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Chapter 1 Overview of Siemens Building Products

controller

1、DDC programmable controller

Climatix POL638 controller

The POL638 controller is specifically designed for heating, ventilation, air conditioning, refrigeration, and district heating.

- ◆ Freely programmable (SAPRO)
- ◆ Can be expanded via peripheral device bus by connecting local or remote I/O expansion modules
- ◆ Power supply: AC24V or DC24V
- ◆ 8 universal I/Os (configurable for analog or digital signal input/output)
- ◆ 5 digital inputs (passive inputs)
- ◆ 2analog outputs (DC0-10V)
- ◆ 6 relay outputs (normally open contacts)
- ◆ Onboard RS-485 interface supporting Modbus RTU mode
- ◆ Up to 3 enhanced communication modules can be configured to support BAS building system integration
- ◆ Local service interface supporting human-machine interface (RJ45) and PC service tools (USB)
- ◆ SD card for application program and operating system upgrade
- ◆ Ethernet port supporting remote or local service
- ◆ Protection class: IP20



Climatix POL648 controller

The Climatix POL648 controller series is specifically designed for heating, ventilation, air conditioning and refrigeration equipment, and is an upgraded version of the POL638.

- ◆ Free programming and modular design
- ◆ Equipped with 21 input/output channels
- ◆ Integrated local or remote human-machine interface (HMI)
- ◆ Supports standard USB service interface
- ◆ Ethernet interface supports Modbus IP, BACnet IP, OPC, service and Climatix IC cloud service
- ◆ SD card interface supports application programs, BSP upgrades and running data storage
- ◆ Can connect expansion modules with different numbers of input/output points
- ◆ RS-485 (optoelectric isolation) interface supports Modbus RTU and BACnet MS/TP
- ◆ RS-485 interface supports Modbus RTU
- ◆ Bus interface PB can connect Siemens devices
- ◆ Communication modules support BACnet IP, BACnet MS/TP, Modbus, M-bus and LON communications, etc.
- ◆ Protection class: IP20



RWG Series controllers

This product integrates Siemens' years of experience in the building, heating, ventilation and other industries. Based on universal hardware design, a programmable software platform and powerful communication processing capabilities, it is widely used in the monitoring and control of electromechanical equipment in buildings, such as fresh air units, air conditioning units, heat exchange units, fans, water pumps, and lighting.

- ◆ The design of universal input/output greatly improves the flexibility of the device and saves customers' investment.
- ◆ Built-in programmable 192*64 dot matrix LCD screen.
- ◆ Onboard RS485 and Ethernet interfaces enable flexible on-site data collection and data interaction.
- ◆ Flexible programming of the controller can be realized through simple browser access, which greatly reduces client requirements.
- ◆ The intelligent graphical programming interface and self-explanatory programming language make programming simple.
- ◆ The full-featured offline simulator makes program debugging simple and easy.
- ◆ Supports 24V AC/DC power supply.
- ◆ 12 universal input/output ports.
- ◆ On-site application upgrade can be performed via USB interface.
- ◆ Protection class: IP20

ClimatixPOL955 Expansion module

POL955 is equipped with 14 I/Os and is used to connect to Climatix series controllers POL6XX. Its highly flexible universal inputs can cover a variety of application requirements.

- ◆ Power supply: AC 24V or DC 24V, powered by the controller
- ◆ 8 universal I/Os (configurable for analog or digital signal input/output)
- ◆ 4 relay outputs (normally open contacts)
- ◆ 2 analog outputs (DC 0..10 V)
- ◆ Device bus interface for local/remote expansion of I/O



2、DDC local controller

RWD Series single-loop controllers
Standalone electronic universal controller with P or PI response

- ◆ Input signals: LG-Ni1000, Pt1000, 0-10V, digital
- ◆ Output signals: 0-10V, digital
- ◆ Operating voltage: AC24V
- ◆ Protection class: IP20



Synco 200Dual-loop controller
Suitable for general control in the fields of ventilation, air conditioning and refrigeration

- ◆ Input signals: LG-Ni1000, Pt1000, 0-10V, digital quantity, T1
- ◆ Output signals: 0-10V, digital quantity
- ◆ Operating voltage: AC24V
- ◆ Protection class: IP20



3、Room thermostat

RAB Series mechanical room thermostats

For two-pipe/four-pipe fan coil systems

- ◆ Three-speed fan control
- ◆ Switch control
- ◆ Setting range: 8...30℃
- ◆ Operating voltage: AC250V
- ◆ Protection class: IP30



RDF310.2/MM embedded room thermostat for two-pipe fan coil systems

- ◆ Three-speed fan control
- ◆ Switch control
- ◆ Setting range: 5..40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30



RDF510\RDF530 embedded room thermostats for two-pipe\four-pipe fan coil systems

- ◆ Three-speed fan control
- ◆ Switch control
- ◆ Setting range: 5...40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: timed shutdown, random start-up



RDF300.02 Embedded Room Thermostat
For two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control
- ◆ On-off or three-position control
- ◆ Setting range: 5..40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: External sensor, LCD backlight



RDF510/BP Embedded Color Room Thermostat for Two-pipe Fan Coil Systems

- ◆ Three-speed fan control
- ◆ Switch control
- ◆ Setting range: 5..40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: Timed shutdown, random start-up
- ◆ Color options: Silver, Gold, Black



RDF600KN... Networked Room Thermostat For two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control
- ◆ On-off or three-position control
- ◆ Setting range: 5...40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: External sensor, independent window switch
- ◆ Communication method: KNX communication



RDF302/RDF302.B Networked Room Thermostats

For two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control
- ◆ On-off or three-position control
- ◆ Setting range: 5...40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: (X1, X2) multi-functional inputs (RDF302.B only)
- ◆ Communication method: Modbus communication



RDF340 Embedded Room Thermostat

For two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control
- ◆ DC 0-10V control
- ◆ Setting range: 5...40℃
- ◆ Operating voltage: AC24V
- ◆ Protection class: IP30
- ◆ Auxiliary function: External sensor



RDF530/BP Embedded Color Room Thermostat for Four-pipe Fan Coil Systems

- ◆ Three-speed fan control
- ◆ Switch control
- ◆ Setting range: 5..40℃
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: Timed shutdown, random start-up
- ◆ Color option: Black



RDG100, RDG110, RDG1...T Series wall-mounted room thermostats

For two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control, ECM fan 0-10V
- ◆ On-off, three-position, pulse, DC 0-10V control
- ◆ Setting range: 5..40℃
- ◆ Operating voltage: AC24V/AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: External sensor, time programming, infrared remote control



RDG200KN/RDG260KN

Networked room thermostats for two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control, 0-10V fan
- ◆ On-off, three-position, pulse, DC 0-10V control
- ◆ Setting range: 5...40°C
- ◆ Operating voltage: AC24V/AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary function: Backlight
- ◆ Communication method: KNX communication



RDD310/MM Embedded Room Thermostat for room heating to control room temperature

- ◆ Switch control
- ◆ Setting range: 5...40°C
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30



RDG400 Wall-mounted Room Thermostat For VAV heating and cooling systems

- ◆ On-off, three-position, pulse, DC 0-10V control
- ◆ Setting range: 5...40°C
- ◆ Operating voltage: AC24V
- ◆ Protection class: IP30
- ◆ Auxiliary functions: Electric heating, external sensor, timer



RDD100.../RDE100.. Wall-mounted Room Thermostats For room heating

- ◆ Switch control
- ◆ Setting range: 5...35°C
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30



RAA series mechanical room thermostats

For room heating or cooling

- ◆ Switch control
- ◆ Setting range: 8...30°C
- ◆ Operating voltage: AC24V...250V
- ◆ Protection class: IP30



RDD/RDE series wireless room thermostats for room

- ◆ Switch control
- ◆ 433MHz frequency wireless signal
- ◆ Setting range: 5...35°C
- ◆ Operating voltage: AC230V or battery-powered
- ◆ Protection class: IP30



RDF800/NF Touch Room Thermostat For two-pipe/four-pipe fan coil systems

- ◆ Single-speed or three-speed fan control
- ◆ Switch control
- ◆ Setting range: 5...40°C
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary function: External sensor
- ◆ Communication method: KNX communication



RDD310/EH, RDE410/EH Electric Floor Heating Room Controllers For controlling electric floor heating systems or for electric heating

- ◆ Switch control, maximum load 16A
- ◆ Setting range: 5...40°C
- ◆ Operating voltage: AC230V
- ◆ Protection class: IP30
- ◆ Auxiliary function: Time programming (RDE410/EH)



二、Sensor

1. Temperature sensor

QAE21/QAE16 series immersion temperature sensors

- ◆ Measuring range: -30...130°C/0...100°C
- ◆ Signals: LG-Ni1000, Pt1000, Pt100, 0-10V, 4-20mA, NTC10K
- ◆ Insertion depth: 100mm/150mm
- ◆ Operating voltage: Passive, AC/DC24V
- ◆ Protection class: IP42, IP54
- ◆ Installation method: G1/2 external thread sleeve
- ◆ Communication: modbus RTU optional



QAM21 series duct temperature sensors

- ◆ Measuring range: -50...80°C/-50...50°C
- ◆ Signals: LG-Ni1000, Pt1000, Pt100, 0-10V, 4-20mA, NTC10K
- ◆ Insertion depth: 400mm, 2000mm, 6000mm
- ◆ Operating voltage: Passive, AC/DC24V
- ◆ Protection class: IP42, IP54
- ◆ Installation method: Flange mounting
- ◆ Communication: modbus RTU optional



