Standard 3/16" OD Pressure Port • Ceramic Substrate with Temperature Compensation Resistors	• Process Control, P-to-I Converters • Pneumatic Control Systems • HVAC Controls • Biomedical: Infusion Pumps, Sphygmomanometers, Respirators • Aerospace: Altimeters, Barometers, Cabin Pressure Sensors • Computer Peripherals

Medium Air Pressure Sensor

0–15" H2O,0–30 psi,and 0–100 psi

Type	Feature & Characteristic	Application
NPH series	• Available in Gage, Absolute, and Differential Pressure Versions • Media Compatible with Noncorrosive Gases and Dry air • Output Signal of 100mV @ 1.5mA • Thermal Accuracy FSO 0.4% Typical • Overpressure Capability to 4 Times Maximum Rated Pressure • Three Standard Ranges: 0–15, 0–30,and 0–100 psi • Nonlinearity 0.05% FSO Typical • Standard 3/16" OD Pressure Port • Ceramic Substrate with Temperature Compensation Resistors	• Process Control, P-to-I Converters • Pneumatic Control Systems • HVAC Controls • Biomedical: Infusion Pumps, Sphygmomanometers, Respirators • Aerospace: Altimeters, Barometers, Cabin Pressure Sensors • Computer Peripherals

Humidity Sensor

Type	Rating & Characteristic	Application
HS-12	• Good long term reliability. • Cost effective performance. • HS12P water resistive	Typical applications include humidity monitors, humidity controllers, air conditioners, humidifiers, dehumidifiers, automatic ventilation.
HS-15	• Good long term reliability. • Cost effective performance. • HS15P water resistive	Typical applications include humidity monitors, humidity controllers, air conditioners, humidifiers, dehumidifiers, automatic ventilation.
RH SENSOR	• Interchangeability better than 3% • Survives 100% RH • Temperature coefficient less than 0.05% RH/ºF • Linearity better than +/-2% • Innovative packaging for improved performance • Economical • Alternative mounting configurations • Calibrated or uncalibrated versions	Typical applications include humidity monitors, humidity controllers, air conditioners, humidifiers, dehumidifiers, automatic ventilation.

ARGO®
THE FREQUENCY CONTROLLER

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