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Power Quality Solution

Reactor, capacitor, reactive power compensation controller



THYRISTOR SWITCH



Product Introduction

The thyristor switching switch is connected in parallel with the reactor and capacitor and put into the power grid. By collecting the waveforms at both ends of the thyristor, the data is processed by FPGA chip, and the precise switching is realized by the unique control technology. Ensure that the voltage harmonics are serious environment can still be normal switching, to achieve compensation effect, with high reliability.

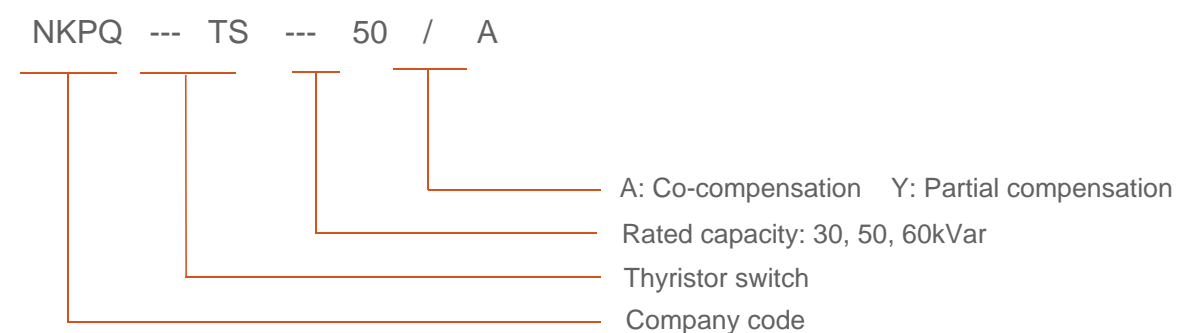
Technical Parameter

| | |
|----------------------|---|
| Main power supply | AC220V±20% ; AC380V±20% |
| Frequency | 50Hz±5% |
| Capacity | Single phase 45kvar, three phase 50kvar |
| Current | 45A/75A/85A |
| Allowed deviation | 20% |
| Control power supply | DC12V/10mA |
| Response time | ≤20ms |
| Insulation class | ≥10MΩ |
| Temperature | -40℃-65℃ |
| Altitude | Below 2000m |
| Standard | GB/T 7251.1、GB/T 29312、SJ/T 11557 |
| Communication | RS485 |
| Power dissipation | ≤15W |
| IP | IP20 |

Features

1. Electronic layer is completely closed, no fear of dust, salt, high temperature.
2. Normal switch in harsh environment, no delay.
3. Over temperature, over voltage, short circuit, open circuit, phase protection.
4. Fault wave recording.
5. Put in wait timeout protection, remove wait timeout protection, power failure protection.
6. RS485 communication.

Product Description



Model

| Compensation type | Model | Capacity |
|----------------------|--------------|----------|
| Co-compensation | NKPQ-TS-30/A | ≤30kvar |
| | NKPQ-TS-50/A | ≤50kvar |
| | NKPQ-TS-60/A | ≤60kvar |
| Partial compensation | NKPQ-TS-30/Y | ≤30kvar |
| | NKPQ-TS-50/Y | ≤50kvar |
| | NKPQ-TS-60/Y | ≤60kvar |

LOW VOLTAGE
CAPACITOR



Product Introduction

NKPQ-BKMJ series low-voltage self-healing environmental protection explosion-proof capacitor, using metallized polypropylene film technology, has a very superior self-healing. When there is an electrical breakdown, the capacitor can still work normally. The shell is a cylindrical aluminum metal shell with a ground bolt at the bottom, and adopts pressure sensitive explosion-proof technology. When the internal pressure of the capacitor exceeds the limit value, the internal pressure can be safely released to avoid the explosion of the capacitor.

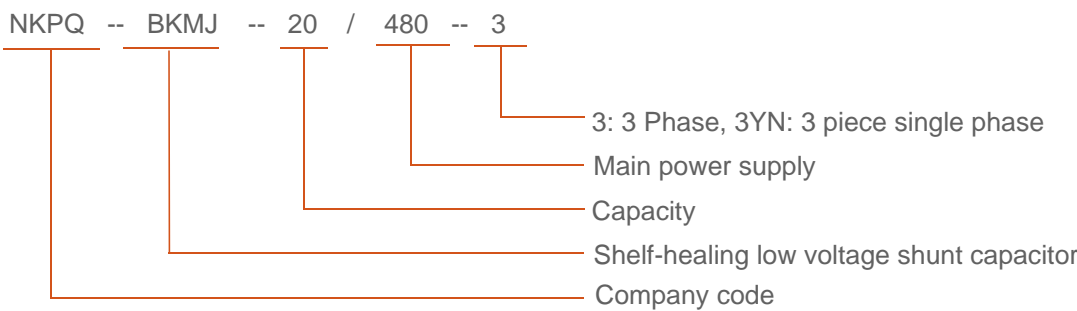
Features

- 1.Pressure sensitive explosion-proof technology.
- 2.Better resistance to pressure and impact.
- 3.Good heat dissipation and high stability.
- 4.Aluminum shell design, more light, easy to install.