QAP series cable temperature sensors

- ◆ Measuring range: -30...130°C/-25...95°C
- ◆ Signals: LG-Ni1000, Pt1000, Pt100, NTC3K, NTC10K
- ◆ Operating voltage: Passive
- ◆ Protection class: IP65, IP67
- ◆ Installation method: Bundling, sleeve



QAE30 series immersion temperature sensors

- ◆ Measuring range: -50...200°C/0...200°C
- ◆ Insertion depth: 100mm, 160mm
- ◆ Signals: Pt100, 4-20mA
- ◆ Operating voltage: Passive, DC24V
- ◆ Protection class: IP65
- ◆ Installation method: G1/2 external thread



FT-TP series immersion temperature sensors

- ◆ Measuring range: -100...450°C
- ◆ Signal: P100
- ◆ Insertion depth: 100mm/400mm
- ◆ Operating voltage: Passive
- ◆ Protection class: IP54
- ◆ Installation method: G1/2 external thread



QAA series indoor temperature sensors

- ◆ Measuring range: 0...50°C
- ◆ Signals: LG-Ni1000, Pt1000, Pt100, 0-10V, 4-20mA, NTC3K, NTC10K
- ◆ Operating voltage: Passive, AC/DC24V
- ◆ Protection class: IP30, IP40
- ◆ LCD display: Optional
- ◆ Installation method: Wall-mounted



QAE26/QAE10 series immersion temperature sensors

- ◆ Measuring range: -50...180°C
- ◆ Insertion depth: 65mm, 125mm, 240mm, 260mm, 465mm
- ◆ Signal: LG-Ni1000
- ◆ Operating voltage: Passive
- ◆ Protection class: IP64
- ◆ Installation method: R1/4 external thread

FK-TP/200 Duct Temperature Sensor

- ◆ Measuring range: -60...300°C
- ◆ Insertion depth: 200mm
- ◆ Signal: Pt100
- ◆ Operating voltage: Passive
- ◆ Protection class: IP54
- ◆ Installation method: Flange mounting



- QAC** series outdoor temperature sensors
- ◆ Measuring range: -50...70°C/-50...50°C
 - ◆ Signals: LG-Ni1000, Pt1000, Pt100, 0-10V, 4-20mA, NTC575, NTC10K
 - ◆ Operating voltage: Passive, AC/DC24V
 - ◆ Protection class: IP54, IP65
 - ◆ LCD display: Optional
 - ◆ Installation method: Wall-mounted



- QAZ21** series cable temperature sensors
- ◆ Measuring range: -50..80°C
 - ◆ Signal: LG-Ni1000
 - ◆ Operating voltage: Passive
 - ◆ Protection class: IP67
 - ◆ Installation method: Bundling, sleeve



- QAT22** Window Surface Temperature Sensor
- ◆ Measuring range: -10...50°C
 - ◆ Signal: LG-Ni1000
 - ◆ Operating voltage: Passive
 - ◆ Protection class: III according to EN 60730-1
 - ◆ Installation method: Surface-mounted



- QAH** series cable temperature sensors
- ◆ Measuring range: -20..70°C
 - ◆ Signal: NTC 3K
 - ◆ Operating voltage: Passive
 - ◆ Installation method: Bundling, sleeve



- FGT-PT1000** Flue Gas Temperature Sensor
- ◆ Measuring range: -20...400°C
 - ◆ Signal: Pt1000
 - ◆ Operating voltage: Passive
 - ◆ Protection class: According to EN 60730-1
 - ◆ Installation method: Bracket fixing



- QAD** series clamp temperature sensors
- ◆ Measuring range: -35...130°C
 - ◆ Signals: LG-Ni1000, Pt1000, Pt100, NTC10K
 - ◆ Operating voltage: Passive
 - ◆ Protection class: IP42, IP65
 - ◆ Installation method: Bundling



2. Temperature and humidity sensor.

- QFM21 series, QFM1660** duct temperature and humidity sensors
- ◆ QFM21 measuring range: -40..70°C, 0..100%r.h
 - ◆ QFM16 measuring range: 0...50°C, 10..90%r.h
 - ◆ Signals: LG-Ni1000, 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP42, IP54
 - ◆ Installation method: Flange mounting
 - ◆ Accessories: Filter cap AOF3101 (for QFM21)
 - ◆ Communication: Modbus RTU optional



- QFA20** series indoor temperature and humidity sensors
- ◆ Measuring range: -40...70°C, 0...100%r.h
 - ◆ Signals: LG-Ni1000, 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP30
 - ◆ LCD display: Optional
 - ◆ Installation method: Wall-mounted



- QFA31** series outdoor temperature and humidity sensors
- ◆ Measuring range: -40...70°C, 0...100%r.h
 - ◆ Signals: 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP65
 - ◆ LCD display: Optional
 - ◆ Installation method: Bracket fixing
 - ◆ Accessories: Protective cover AQF310



- QFA31** series indoor temperature and humidity sensors
- ◆ Measuring range: -40..70°C, 0..100%r.h
 - ◆ Signals: 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP65
 - ◆ LCD display: Optional
 - ◆ Installation method: Base fixing
 - ◆ Accessories: Measuring head AQF3150, filter cap AQF3101



- QFM31** series duct temperature and humidity sensors
- ◆ Measuring range: -40...70°C, 0..100%r.h
 - ◆ Signals: 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP65
 - ◆ LCD display: Optional
 - ◆ Installation method: Flange mounting
 - ◆ Accessories: Measuring head AQF3150, filter cap AOF3101
 - ◆ Communication: Modbus RTU optional



- QFA41** series indoor temperature and humidity sensors
- QFM41** series duct temperature and humidity sensors
- ◆ Measuring range: -40..70°C, 0...100%r.h
 - ◆ Signals: 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP65
 - ◆ LCD display: Optional
 - ◆ Installation method: Base fixing, flange mounting
 - ◆ Special note: With calibration certificate



3. Liquid and gas pressure sensors

- QBE2X03** series pressure sensors
- ◆ Measuring range: 0..60bar
 - ◆ Signals: 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP65
 - ◆ Medium temperature: -15...125°C
 - ◆ Installation method: G1/2 external thread



- QBE2X04** series pressure sensors
- ◆ Measuring range: 0...59bar
 - ◆ Signals: 0-10V, 4-20mA
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP67
 - ◆ Medium temperature: -40...135°C
 - ◆ Installation method: 7/16-20UNF internal thread



- QBE9001** Series pressure sensors
- ◆ Measuring range: 0...30bar
 - ◆ Operating voltage: AC/DC24V
 - ◆ Protection class: IP67 Medium
 - ◆ temperature: -40...135°C
 - ◆ Installation method: G1/2 external thread



- QBE9103** series pressure sensors
- ◆ Measuring range: -1...59bar
 - ◆ Signal: 4-20mA
 - ◆ Operating voltage: DC24V
 - ◆ Protection class: IP67 Medium
 - ◆ temperature: -40...135°C
 - ◆ Installation method: 7/16-20UNF internal thread



7MF1567 series pressure sensors

- ◆ Measuring range: 0...60bar
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: DC24V
- ◆ Protection class: IP65
- ◆ Medium temperature: -30...120°C
- ◆ Installation method: G1/2 external thread



7MF1565 series pressure sensors

- ◆ Measuring range: -1...15bar, 0...60bar
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: DC24V
- ◆ Protection class: IP65
- ◆ Medium temperature: -15...125°C
- ◆ Installation method: G1/2 external thread



4 · Submersible level transmitter

7MF1572 series liquid level transmitters

- ◆ Measuring range: 0...20m
- ◆ Signal: 4-20mA
- ◆ Operating voltage: DC24V
- ◆ Protection class: IP68
- ◆ Medium temperature: -10...80°C
- ◆ Installation method: Submersible type



7MF1572 series liquid level transmitter accessories

- 7MF1572-8AA**
Junction box, used for connecting transmitter cables
- 7MF1572-8AB**
Cable bracket, used for fastening pressure transmitters



5 · Water pressure difference sensor

QBE61.3 series differential pressure sensors

- ◆ Measuring range: 0...10bar
- ◆ Signal: 0-10V
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP54
- ◆ Medium temperature: -15...85°C
- ◆ Connection method: G1/2 external thread



QBE3X00 series differential pressure sensors

- ◆ Measuring range: 0...16bar
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP65
- ◆ Medium temperature: -15...85°C
- ◆ Connection method: G1/8 external thread



QBE63 series differential pressure sensors

- ◆ Measuring range: 0...1bar
- ◆ Signal: 0-10V
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP65
- ◆ Medium temperature: -10...80°C
- ◆ Connection method: G1/8 internal thread



7MF1641 series differential pressure sensors

- ◆ Measuring range: 0...16bar
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP65
- ◆ Medium temperature: -15...85°C
- ◆ Connection method: G1/8 internal thread



6 · Air differential pressure

QBM2030 series air differential pressure sensors

- ◆ Measuring range: -50...3000Pa
- ◆ Signal: 0-10V
- ◆ Operating voltage: AC/DC24V
- ◆ Installation method: Base fixing



QBM3X20 series air differential pressure sensors

- ◆ Measuring range: -50...2500Pa
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP54
- ◆ LCD display: Optional
- ◆ Installation method: Base fixing



QBM4X00 series air differential pressure sensors

- ◆ Measuring range: -50...2500Pa
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP54
- ◆ LCD display: Optional
- ◆ Installation method: Base fixing
- ◆ Special note: With calibration certificate



Air differential pressure sensor mounting accessory FK-PZ3

Impulse pipe probe



7 · Air quality sensor

QPA series indoor air quality sensors

- ◆ Measurement types: CO₂, VOC, temperature, humidity
- ◆ Measuring ranges: 0-2000ppm, -35...50°C, 0...100%r.h
- ◆ Signal: 0-10V
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP30
- ◆ LCD display: Optional
- ◆ Installation method: Wall-mounted



QPM series air duct air quality sensors

- ◆ Measurement types: CO₂, VOC, temperature, humidity
- ◆ Measuring ranges: 0...200ppm, -35...50°C, 0...100%r.h
- ◆ Signal: 0-10V
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP54
- ◆ Installation method: Flange mounting



8 · Duct dust sensor

QSM2100 Duct Dust Sensor

- ◆ Measurement types: PM2.5, PM1.0
- ◆ Measuring range: 0...500µg/m³
- ◆ Signals: DC0...10 V, DC0...5 V, 4...20 mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP54
- ◆ Installation method: Flange



QSM2162 Duct Dust Sensor

- ◆ Measurement types: PM2.5 or PM1.0, temperature, humidity
- ◆ Measuring ranges: 0...500µg/m³, 0...50°C/-35...35°C, 0...100%r.h
- ◆ Signals: DC0...10 V, DC0.5 V, 4...20 mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP54
- ◆ Installation method: Flange



9 · Water flow sensor

QVE3X00 series water flow sensors

- ◆ Measuring range: 0.1...9.0m³/h
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: DC24V
- ◆ Protection class: IP65
- ◆ Matching caliber: DN10...DN25
- ◆ Installation method: External thread mounting



11 · Wind speed sensor

QVM62.1 Wind Speed Sensor

- ◆ Measuring range: 0...15m/s
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP42, IP20
- ◆ Immersion length: 30-300mm
- ◆ Installation method: Base fixing



13. Fine particle sensor

QSA2700(D) Fine Particle Sensor

- ◆ Measurement types: PM2.5, PM10 0...500µg/m³
- ◆ Signals: 0-10V, Modbus RS485
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP30
- ◆ Operating environment: 0...50°C, 5...95%r.h (non-condensing)



10 · Anti-freeze sensor

QAF63/64 series anti-freeze sensors

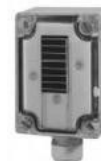
- ◆ Measuring range: 0...15°C
- ◆ Signals: 0-10V, three-position
- ◆ Operating voltage: AC24V
- ◆ Protection class: IP42
- ◆ Capillary length: 2m, 6m
- ◆ Installation methods: Base fixing, flange mounting



12 · Solar irradiance sensor

QLS60 Solar Irradiance Sensor

- ◆ Measuring range: 0...1000W/m²
- ◆ Signals: 0-10V, 4-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Protection class: IP65
- ◆ Installation method: Base fixing



14 · Air pressure difference switch

QBM81 series air pressure difference switches

- ◆ Setting range: 20-2000Pa
- ◆ Operating voltage: AC2V/DC24V/AC250V
- ◆ Operating current: 5(3)A
- ◆ Protection class: IP54
- ◆ Installation method: It is recommended that the pressure tapping point faces downward and the switch is installed vertically



15 · Anti-freeze switch

QAF81 series anti-freeze switches

- ◆ Setting range: -5...15°C
- ◆ Operating voltage: DC24V/AC250V
- ◆ Operating current: 15(1.2)A for DC24V, 15(1.5)A for AC250V
- ◆ Capillary length: 3m, 6m
- ◆ Action deviation: 2±1°C
- ◆ Protection class: IP54
- ◆ Installation method: Base fixing



16 · 温度开关

RAK-TR.1.H Series Temperature Controller

- ◆ Setting range: 15...95°C
- ◆ Operating voltage: AC24...250V
- ◆ Capillary length: 700mm
- ◆ Action deviation: 6K
- ◆ Protection class: IP43
- ◆ Installation method: Base fixing



RAK-ST..M Series Temperature Switch

- ◆ Setting range: 40...130°C
- ◆ Operating voltage: AC24...250V
- ◆ Capillary length: 700mm, 1600mm
- ◆ Action deviation: 10K
- ◆ Protection class: IP43, IP65
- ◆ Installation method: Base fixing



RAK-TB.1..M Series Temperature Limiter

- ◆ Setting range: 45...80°C
- ◆ Operating voltage: AC24...250V
- ◆ Capillary length: 700mm
- ◆ Action deviation: 10±5K
- ◆ Protection class: IP43
- ◆ Installation method: Base fixing



RAK-TW.5... Series Anti-freeze Protection Monitor

- ◆ Setting range: -10...65°C
- ◆ Operating voltage: AC24...250V
- ◆ Capillary length: 1600mm
- ◆ Action deviation: 5K
- ◆ Protection class: IP43, IP65
- ◆ Installation method: Base fixing



RAK-TW.1..H Series Thermal Reset Temperature Limiter

- ◆ Setting range: 15...120°C
- ◆ Operating voltage: AC24...250V
- ◆ Capillary length: 700mm
- ◆ Action deviation: 6K
- ◆ Protection class: IP43, IP65
- ◆ Installation method: Base fixing



RAZ-ST..J Series Dual Thermostat

- ◆ Setting range: TR: 15...95°C
- ◆ STB: 90...130°C
- ◆ Operating voltage: AC24...250V
- ◆ Capillary length: 700mm
- ◆ Action deviation: TR: 6K
- ◆ STB: maximum temperature ±5K
- ◆ Protection class: IP40
- ◆ Installation method: Base fixing



17 · Humidity switch

QFAI00X Series Indoor Humidity-Constant Switch

- ◆ Setting range: 30...90% r.h
- ◆ Operating voltage: AC24V / AC250V
- ◆ Operating current: 5(3)A, AC250V; 100mA, AC24V
- ◆ Action deviation: 5% r.h
- ◆ Protection class: IP20
- ◆ Installation method: Wall-mounted



QFM81 Series Duct Humidity-Constant Switch

- ◆ Setting range: 15...95% r.h
- ◆ Operating voltage: AC24V / AC250V
- ◆ Operating current: 5(3)A, AC250V; 100mA, AC24V
- ◆ Action deviation: 4% r.h
- ◆ Protection class: IP30, IP55
- ◆ Installation method: Flange-mounted



18、Flow switch

QVE1900 Water Flow Switch
 ◆ Setting range: 0.8...113 m³/h
 ◆ Operating voltage: AC250V
 ◆ Operating current: 15(8)A
 ◆ Protection class: IP65
 ◆ Matching caliber: DN32-DN200
 ◆ Installation method: R1 external thread



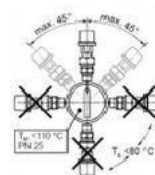
QVE1901 Water Flow Switch
 ◆ Setting range: 0.9...180 m³/h
 ◆ Operating voltage: DC48V/AC230V
 ◆ Operating current: 1A
 ◆ Protection class: IP65
 ◆ Matching caliber: DN20-DN200
 ◆ Installation method: G1/2 external thread



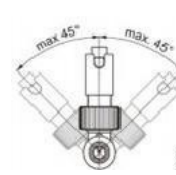
QVE1902 Series Water Flow Switch
 ◆ Setting range: 2.8...130 L/min
 ◆ Operating voltage: DC48V/AC230V
 ◆ Operating current: 1A
 ◆ Protection class: IP65
 ◆ Matching caliber: DN10-DN25
 ◆ Installation method: Internal thread mounting



Installation Diagram of
QVE1900/1901



Installation Diagram of
QVE1902



19、Condensation detector

QXA21.. Series Condensation Detector
 ◆ Switch point when humidity increases: 95±4% r.h
 ◆ Operating voltage: AC/DC24V
 AC230V expansion module AQX2000
 ◆ Operating current: 1A
 ◆ Action deviation: 5% r.h
 ◆ Protection class: IP40
 ◆ Installation method: Integrated type, Separate type



AC230V expansion module



≡、Control valve and actuator

VV146/VX146 Series 2/3-way Control Valves
 ◆ Applicable medium: chilled water, low-temperature hot water
 ◆ Nominal pressure: PN16
 ◆ Valve body caliber: DN15...DN25
 ◆ Valve body stroke: 2.5mm
 ◆ Medium temperature: 1...110°C
 ◆ Valve body material: hot-pressed brass
 ◆ Connection method: internal thread



SUA21/3 Series Electric Actuators
 ◆ Operating stroke: 2.5mm
 ◆ Rated thrust: 170N
 ◆ Control signal: Switch
 ◆ Operating voltage: AC230V
 ◆ Spring return: None
 ◆ Protection class: IP40



VVP47/VXP47 Series 2/3-way Control Valves

◆ Applicable medium: chilled water, low-temperature hot water
 ◆ Nominal pressure: PN16
 ◆ Valve body caliber: DN10...DN20
 ◆ Valve body stroke: 2.5mm
 ◆ Medium temperature: 1...110°C (120°C for a short time)
 ◆ Valve body material: bronze
 ◆ Connection method: internal thread connection



STA Series Electric Thermal Actuators

◆ Operating stroke: 3mm (maximum 4.5mm)
 ◆ Rated thrust: 90N, 100N
 ◆ Control signal: Switch/PDM/0-10V
 ◆ Operating voltage: AC24V/DC24V/AC230V
 ◆ Spring return: None
 ◆ Protection class: IP54



STP Series Electric Thermal Actuators

◆ Operating stroke: 3mm (maximum 4.5mm)
 ◆ Rated thrust: 90N, 100N
 ◆ Control signal: Switch/PDM/0-10V
 ◆ Operating voltage: AC24V/DC24V/AC230V
 ◆ Spring return: None
 ◆ Protection class: IP54