Technical Parameter

| | |
|-----------------------|--|
| Main power supply | 230--525Vac |
| Frequency | 50/60Hz |
| Over-current | 2.5 · In |
| Inrush current | 200 · In |
| Capacitance tolerance | ±5% |
| Electrolyte | Polypropylene film |
| Perfusion material | Degradable soft resin |
| Dielectric loss | tanδ≤0.001 (20℃ , 50Hz) |
| Discharge time | 50s to 50v |
| Humidity | 95% |
| Altitude | 1500m |
| IP | IP54 |
| Standard | IEC 60831-1/2、 EN 60831-1/2、 GB/T12747.1 |
| Discharge resistance | Extrapolation |
| Over current | 2.5 · In |
| Temperature | [-40~60]℃ |
| Working life | 150,000 hours |

Product Description



Model

Rated voltage 280v 50hz(single-phase capacitor, suitable for series 7% reactance)

| Model | Capacity(kvar) | Dimension(mm) | Capacitor(uf) |
|-----------------------|----------------|---------------|---------------|
| NKPQ-BKMJ-10/280V-3YN | 10 | Φ86*165 | 135.4*3 |
| NKPQ-BKMJ-15/280V-3YN | 15 | Φ86*205 | 203*3 |
| NKPQ-BKMJ-20/280V-3YN | 20 | Φ96*235 | 270.7*3 |
| NKPQ-BKMJ-25/280V-3YN | 25 | Φ106*235 | 338.4*3 |
| NKPQ-BKMJ-30/280V-3YN | 30 | Φ116*235 | 406*3 |

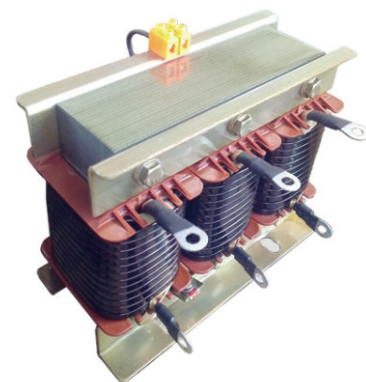
Rated voltage 480v 50hz(three-phase capacitor, suitable for series 7% reactance)

| Model | Capacity(kvar) | Dimension(mm) | Capacitor(uf) |
|----------------------|----------------|---------------|---------------|
| NKPQ-BKMJ-10/480V-3Y | 10 | Φ76*200 | 46*3 |
| NKPQ-BKMJ-15/480V-3Y | 15 | Φ76*230 | 69*3 |
| NKPQ-BKMJ-20/480V-3Y | 20 | Φ86*230 | 92.1*3 |
| NKPQ-BKMJ-25/480V-3Y | 25 | Φ96*230 | 115.2*3 |
| NKPQ-BKMJ-30/480V-3Y | 30 | Φ106*230 | 138.2*3 |
| NKPQ-BKMJ-40/480V-3Y | 40 | Φ126*278 | 184.2*3 |

Rated voltage 525v 50hz(three-phase capacitor, suitable for series 14% reactance)

| Model | Capacity(kvar) | Dimension(mm) | Capacitor(uf) |
|---------------------|----------------|---------------|---------------|
| NKPQ-BKMJ-10/525V-3 | 10 | Φ76*200 | 38.5*3 |
| NKPQ-BKMJ-15/525V-3 | 15 | Φ76*230 | 57.8*3 |
| NKPQ-BKMJ-20/525V-3 | 20 | Φ86*230 | 77*3 |
| NKPQ-BKMJ-25/525V-3 | 25 | Φ96*230 | 96*3 |
| NKPQ-BKMJ-30/525V-3 | 30 | Φ106*230 | 115*3 |
| NKPQ-BKMJ-40/525V-3 | 40 | Φ126*278 | 233.4*3 |

LOW VOLTAGE REACTOR



Product Introduction

NKPQ-CKSG dry iron core series reactance is suitable for low voltage distribution system, series with shunt capacitor bank, used to create the capacitor switching inrush current and absorb harmonics, avoid the impact of harmonics and impulse voltage, current on power system, and protect capacitance. 5 or more harmonics can be effectively fabricated by serial 7% reactance, and 3 or more harmonics can be effectively fabricated by serial 14% reactance.