VVP45/VXP45 Series 2/3-way Control Valves

◆ Applicable medium: chilled water, low-temperature hot water
 ◆ Nominal pressure: PN16
 ◆ Valve body caliber: DN10-DN40
 ◆ Valve body stroke: 5.5mm
 ◆ Medium temperature: 1...110°C (120°C for a short time)
 ◆ Valve body material: bronze
 ◆ Connection method: external thread connection



SSB Series Electric Actuators

◆ Operating stroke: 5.5mm
 ◆ Rated thrust: 200N
 ◆ Control signal: Switch/Three-position/0-10V
 ◆ Operating voltage: AC24V/DC24V/AC230V
 ◆ Spring return: None



SFP Series Electric Actuators

◆ Operating stroke: 2.5mm
 ◆ Rated thrust: 135N
 ◆ Control signal: Switch
 ◆ Operating voltage: AC24V/AC230V
 ◆ Spring return: Yes
 ◆ Protection class: IP30



SFA Series Electric Actuators

◆ Operating stroke: 2.5mm
 ◆ Rated thrust: 200N
 ◆ Control signal: Switch
 ◆ Operating voltage: AC24V/AC230V
 ◆ Spring return: Yes
 ◆ Protection class: IP30



SSP Series Electric Actuators

◆ Operating stroke: 2.5mm (maximum 5.5mm)
 ◆ Rated thrust: 160N
 ◆ Control signal: Switch/Three-position/0-10V
 ◆ Operating voltage: AC24V/DC24V/AC230V
 ◆ Spring return: None
 ◆ Protection class: IP40



VMP45 Series 3-way Control Valves with Bypass

◆ Applicable medium: chilled water, low-temperature hot water
 ◆ Nominal pressure: PN16
 ◆ Valve body caliber: DN10...DN20
 ◆ Valve body stroke: 5.5mm
 ◆ Medium temperature: 1...110°C (120°C for a short time)
 ◆ Valve body material: bronze
 ◆ Connection method: external thread connection



SSC Series Electric Actuators

◆ Operating stroke: 5.5mm
 ◆ Rated thrust: 300N
 ◆ Control signal: Switch/Three-position/0-10V
 ◆ Operating voltage: AC24V/DC24V/AC230V
 ◆ Spring return: Optional
 ◆ Protection class: IP40



VVG44/VXG44 Series 2/3-way Control Valves

- ◆ Applicable medium: chilled water, low-temperature hot water
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN15...DN40
- ◆ Valve body stroke: 5.5mm
- ◆ Medium temperature: 1...120°C
- ◆ Valve body material: bronze
- ◆ Connection method: external thread connection



SAS Series Electric Actuators

- ◆ Operating stroke: 55mm
- ◆ Rated thrust: 400N
- ◆ Control signal: Switch/Three-position/0-10V/4-20mA
- ◆ Operating voltage: AC24V/DC24V/AC230V
- ◆ Spring return: optional
- ◆ Protection class: IP54
- ◆ Communication: Modbus RTU optional



VVF43...k/VXF43 Series 2/3-way Control Valves

- ◆ Applicable medium: chilled water, hot water, high-temperature hot water, anti-freezing water, brine, saturated steam, superheated steam
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN65...DN250
- ◆ Valve body stroke: 40mm
- ◆ Medium temperature: -5...220°C (VVF43K); -20...220°C (VXF43)
- ◆ Valve body material: DN65...DN150 ductile iron; DN200...DN250 cast steel
- ◆ Connection method: flange connection



VVF53..K Series Two-way Control Valves

- ◆ Applicable medium: chilled water, hot water, high-temperature hot water, anti-freezing water, saturated steam, superheated steam, heat transfer oil
- ◆ Nominal pressure: PN25
- ◆ Valve body diameter: DN50...DN250
- ◆ Valve body stroke: DN50 20mm
DN65...DN250 40mm
- ◆ Medium temperature: -5...220°C
- ◆ Valve body material: DN50...DN150 ductile iron; DN200...DN250 cast steel
- ◆ Connection method: Flange connection



3、20mm/40mm Straight-stroke control valve and actuator

VV147/VXI47 Series 2/3 Way Control Valves

- ◆ Applicable medium: chilled water, cooling water, high and low temperature hot water, antifreeze water
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN15...DN50
- ◆ Valve body stroke: 20mm
- ◆ Medium temperature: 0...95°C
- ◆ Valve body material: bronze
- ◆ Connection mode: internal thread connection



VV41/VXG41 Series 2/3 Way Control Valves

- ◆ Applicable medium: chilled water, high and low temperature hot water, and saturated steam within the allowable range (VV41)
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN15...DN50
- ◆ Valve body stroke: 20mm
- ◆ Medium temperature: -25...150°C
- ◆ Valve body material: bronze
- ◆ Connection mode: external thread connection



VVF42C/VXF42C Series 2/3 Way Control Valves

- ◆ Applicable medium: chilled water, low-temperature water, high-temperature hot water, brine
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN25...DN150
- ◆ Valve body stroke: DN25...DN80 20mm; DN100...DN150 40mm
- ◆ Medium temperature: -10...150°C
- ◆ Valve body material: DN25...DN100 gray cast iron; DN125...DN150 ductile iron
- ◆ Connection mode: flange connection



VVF47/VXF47 Series 2/3 Way Control Valves

- ◆ Applicable medium: chilled water, low-temperature hot water, high-temperature hot water, water mixed with antifreeze, brine
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN50...DN150
- ◆ Valve body stroke: DN50...DN80 20mm; DN100...DN150 40mm
- ◆ Medium temperature: 1...95°C
- ◆ Valve body material: gray cast iron
- ◆ Connection mode: flange connection



VVF42KC Series Two-way Control Valves

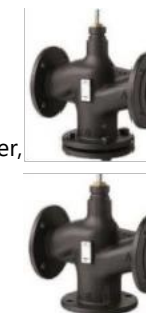
- ◆ Applicable medium: chilled water, low-temperature water, high-temperature hot water and brine
- ◆ Valve body caliber: DN65...DN150
- ◆ Medium temperature: -10...150°C
- ◆ Valve body material: DN65...DN100 gray cast iron; DN125...DN150 ductile iron

- ◆ Valve body size: DN65...DN150
- ◆ Medium temperature: -10...150°C
- ◆ Valve body material: DN65...DN100 gray cast iron; DN125...DN150 ductile iron
- ◆ pressure: PN16 Valve body stroke: DN65...DN80 20mm; DN100...DN150 40mm
- ◆ Connection mode: Flange connection



VVF53/VXF53 Series 2/3-way Control Valves

- ◆ Applicable medium: chilled water, hot water, high-temperature hot water, anti-freezing water, brine, saturated steam, superheated steam
- ◆ Nominal pressure: PN25
- ◆ Valve body caliber: DN15...DN150
- ◆ Valve body stroke: DN15...DN50 20mm; DN65...DN150 40mm
- ◆ Medium temperature: -20...220°C
- ◆ Valve body material: Ductile iron
- ◆ Connection method: Flange connection



SKD Series Electro-Hydraulic Actuators

- ◆ Stroke: 20mm
- ◆ Rated thrust: 1000N
- ◆ Control signal: On/off/Three-position/4-20mA/0-10V
- ◆ Working voltage: AC24V/AC230V
- ◆ Spring return: Optional
- ◆ Protection class: IP54
- ◆ Communication: Modbus RTU (optional)



VVF61/VXF61 Series 2/3-way Control Valves

- ◆ Applicable medium: cooling water, chilled water, high-temperature hot water, anti-freezing water, superheated or saturated steam, heat transfer oil
- ◆ Nominal pressure: PN40
- ◆ Valve body diameter: DN15...DN150
- ◆ Valve body stroke: DN15...DN50 20mm; DN65...DN150 40mm
- ◆ Medium temperature: -25...220°C
- ◆ Valve body material: Cast steel
- ◆ Connection method: Flange connection



SKC Series Electro-Hydraulic Actuators

- ◆ Stroke: 40mm
- ◆ Rated thrust: 2800N
- ◆ Control signal: On/off/Three-position/4-20mA/0-10V
- ◆ Working voltage: AC24V/AC230V
- ◆ Spring return: Optional
- ◆ Protection class: IP54
- ◆ Communication: Modbus RTU (optional)



SBX/SBV Series Electric Actuators

- ◆ Stroke: 20/40mm
- ◆ Rated thrust: 700N/1600N
- ◆ Control signal: On/off/Three-position/0-10V/(4-20mA)
- ◆ Working voltage: AC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



SKB Series Electro-Hydraulic Actuators

- ◆ Stroke: 20mm
- ◆ Rated thrust: 2800N
- ◆ Control signal: On/off/Three-position/4-20mA/0-10V
- ◆ Working voltage: AC24V/AC230V
- ◆ Protection class: IP54
- ◆ Communication: Modbus RTU (optional)



SAX Series Electric Actuators

- ◆ Stroke: 20mm
- ◆ Rated thrust: 800N
- ◆ Control signal: On/off/Three-position/4-20mA/0-10V
- ◆ Working voltage: AC24V/DC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54
- ◆ Communication: Modbus RTU (optional)



SAV Series Electric Actuators

- ◆ Stroke: 20mm/40mm
- ◆ Rated Thrust: 1600N
- ◆ Control Signal: On/Off / Three-position / 4-20mA / 0-10V
- ◆ Operating Voltage: AC24V/DC24V/AC230V
- ◆ Spring Return: None
- ◆ Protection Class: IP54
- ◆ Communication: Modbus RTU (Optional)



4. IoT Edge Control Actuator

SBX118.00 Series Control Actuators

Network Actuator — Used for pipe network balance adjustment on the secondary side of heating systems, or in other HVAC (Heating, Ventilation, and Air Conditioning) systems that require closed-loop automatic adjustment based on set parameters.

- ◆ Operating voltage: AC 24V
- ◆ Directly mounted on VVF42...C, VXF42...C, VV141... , VX141... valves
- ◆ Equipped with a manual adjustment wrench and valve position indicator
- ◆ Onboard RS485, supporting the device to function as a Modbus RTU master or slave
- ◆ Application programs are programmed via a web-based online programming tool; on-site application upgrades can be performed through the USB interface
- ◆ Model SBX118.00/NB with NB-IoT (Narrowband Internet of Things) wireless communication function
- ◆ Accepts 2 resistance inputs: PT1000, LG Ni 1000, NTC 100k
- ◆ Accepts 2 analog signal inputs: 0...10V or 0(4)...20 mA



5. Intelligent Valve

- ◆ Analog and Network-type Control Valves
- ◆ Energy Consumption Output Control Mode
- ◆ Valves and Flow Meters with Diverse Installation Methods
- ◆ Flow Accuracy of +/-2% (H₂O)
- ◆ Ultra-large Flow with Δp 800 kPa, Temperature Range +1...120°C
- ◆ Male Thread/Flange Connection
- ◆ BACnet IP Protocol and Integration into Building Operator

- ◆ Dynamic Hydraulic System Balancing
- ◆ TR Return Water Temperature Setting
- ◆ Open Interface
- ◆ Control Accuracy of +/-4%
- ◆ 2-way / DN15...DN125
- ◆ Power-off Retention



6. Pneumatic Control Valve

MPD461.. Series Pneumatic Two-way Control Valves. It is used in air conditioning water systems, equipment cooling water systems, heating systems and other water systems that meet pressure rating requirements in industrial plants and other occasions. It is applied to control media such as chilled water, anti-freezing water, cooling water, hot water and brine.

- ◆ Nominal diameter: DN 25...250
- ◆ Kvs: 10...630 m³/h
- ◆ Valve body material: Cast iron for DN 25 to DN 150; Cast steel for DN 200 and DN 250
- ◆ Allowable medium temperature: -10...150°C for DN 25 to DN 150; -5...150°C for DN 200 to DN 250
- ◆ Composed of a modulating seat valve, single-acting pneumatic diaphragm actuator, intelligent electric valve positioner and filter pressure reducer
- ◆ Intelligent positioner with three-failure position retention function (optional)



7. Threaded Ball Valve and Actuator

VAI61/VBI61 Series 2/3-way Ball Valves

- ◆ Applicable medium: cooling water, chilled water, low-temperature hot water
- ◆ Nominal pressure: PN40
- ◆ Valve body diameter: DN15...DN50
- ◆ Rotation angle: 90°
- ◆ Medium temperature: -10...120°C
- ◆ Valve body material: brass
- ◆ Connection method: female thread connection



GLB..9E Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 10Nm
- ◆ Control signal: On/off/Three-position/0(2)-10V
- ◆ Operating voltage: AC24V/DC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



GMA..9E Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 7Nm
- ◆ Control signal: On/off/Three-position/0-10V
- ◆ Operating voltage: AC24V/DC24V
- ◆ Spring return: Yes
- ◆ Protection class: IP54



GDB..9E Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 5Nm
- ◆ Control signal: On/off/Three-position/0(2)-10V
- ◆ Operating voltage: AC24V/DC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



GQD..9A Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 2Nm
- ◆ Control signal: On/off/Three-position/0-10V
- ◆ Operating voltage: AC/DC24V
- ◆ Spring return: Yes
- ◆ Protection class: IP40



Installation Accessories ASK77.2

VAI/VBI61..., DN 15...50 + GMA.1E

ASK77.3

VAI/VBI61..., DN 15...50 + GLB..1E

VAI/VBI61..., DN 15...50 + GDB..1E



8. Flanged Ball Valve and Actuator

VAF41 Series Ball Valves

- ◆ Applicable medium: cooling water, chilled water, low-temperature hot water
- ◆ Nominal pressure: PN16
- ◆ Valve body diameter: DN65...DN150
- ◆ Rotation angle: 90°
- ◆ Medium temperature: 2...80°C
- ◆ Valve body material: ductile iron
- ◆ Connection method: wafer-type flange connection



GCA..1E Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 18Nm
- ◆ Control signal: On/off/Three-position/0-10V/0-35V
- ◆ Operating voltage: AC24V/DC24V/AC230V
- ◆ Spring return: Yes
- ◆ Protection class: IP54



GBB..1E Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 25Nm
- ◆ Control signal: On/off/Three-position/0-10V/0-35V
- ◆ Operating voltage: AC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



GIB..1E Series Ball Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 35Nm
- ◆ Control signal: On/off/Three-position/0-10V/0-35V
- ◆ Operating voltage: AC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



9. Butterfly Valve and Actuator

VKF41 Series Electric Butterfly ValveS

- ◆ Applicable medium: chilled water, high and low temperature hot water, brine, softened water
- ◆ Valve body diameter: DN40...DN200
- ◆ Medium temperature: -10...120°C
- ◆ Connection method: wafer-type flange connection



- ◆ Nominal Pressure: PN16
- ◆ Rotation Angle: 90°
- ◆ Valve Body Material: Gray Cast Iron



VKF42 Series Electric Butterfly Valves

- ◆ Applicable medium: chilled water, low-temperature hot water, cooling water, brine, demineralized water, air
- ◆ Nominal pressure: PN16
- ◆ Valve body diameter: DN50...DN600
- ◆ Medium temperature: -10...80°C
- ◆ Valve body material: Gray cast iron for DN50...DN150; Ductile iron for DN200...DN600
- ◆ Connection method: Wafer-type flange connection



VKF46 Series Electric Butterfly Valves

- ◆ Applicable medium: chilled water, low-temperature hot water
- ◆ Cooling water, brine, air, softened water
- ◆ Nominal pressure: PN16
- ◆ Valve body diameter: DN40...DN600
- ◆ Rotation angle: 90°
- ◆ Medium temperature: -10...120°C
- ◆ Valve body material: Gray cast iron for DN40...DN300; Ductile iron for DN350...DN600
- ◆ Connection method: Wafer-type flange connection



VFF41 Series Double-Flange Electric Butterfly Valves

They are used as electric valves or globe valves in HVAC systems.

- ◆ Applicable medium: chilled water, high and low temperature hot water, brine, softened water
- ◆ Nominal pressure: PN16
- ◆ Valve body diameter: DN40...DN700
- ◆ Rotation angle: 90°
- ◆ Medium temperature: -10...120°C
- ◆ Valve body material: ductile iron
- ◆ Connection method: centerline, double-flange installation Can be equipped with SQL321B., SQL361B.. or SQL351B.. electric actuators



SAL Series Electric Butterfly Valve Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 10Nm/20Nm/40Nm
- ◆ Control signal: On/off/Three-position/4-20mA/0-10V
- ◆ Operating voltage: AC24V/DC24V/AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



SQL321B/SQL361B/SQL351B

- Series Electric Actuators
- ◆ Rotation angle: 90°±1°
 - ◆ Driving torque: 25Nm, 50Nm, 150Nm, 270Nm, 570Nm, 1400Nm, 2650Nm
 - ◆ Control signal: On/off/Three-position/4-20mA/0-10V
 - ◆ Operating voltage: AC220V
 - ◆ Spring return: None
 - ◆ Protection class: IP67



SQL36E Series Electric Butterfly Valve Actuators

- ◆ Rotation angle: 90°±1°
- ◆ Driving torque: 40Nm/100Nm/400Nm/1200Nm
- ◆ Control signal: On/off/Three-position
- ◆ Operating voltage: AC230V
- ◆ Spring return: None
- ◆ Protection class: IP67



10. Solenoid valve

MVF461H Series Two-way Solenoid Valve

- ◆ Applicable medium: chilled water, high and low temperature hot water, steam
- ◆ Nominal pressure: PN16
- ◆ Valve body material: ductile iron
- ◆ Valve body temperature resistance: 1...180°C
- ◆ Valve body caliber: DN15...DN50
- ◆ Working voltage: AC/DC24V
- ◆ Control signal: 0(2)-10V/0(4)-20mA
- ◆ Protection class: IP31
- ◆ Connection method: flange connection



MXG461B Series Three-way Solenoid Valve

- ◆ Applicable medium: cold water, hot water, drinking water
- ◆ Nominal pressure: PN16
- ◆ Valve body material: bronze
- ◆ Valve body temperature resistance: -20...30°C
- ◆ Valve body caliber: DN15...DN50
- ◆ Operating voltage: AC/DC24V
- ◆ Control signal: 0(2)-10V/0(4)-20mA
- ◆ Protection class: IP54
- ◆ Connection method: external thread connection



MXF461 Series Three-way Solenoid Valve

- ◆ Applicable medium: chilled water, low-temperature hot water
- ◆ Nominal pressure: PN16
- ◆ Valve body material: grey cast iron
- ◆ Valve body temperature resistance: 1...130°C
- ◆ Valve body caliber: DN15...DN65
- ◆ Operating voltage: AC/DC24V
- ◆ Control signal: 0(2)-10V/4-20mA
- ◆ Protection class: IP54
- ◆ Connection method: flange connection



M3FB Series Three-way Solenoid Valve

- ◆ Applicable medium: refrigerant
- ◆ Nominal pressure: PN32
- ◆ Valve body material: steel
- ◆ Valve body temperature resistance: -40...120°C
- ◆ Valve body caliber: DN15...DN32
- ◆ Operating voltage: AC24V
- ◆ Control signal: 0-10V/4-20mA
- ◆ Protection class: IP54
- ◆ Connection method: welded connection