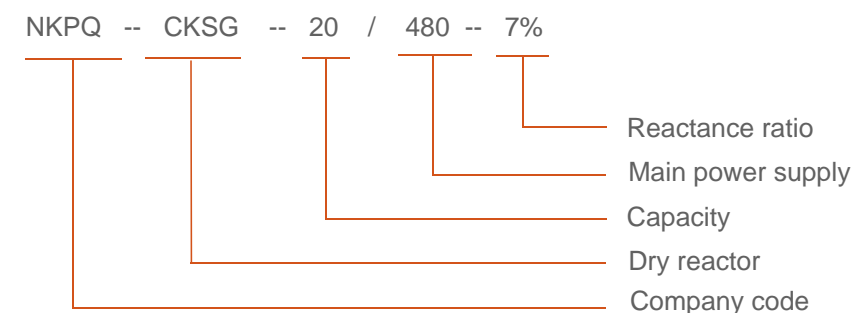
Features

1. Anti-corrosion treatment, the key clips are made of non-magnetic materials.
2. Low temperature rise, low noise, good heat dissipation
3. The leading terminals are tinned copper tube terminals

Technical Parameter

| | |
|------------------------|------------------------------|
| Main power supply | 230--525Vac |
| Frequency | 50/60Hz |
| Reactance ratio | 1%--14% |
| Overload | $>1.35 \cdot I_n$ |
| Temperature rise limit | 70K(rated current) |
| Temperature | -40℃~60℃ |
| Material | Copper/Aluminum |
| Humidity | 95% |
| Altitude | 1500m |
| Withstand voltage | 5kV/min |
| Noise | $\leq 48\text{dB}$ |
| Insulation class | H |
| Standard | IEC 60076-6、GB/T 1094.6-2011 |

Product Description



Model

| Model(Aluminium) | Capacitor(kvar) | Reactor(kvar) | Dimension(mm) | Mounting dimension |
|----------------------------|-----------------|---------------|---------------|--------------------|
| NKPQ - CKSG -10 /480 - 7% | 10 | 0.7 | 160*145*165 | 80*85 |
| NKPQ - CKSG -15 /480 - 7% | 15 | 1.05 | 190*140*185 | 80*85 |
| NKPQ - CKSG -20 /480 - 7% | 20 | 1.4 | 190*150*185 | 80*95 |
| NKPQ - CKSG -25 /480 - 7% | 25 | 1.75 | 225*150*215 | 120*85 |
| NKPQ - CKSG -30 /480 - 7% | 30 | 2.1 | 225*160*215 | 120*95 |
| NKPQ - CKSG -33 /480 - 7% | 33.4 | 2.34 | 225*170*215 | 120*105 |
| NKPQ - CKSG -40 /480 - 7% | 40 | 2.8 | 225*180*215 | 120*115 |
| NKPQ - CKSG -10 /525 - 14% | 10 | 1.4 | 190*150*185 | 80*95 |
| NKPQ - CKSG -15 /525 - 14% | 15 | 2.1 | 225*160*215 | 120*95 |
| NKPQ - CKSG -20 /525 - 14% | 20 | 2.8 | 225*180*215 | 120*115 |
| NKPQ - CKSG -25 /525 - 14% | 25 | 3.5 | 260*190*245 | 135*115 |
| NKPQ - CKSG -30 /525 - 14% | 30 | 4.2 | 260*190*245 | 135*115 |
| NKPQ - CKSG -33 /525 - 14% | 33.4 | 4.67 | 260*190*245 | 135*115 |
| NKPQ - CKSG -40 /525 - 14% | 40 | 5.6 | 290*170*295 | 135*105 |

Note: The above parameters are for reference only, can be customized according to customer requirements.