M3P..FY(P) Series Three-way Solenoid Valve

- ◆ Applicable medium: chilled water, low-temperature hot water, (heat transfer oil)
- ◆ Nominal pressure: PN16
- ◆ Valve body material: grey cast iron
- ◆ Valve body temperature resistance: 1...120°C
- ◆ Valve body caliber: DN80...DN100
- ◆ Operating voltage: AC24V
- ◆ Control signal: 0-10V/4-20mA
- ◆ Protection class: IP31
- ◆ Connection method: flange connection



M3FK Series Three-way Solenoid Valve

- ◆ Applicable medium: refrigerant
- ◆ Nominal pressure: PN32
- ◆ Valve body material: steel
- ◆ Valve body temperature resistance: -40...120°C
- ◆ Valve body caliber: DN15...DN50
- ◆ Operating voltage: AC24V
- ◆ Positioning signal: 0-10V/4-20mA
- ◆ Protection class: IP54
- ◆ Connection method: welded connection



MXG461 Series Three-way Solenoid Valve

- ◆ Applicable medium: chilled water, low-temperature hot water
- ◆ Nominal pressure: PN16
- ◆ Valve body material: grey cast iron
- ◆ Valve body temperature resistance: 1...130°C
- ◆ Valve body caliber: DN15...DN50
- ◆ Operating voltage: AC/DC24V
- ◆ Control signal: 0(2)-10V/4-20mA
- ◆ Protection class: IP54
- ◆ Connection method: external thread connection



MVL661 Series Two-way Solenoid Valve

- ◆ Applicable medium: refrigerant
- ◆ Nominal pressure: PN45
- ◆ Valve body material: steel
- ◆ Valve body temperature resistance: -40...120°C
- ◆ Valve body caliber: DN15...DN32
- ◆ Operating voltage: AC/DC24V
- ◆ Control signal: 0(2)-10V/0(4)-20mA
- ◆ Protection class: IP65
- ◆ Connection method: welded connection



11. Combination Valves and Actuators

VPP46(Q) Series Two-way Combination Valve

- ◆ Applicable medium: chilled water, low-temperature hot water
- ◆ Nominal pressure: PN25
- ◆ Valve body caliber: DN10...DN32
- ◆ Valve body stroke: DN10...DN15 2.5mm; DN20 4.5/5mm; DN25...DN32 4.5/5.5mm
- ◆ Medium temperature: 1...120°C
- ◆ Valve body material: dezincification-resistant brass
- ◆ Pressure tap: optional
- ◆ Connection method: external thread connection



VPP43 Series Two-way Combination Valve

- ◆ Applicable medium: chilled water, medium and low temperature hot water
- ◆ Nominal pressure: PN16
- ◆ Valve body caliber: DN50...DN150
- ◆ Valve body stroke: DN50...DN80 20mm; DN100...DN125 40mm; DN150 43mm
- ◆ Medium temperature: 1...120°C
- ◆ Valve body material: DN50..DN80 and DN125 are made of grey cast iron; DN100 and DN150 are made of ductile iron
- ◆ Pressure tap: available
- ◆ Connection method: flange connection



VPI46(Q) Series Two-way Combination Valve

- ◆ Applicable medium: chilled water, low-temperature hot water
- ◆ Nominal pressure: PN25
- ◆ Valve body caliber: DN15...DN50
- ◆ Valve body stroke: DN10...DN15 2.5mm; DN20 4.5/5mm; DN25...DN32 4.5/5.5mm; DN40...DN50 15mm
- ◆ Medium temperature: 1...120°C
- ◆ Valve body material: dezincification-resistant brass
- ◆ Pressure tap: optional
- ◆ Connection method: internal thread connection



SSA Series Combination Valve Actuator

- ◆ Action stroke: 2.5 (maximum 5.5mm)
- ◆ Rated thrust: 100N
- ◆ Control signal: switch / three-position / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Protection class: IP40



STA Series Combination Valve Electric Thermal Actuator

- ◆ Action stroke: 3mm (maximum 4.5mm)
- ◆ Rated thrust: 90N, 100N
- ◆ Control signal: switch / PDM / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



STP Series Combination Valve Electric Thermal Actuator

- ◆ Action stroke: 3mm (maximum 4.5mm)
- ◆ Rated thrust: 90N, 100N
- ◆ Control signal: switch / PDM / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



SAY..P Series Combination Valve Actuator

- ◆ Action stroke: 15mm
- ◆ Rated thrust: 200N
- ◆ Control signal: switch / three-position / 4-20mA / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



VPP53 Series Two-way Combination Valve

- ◆ Applicable medium: chilled water, medium and low temperature hot water
- ◆ Nominal pressure: PN25
- ◆ Valve body caliber: DN50...DN150
- ◆ Valve body stroke: DN50...DN80 20mm; DN100...DN125 40mm; DN150 43mm
- ◆ Medium temperature: 1...120°C (DN150 110°C)
- ◆ Valve body material: ductile iron
- ◆ Pressure tap: available
- ◆ Connection method: flange connection



SAX..P Series Combination Valve Actuator

- ◆ Action stroke: 20mm
- ◆ Rated thrust: 500N
- ◆ Control signal: switch / three-position / 4-20mA / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



SQV91P Series Combination Valve Actuator

- ◆ Action stroke: 200mm/40mm
- ◆ Rated thrust: 1100N
- ◆ Control signal: switch / three-position / 4-20mA / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: Yes
- ◆ Action direction: Optional
- ◆ Protection class: IP66



SAV..P Series Combination Valve Actuator

- ◆ Action stroke: 40mm (43mm)
- ◆ Rated thrust: 1100N
- ◆ Control signal: switch / three-position / 4-20mA / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Protection class: IP54



12. Damper Actuators

GXD..1A Series Damper Actuator

- ◆ Driving torque: 1.5Nm
- ◆ Control signal: Three-position
- ◆ Operating voltage: AC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 0.3m²
- ◆ Protection class: IP40



GQD..1A Series Damper Actuator

- ◆ Driving torque: 2Nm
- ◆ Control signal: Switch / Three-position / 0-10V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: Yes
- ◆ Damper area: 0.3m²
- ◆ Protection class: IP40



GMA..1E Series Damper Actuator

- ◆ Driving torque: 7Nm
- ◆ Control signal: Switch / Three-position / 0-10V / 0-35V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: Yes
- ◆ Damper area: 1.5m²
- ◆ Protection class: IP54



GSD..1A Series Damper Actuator

- ◆ Driving torque: 2Nm
- ◆ Control signal: Switch
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 0.3m²
- ◆ Protection class: IP40



GDB..1E Series Damper Actuator

- ◆ Driving torque: 5Nm
- ◆ Control signal: Switch / Three-position / 0(2)-10V / 0-35V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 0.8m²
- ◆ Protection class: IP54



GEB..1E Series Damper Actuator

- ◆ Driving torque: 15Nm
- ◆ Control signal: Switch / Three-position / 0-10V / 0-35V
- ◆ Operating voltage: AC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 3m²
- ◆ Protection class: IP54



GAP19..1E Series Fast Damper Actuator

- ◆ Driving torque: 6Nm
- ◆ Control signal: Switch / Three-position / 0(2)-10V / 0(4)-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Spring return: None
- ◆ Damper area: 1m²
- ◆ Protection class: IP54



GCA..1E Series Damper Actuator

- ◆ Driving torque: 18Nm
- ◆ Control signal: Switch / Three-position / 0-10V / 0-35V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: Yes
- ◆ Damper area: 3m²
- ◆ Protection class: IP54



GNP19..1E Series Fast Damper Actuator

- ◆ Driving torque: 6Nm
- ◆ Control signal: Switch / Three-position / 0(2)-10V / 0(4)-20mA
- ◆ Operating voltage: AC/DC24V
- ◆ Capacitor reset: Yes
- ◆ Damper area: 1m²
- ◆ Protection class: IP54



GLB..1E Series Damper Actuator

- ◆ Driving torque: 10Nm
- ◆ Control signal: Switch / Three-position / 0(2)-10V / 0-35V
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 1.5m²
- ◆ Protection class: IP54



GBB..1E Series Damper Actuator

- ◆ Driving torque: 25Nm
- ◆ Control signal: Switch / Three-position / 0-10V / 0-35V
- ◆ Operating voltage: AC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 4m²
- ◆ Protection class: IP54



GNA.1E/T.. Series Fire Damper Actuator

- ◆ Driving torque: 7Nm
- ◆ Control signal: Switch
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: Yes
- ◆ Fusing temperature: 72°C
- ◆ Damper area: 1m² Protection class: IP54



GIB..1E Series Damper Actuator

- ◆ Driving torque: 35Nm
- ◆ Control signal: Switch / Three-position / 0-10V / 0-35V
- ◆ Operating voltage: AC24V / AC230V
- ◆ Spring return: None
- ◆ Damper area: 6m²
- ◆ Protection class: IP54



GGA...1E/T.. Series Fire Damper Actuator

- ◆ Driving torque: 18Nm
- ◆ Control signal: Switch
- ◆ Operating voltage: AC24V / DC24V / AC230V
- ◆ Spring return: Yes
- ◆ Fusing temperature: 72°C
- ◆ Damper area: 2.5m²
- ◆ Protection class: IP54



Chapter 2 Overview of Siemens Process Instrument Products

1. SITRANS P - Intelligent Pressure Transmitter

SITRANS P320/420 (HART Protocol)

- ◆ Self-diagnostic function complies with NE107 recommended by NAMUR standards
- ◆ SIL functional safety certificate in accordance with IEC 61508 standard
- ◆ SIL activation can be realized remotely via SIMATIC PDM
- ◆ Reduced internal inductance value, achieving LI=0 in Ex explosion-proof applications
- ◆ Step response time T63=105ms for pressure type, 135ms for differential pressure type
- ◆ Minimal conformity error
- ◆ Extremely low temperature influence
- ◆ High long-term stability
- ◆ Good quality and long service life
- ◆ Maintain high reliability under extreme chemical and mechanical loads
- ◆ Suitable for corrosive and non-corrosive gases, vapors and liquids
- ◆ Rich diagnostic and simulation functions
- ◆ Separation of measuring element and electronic component, no need for re-calibration
- ◆ Wetted parts are made of high-grade materials (e.g.: stainless steel, Hastelloy, gold, Monel, tantalum)
- ◆ The continuously adjustable range of the transmitter is 0.01bar~700 bar (0.15 psi~10153 psi)
- ◆ Parameter setting via 4 local keys and HART fieldbus communication



2. SITRANS T - Temperature Measuring Instruments

SITRANS TH Temperature Transmitter Module

SITRANS TH features a compact design, facilitating direct installation in junction boxes. Meanwhile, the transmitter module offers a high level of safety and reliability, suitable for simple applications as well as Profibus and FOUNDATION fieldbus installations.



SITRANS TR Rail-mounted Temperature Transmitter

SITRANS TR offers the same technical specifications as the corresponding temperature transmitter module SITRANS TH. It can be easily installed on the DIN rail in a protective box or control box on site, enabling centralized monitoring of all connected



SITRANS TF Field-mounted Temperature Transmitter

The field-mounted temperature transmitter SITRANS TF is available with a robust cast aluminum or 316L precision cast stainless steel housing, and its protection class can reach IP66/67/68. It is particularly suitable for applications in harsh industrial environments.



SITRANS TO500 Multi-point Fiber Optic Temperature Measurement

Based on fiber optic sensing technology, it features leading innovative applications, enabling complex temperature measurement and accurate measurement of key point temperatures.

- ◆ 4 measurement channels, with a maximum of 192 temperature measurement points
- ◆ Sensor outer diameter less than 2mm
- ◆ Excellent response time
- ◆ This measurement system is particularly suitable for the chemical industry



SITRANS TS100 Cable-type Sensor

As a basic or mineral-insulated sensor, SITRANS TS100 supports a wide range of applications and comes with a directly installable cable.

- ◆ Swivel ferrules or welded fittings can reduce installation work.
- ◆ Surface temperature measurement can be easily achieved via optional connectors.
- ◆ The intrinsically safe type can be used in Zone 0 without the need for additional protective tubes.
- ◆ The response time of this sensor is also excellent.



SITRANS TS200 Compact Sensor

The compact SITRANS TS200 series products have the same advantages as SITRANS TS100.

The only difference lies in their structural design: The system uses fixed connections (M12, Lemo, etc.) instead of flexible cables.



SITRANS TS300 for Food and Pharmaceutical Industries

SITRANS TS temperature sensors for hygienic applications are equipped with various process connections, such as tube clamp type, clamp type and other typical temperature measurement methods. In terms of accuracy and response time, they are comparable to insertion sensors. Its obvious advantages: no welding or welding inspection required, no process disturbance, easy to clean, easy to disassemble, and easy to disassemble for recalibration.



SITRANS TS500 for Pipes and Vessels

SITRANS TS500 offers intrinsic safety and flameproof (Exd) types, and supports a wide range of measurement fields. Flexible solutions: Adopting a modular structure design, the component modules include: wall-mounted welded sheaths or integral drilled sheaths, extension pipes, junction boxes, optional transmitter modules and display units, etc. Customers can combine standardized modules to meet different application requirements.



4. SITRANS FM - Electromagnetic Flowmeters

SITRANS FM MAG1100/1100F - For Wafer-Type and Hygienic Requirement

Applications Nominal Diameter: DN 15~100

- ◆ Wafer-type and hygienic connections
- ◆ Stainless steel housing and hygienic design meeting CIP/SIP requirements
- ◆ Ceramic or PFA linings, platinum or HC electrodes
- ◆ Maximum medium temperature up to 200°C
- ◆ FDA hygiene certification
- ◆ Optional integral and split mounting types
- ◆ Suitable for food and beverage, pharmaceutical industries



SITRANS FM MAG3100/3100P - For Applications in Severe Conditions

Nominal Diameter: DN 15~2200

- ◆ A variety of linings such as PTFE, PFA, rubber are available, which can resist corrosion from various chemicals
- ◆ Electrode options, matched with the linings, enable safe measurement of various acids, alkalis and chemical agents
- ◆ Maximum medium temperature up to 180°C
- ◆ MAG3100P features a universal design with fast delivery
- ◆ Equipped with Chinese NEPSI and international explosion-proof certifications
- ◆ Optional integral and split mounting types
- ◆ A general-purpose instrument that can meet the diverse needs of various industries



SITRANS FM MAG5100W - The Best Choice for Water Industry Users

Nominal Diameter: DN25~2000

- ◆ Maximum diameter up to 2 meters, meeting the application needs of large-scale industries
- ◆ NBR rubber and hard rubber linings can satisfy all water flow measurement requirements
- ◆ EPDM with drinking water certification
- ◆ Built-in HC grounding and measuring electrodes
- ◆ Trade settlement certification
- ◆ Integral and split mounting options; IP68 structure ensures the safe operation of sensors installed underwater



SITRANS FM MAG5000/6000 - Transmitters Meeting Different Requirements

Combined with SITRANS FM series electromagnetic flow sensors to form an electromagnetic flowmeter MAG5000

- ◆ The measurement accuracy of the matched flowmeter is 0.4% ± 1mm/s. MAG6000
- ◆ The measurement accuracy of the matched flowmeter is 0.2% ± 1mm/s.
- ◆ Various extended communication functions, such as HART, Profibus DP/PA & Modbus. MAG6000i/6000Ex
- ◆ The measurement accuracy of the matched flowmeter is 0.2% ± 1mm/s.
- ◆ Various extended communication functions, such as HART, Profibus DP/PA & Modbus.
- ◆ Chinese NEPSI and international explosion-proof certifications.
- ◆ All transmitters are equipped with Siemens' Sensorprom technology, eliminating the trouble of manual menu setting for users and possible setting errors.



3. SITRANS L - Level Products

Ultrasonic Level Meter

Maximum measuring range: 5m~30m

- ◆ Level, distance, pump control, open channel, liquid level difference
- ◆ Patented acoustic intelligent echo processing technology
- ◆ Self-cleaning probe surface, resistant to material buildup and condensation
- ◆ Fully potted and plastic-sealed (PVDF/ETFE) probe, impact-resistant, vibration-resistant, and corrosion-resistant
- ◆ Various communication methods (HART, Profibus DP/PA, Modbus, Profinet, etc.)
- ◆ Integral type and split type
- ◆ Certification: Explosion-proof



Radar Level Meter

Maximum measuring range: 20m~100m

- ◆ Suitable for liquids, slurries, granules, powders, bulk materials, etc.
- ◆ Patented process intelligent echo processing software (dynamic TVT, false echo suppression, algorithm combination)
- ◆ Products with different frequencies (6G, 25G, 80G) provided based on application conditions; fully potted and plastic-sealed electronic modules in the meter head
- ◆ Various antenna types (horn, rod-type, fully plastic-sealed, rod-shaped) and materials (stainless steel, Hastelloy, PP, PTFE/PVDF)
- ◆ Supports various communication methods (HART/FF/PA)
- ◆ Certifications: SIL, explosion-proof, marine, hygienic



5. SITRANS FUS - Ultrasonic Flowmeters

SITRANS FS230 - Digitize Your Productivity

Nominal Diameter: DN 12.7 mm ~ 10 m

- ◆ One of the first digital clamp-on ultrasonic flowmeters with an update rate of up to 100Hz!
- ◆ Dual-channel accuracy of $\pm 0.5\%$, single-channel accuracy of 1%; repeatability of 0.25%, compliant with ISO11631 standard
- ◆ PerformancePLUS™ algorithm for fast and reliable signal processing, and Digital Sensor Link (DSL)
- ◆ Siemens owns the patented WideBeam® time-difference sensor technology, featuring unique high precision and reliability.
- ◆ Easy big data transfer with SensorFlash® microSD card
- ◆ Capable of handling applications containing up to 12% aeration or suspended solids
- ◆ Suitable for process industry applications A flow solution that can achieve stable operation under harsh conditions and highly dynamic working conditions (such as light hydrocarbon media, temperature, pressure, etc.)



SITRANS FS 220 - The New FST020

Nominal Diameter: DN 12.7mm ~ 10m

- ◆ 1% channel accuracy, new digital platform compatible with FST020 sensors
- ◆ Modbus RTU communication
- ◆ Patented upstream pipeline compensation option
- ◆ Easy-to-connect Mini USB interface for convenient data transmission
- ◆ Converter with IP65 protection, sensor with IP68 protection
- ◆ Suitable for process industry applications It can easily adapt to many clean liquid applications across the process industry - From wastewater treatment to hydropower generation - From HVAC to electric power



SITRANS FUS Inline/Insertion Ultrasonic Flowmeters Nominal Diameter: DN50~3000 mm

- ◆ Modular products
- ◆ Dual-channel measurement accuracy of 0.5%
- ◆ Stainless steel structure, no moving parts, maintenance-free
- ◆ Support online sensor maintenance without stopping the flow
- ◆ Multiple power supply options
- ◆ Suitable for most industrial occasions, such as petrochemical, water and wastewater treatment industries (oil products, demineralized water, condensed water!)