COMPOSITE SWITCH



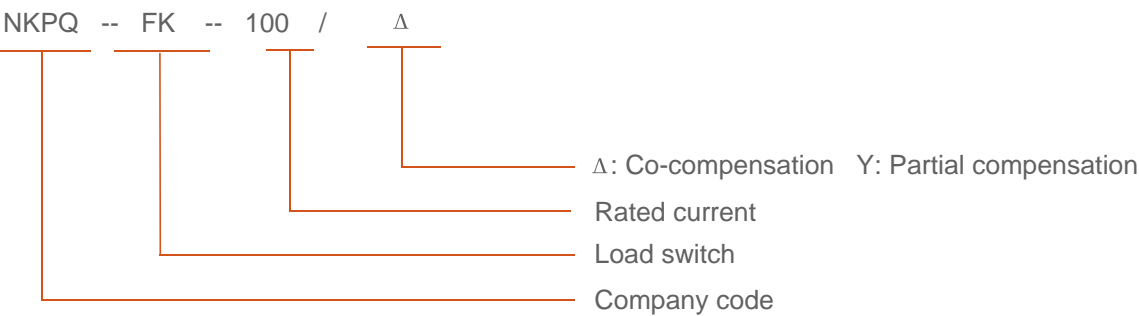
Product Introduction

NKPQ-FK series load switch is an important component of capacitance compensation device, which is composed of thyristor and magnetic holding relay in parallel. By controlling the thyristor switch, the capacitor compensation loop voltage zero crossing input and current zero crossing cutting are realized, and the magnetic holding relay is used to keep the continuous current, so that the capacitor switching has no inrush current impact and the response speed is fast.

Features

- 1. Zero switching, no surge flow.
- 2. Small heat, low power consumption.
- 3. MCU switching control, with relay fault protection.
- 4. No phase protection, no load protection, power down protection, etc.
- 5. Photoelectric isolation, strong anti-interference ability.
- 6.RS485 communication.

Product Description



Technical Parameter

| | |
|--------------------|--|
| Main power supply | AC220V, AC380V |
| Capacity | Single phase 45kvar, three phase 50kvar |
| Current | 45/60/100A |
| Frequency | 50Hz±5% |
| Control voltage | AC220V |
| Current | 45/60/100A |
| Inrush current | 2Ie |
| On-state impedance | 0.003 |
| Insulation | 10M |
| Humidity | 90% |
| Temperature | -25~70℃ |
| Altitude | 5000m |
| Environment | No flammable media, no conductive dust and corrosive gas |
| Standard | GB/T 15576-2008 |

Model

| Type | Model | Capacity | Current |
|-----------------------------------|---------------|----------|---------|
| Three phase co-compensation | NKPQ-FK-45/ Δ | ≤20kvar | 45A |
| | NKPQ-FK-60/ Δ | ≤30kvar | 60A |
| | NKPQ-FK-100/Δ | ≤50kvar | 100A |
| Single phase partial compensation | NKPQ-FK-45/Y | ≤20kvar | 45A |
| | NKPQ-FK-60/Y | ≤30kvar | 60A |
| | NKPQ-FK-100/Y | ≤45kvar | 100A |

POWER FACTOR CONTROLLER



Product Introduction

NKPQ-CON series power factor controller adopts special power parameter acquisition chip and 32-bit ARM processor, especially suitable for large power factor fluctuations. The operation frequency is small, the control precision is high, the anti-interference ability is strong. With output DC12V signal and output dry contact signal two kinds of controller, can control thyristor, load switch, contactor.

Features

- 1. The power distribution parameters are dynamically displayed.
- 2. Comprehensive calculation makes compensation more accurate and prevents switching oscillation.
- 3. With harmonic over limit, over voltage, under voltage, over current, over temperature protection.
- 4. Manual/automatic switch.
- 5. RS485 communication.

Product Description

NKPQ -- CON -- 18 -- J

- J: Static T: Dynamic I: Intelligent capacitor
- Loop
- Reactive compensation controller
- Company code

Technical Parameter

| | |
|-------------------|--|
| Main power supply | 80%--120% rated voltage |
| Current sample | 50%--100% rated current |
| Output mode | DC12V, RS485 |
| Frequency | 50Hz±5% |
| Control voltage | AC220V |
| No. of loop | 18 loops, 24 loops |
| Humidity | 90% |
| Temperature | -25~70℃ |
| Altitude | 5000m |
| Environment | No flammable media, no conductive dust and corrosive gas |
| Standard | GB/T 15576-2008 |

Model

| Type | Mode | Loop | Dimension | Mounting |
|-------------|---------------|------|-------------|----------|
| Dynamic | NKPQ-CON-18-T | 18 | 144*110*144 | 138*138 |
| | NKPQ-CON-24-T | 24 | | |
| Static | NKPQ-CON-18-J | 18 | 120*91*120 | 113*113 |
| | NKPQ-CON-24-J | 24 | | |
| Intelligent | NKPQ-CON-30-I | 30 | | |

INTELLIGENT
CAPACITOR



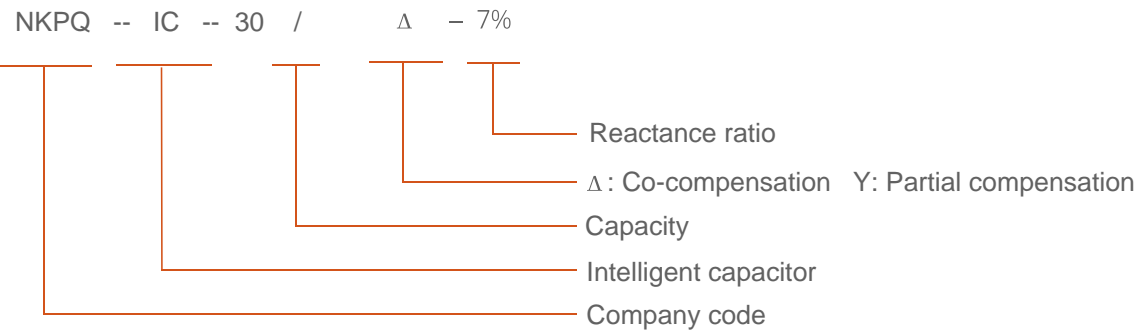
Product introduction

NKPQ-IC series smart capacitor is in the 400v low-voltage distribution network will switch, capacitor, reactor integrated into one, change the traditional reactive power compensation device volume of the large structure mode, to better meet the needs of low-voltage power supply system reactive power compensation.

Features

- 1. Intelligent module structure, small size, light weight, easy to maintain.
- 2. High quality low voltage self-healing power capacitor, low power consumption, strong voltage resistance, more safe.
- 3. Zero switching, no switching surge impact, fast response speed, no switching shock.
- 4. With voltage, current, temperature, harmonics and other comprehensive protection functions
- 5. Man-machine interface, easy to debug and maintenance.

Product Description



Technical Parameter

| | |
|-------------------------|--|
| Main power supply | AC220V±20% ; AC380V±20% |
| Switching mode | Load switch |
| Current sample | /5 , 0.5级 |
| Frequency | 50Hz±5% |
| Voltage distortion rate | < 5% |
| Type | Δ,Y |
| Humidity | 90% |
| Temperature | -25~70℃ |
| Altitude | 1500m |
| Environment | No flammable media, no conductive dust and corrosive gas |
| Standard | GB/T 15576-2008 |

Model

| Type | Model | Cpacity | Voltage | Reactance ratio |
|--------------------------------------|--------------------|---------|---------|-----------------|
| Three phase Co-compensation | NKPQ-IC-20/ Δ | 20kvar | 450V | 0 |
| | NKPQ-IC-30/ Δ | 30kvar | 450V | 0 |
| | NKPQ-IC-40/ Δ | 40kvar | 450V | 0 |
| | NKPQ-IC-50/ Δ | 50kvar | 450V | 0 |
| | NKPQ-IC-20/ Δ -7% | 20kvar | 480V | 7% |
| | NKPQ-IC-30/ Δ -7% | 30kvar | 480V | 7% |
| | NKPQ-IC-40/ Δ -7% | 40kvar | 480V | 7% |
| | NKPQ-IC-50/ Δ -7% | 50kvar | 480V | 7% |
| | NKPQ-IC-20/ Δ -14% | 20kvar | 525V | 14% |
| | NKPQ-IC-30/ Δ -14% | 30kvar | 525V | 14% |
| Single phase Partial compensation | NKPQ-IC-40/ Δ -14% | 40kvar | 525V | 14% |
| | NKPQ-IC-50/ Δ -14% | 50kvar | 525V | 14% |
| | NKPQ-IC-10/Y | 10kvar | 250V | 0 |
| | NKPQ-IC-20/Y | 20kvar | 250V | 0 |
| | NKPQ-IC-30/Y | 30kvar | 250V | 0 |
| | NKPQ-IC-10/Y-7% | 10kvar | 280V | 7% |
| | NKPQ-IC-20/Y-7% | 20kvar | 280V | 7% |
| | NKPQ-IC-30/Y-7% | 30kvar | 280V | 7% |
| | NKPQ-IC-10/Y-14% | 10kvar | 300V | 14% |
| | NKPQ-IC-20/Y-14% | 20kvar | 300V | 14% |
| | NKPQ-IC-30/Y-14% | 30kvar | 300V | 14% |
| | | | | |