SITRANS F UE/S 380 FUE950

Energy Meters for District Heating/Cooling/Energy Monitoring Applications - SITRANS FUE/S380 flowmeters equipped with FUE950 energy calculators

- ◆ DN 50-1200mm, integral or split type, with a maximum temperature of 200°C
- ◆ MID and PTB trade custody transfer certifications
- ◆ Dual power supply (battery/power supply); battery life > 6 years



Chapter 3 Overview of Landis+Gyr Products

1. Cold and Heat Meters / Flow Meters

1. Household-type ultrasonic cold and heat meters

2WR6 Series

- ◆ Applicable medium: Water
- ◆ Medium temperature: 5...105°C
- ◆ Nominal pressure: PN16
- ◆ Nominal diameter: DN15, DN20
- ◆ Application functions: Heat meter, cold meter
- ◆ Operating voltage: Battery (6-year or 11-year options available)
- ◆ Communication mode: M-BUS, pulse (options available)
- ◆ Connection mode: External thread



T230 Series

- ◆ Applicable medium: Water
- ◆ Medium temperature: 5...95°C
- ◆ Nominal pressure: PN16
- ◆ Nominal diameter: DN15, DN20
- ◆ Application functions: Heat meter, cold meter
- ◆ Operating voltage: Battery (6 years, 11 years)
- ◆ Communication mode: M-BUS, pulse (optional)
- ◆ Connection mode: External thread



T330 Series

- ◆ Applicable medium: Water
- ◆ Nominal diameter: DN20, DN25
- ◆ Operating voltage: Battery (6-year or 11-year options available)
- ◆ Special sealing gaskets are used for household meter installation
- ◆ Medium temperature: 5...105°C
- ◆ Application functions: Heat meter, cold and heat meter
- ◆ Communication mode: M-BUS, pulse (optional)
- ◆ Nominal pressure: PN16
- ◆ Connection mode: External thread



2. Building-type ultrasonic cold and heat meters/flow

UH50 Series

- ◆ Applicable medium: Water
- ◆ Medium temperature: 5...130°C
- ◆ Nominal pressure: PN16, PN25
- ◆ Nominal diameter: DN15...DN100
- ◆ Application function: Cold and heat meter
- ◆ Operating voltage: Battery or power supply (optional)
- ◆ Communication mode: M-BUS, RS485, 4-20mA (optional)
- ◆ Connection mode: Threaded flange



FUE380+UC50 Series

- ◆ Applicable medium: Water
- ◆ Medium temperature: Split type: 2...200°C; Integral type: 2...120°C
- ◆ Nominal pressure: PN16
- ◆ Nominal diameter: DN125...DN400
- ◆ Application function: Cold and heat meter
- ◆ Operating voltage: Battery or power supply (optional)
- ◆ Communication mode: M-BUS, RS485, 4-20mA (optional)
- ◆ Connection mode: Flange



3. Pipeline network-type ultrasonic cold and heat meters/flow meters

Chapter 4 Overview of Kunlun Tongtai Products

1. Touch Screens

TX/Ti Series Panels

- ◆ 7-inch, 10.2-inch
- ◆ Resolutions: 800*480, 1024*600



Hi/Hii/Gi Series Panels

- ◆ 10.4-inch, 12.1-inch, 15-inch
- ◆ Resolutions: 800*600, 1024*768, 1920*1080



Chapter 5 Overview of Yaocheng Products

1. Control Valves and Actuators

1. 20mm/40mm linear stroke control valves and actuators

YQC Series 2/3-way Valve Bodies

- ◆ Applicable media: Saturated steam, superheated steam, water, ethylene glycol solution, etc.
- ◆ Nominal pressure: PN16, PN25
- ◆ Valve body caliber: DN15...DN400
- ◆ Valve body stroke: 20mm/40mm
- ◆ Medium temperature: -10...220℃
- ◆ Valve body material: Ductile iron
- ◆ Connection method: Flange connection



YCG Series 2/3-way Valve Bodies

- ◆ Applicable media: Saturated steam, superheated steam, water, ethylene glycol solution, heat transfer oil, etc.
- ◆ Nominal pressure: PN16, PN25
- ◆ Valve body caliber: DN32...DN350
- ◆ Valve body stroke: 20mm/40mm
- ◆ Medium temperature: -25...350℃
- ◆ Valve body material: Cast steel
- ◆ Connection method: Flange connection



YCB Series 2/3-way Valve Bodies

- ◆ Applicable media: Saturated steam, superheated steam, water, ethylene glycol solution, corrosive media, etc.
- ◆ Nominal pressure: PN16, PN25
- ◆ Valve body caliber: DN32...DN200
- ◆ Valve body stroke: 20mm/40mm
- ◆ Medium temperature: -20...220℃
- ◆ Valve body material: 304
- ◆ Connection method: Flange connection



YC Series Electric Actuators

- ◆ Action stroke: 20/40mm
- ◆ Rated thrust: 1200N/1800N/3000N/5000N
- ◆ Control signal: On-off / Three-position / 4-20mA / 0-10V
- ◆ Operating voltage: AC24V
- ◆ Protection class: IP54



2. 蝶阀

YKF Series Butterfly Valves

- ◆ Applicable media: Chilled water, low-temperature hot water, cooling water
- ◆ Nominal pressure: PN16, wafer-type flange connection
- ◆ Valve body caliber: DN50...DN600
- ◆ Rotation angle: 90°
- ◆ Medium temperature: -10...120℃
- ◆ Valve body material: DN50...DN150: Gray cast iron; DN200...DN600: Ductile iron



SQL321B/SQL361B/SQL351B Series Electric Actuators

- ◆ Rotation angle: 90°
- ◆ Driving torque: 25Nm-2650Nm
- ◆ Control signal: On-off / Three-position / 4-20mA / 0-10V
- ◆ Operating voltage: AC220V
- ◆ Spring return: None
- ◆ Protection class: IP67



2. IoT Intelligent V-type Unit Valves

1. IoT Intelligent V-type Unit Valve

It is used for pipe network balance regulation on the secondary side of heating or other occasions in HVAC systems that require closed-loop automatic regulation according to set parameters. It can adjust the valve opening and monitor parameters such as inlet and return water temperature and pressure.

- ◆ Operating voltage: DC 24V
- ◆ Nominal pressure: PN16
- ◆ Temperature: -10...80℃
- ◆ Installation method: Flange
- ◆ Equipped with a manual adjustment wrench and valve position indicator
- ◆ With Modbus, M-bus, NB-IoT wireless communication functions
- ◆ Accepts 2 resistance inputs (PT1000)
- ◆ Accepts 2 analog signal inputs (4...20 mA)



3. Electrical Control Boxes/Cabinets

1. Indoor wall-mounted control box

Indoor Wall-mounted Control Box

- ◆ Product specification: 320*250*100mm
- ◆ Applicable products: RWD, RWG series controllers

- ◆ Product material: Q235A welded parts, Spray coating



4. Accessories

1. Heat Insulation Frame

- ◆ Product function: When matched with a valve body, it achieves the heat insulation effect for the actuator.
- ◆ Product performance: Made of anti-corrosion material, with tensile and compressive resistance.
- ◆ Technical indicators: Made of stainless steel, facilitating the connection between the valve body and the actuator, reliable in use, and the material is corrosion-resistant and rust-proof.



2. Gland Packing

- ◆ Product specification: M27
- ◆ Product material: SUS304 stainless steel; O-ring: fluororubber
- ◆ Applicable products: Ductile iron valve bodies / cast steel valve bodies / stainless steel valve bodies



3. Sleeve

- Temperature Sensor Ordinary Sleeve
- ◆ Interface size: External thread G1/2
- ◆ Length: 100-450mm, customizable
- ◆ Material: Brass, stainless steel
- ◆ Purpose: For temperature sensors

Ultrasonic Heat Meter Set Screw Sleeve

- ◆ Interface size: External thread G1/2, with set screw
- ◆ Length: 100-450mm, customizable
- ◆ Material: Brass, stainless steel
- Purpose: For temperature sensors



4. Threaded Socket

- G1/2 Female Thread Socket
- ◆ Interface size: Female thread G1/2
- ◆ Height: 15-50mm, customizable
- ◆ Material: Carbon steel
- ◆ Purpose: For temperature and pressure sensors



5. Pressure Guiding Pipe

- QBE Differential Pressure Sensor Pressure Guiding Pipe
- ◆ Interface size: External thread G1/2 + External thread G1/8
- ◆ Length: 1.5m, customizable
- ◆ Material: Red copper
- ◆ Purpose: For water differential pressure sensors

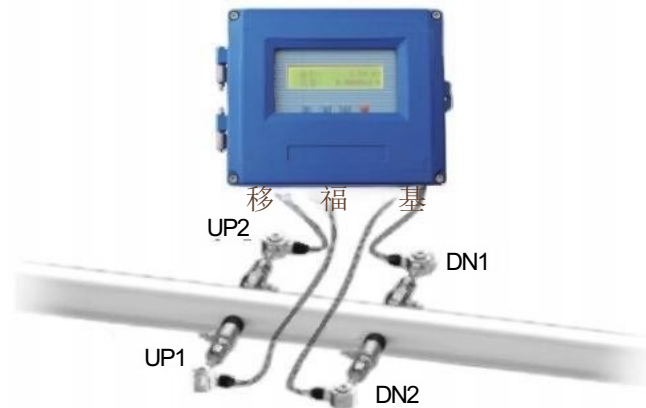


V. Flow Meters and Heat Meters

1. Pipe section type ultrasonic heat meter



2. Insertion-type ultrasonic heat meter



3. Ultrasonic water meter



4. Electromagnetic flow meter

