Solids Control

Explosion Proof
Electrical Control Panel

HEBEI GN SOLIDS CONTROL CO., LTD
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GN Solids Control is a famous brand of oil equipment manufacturer in domestic and overseas. GN’s electrical engineering business department, affiliated to Hebei GN Solids Control Co., Ltd, has comprehensive ability to provide solution for explosion-proof electrical control. GN is able to provide the electric control system, explosion-proof control panel design and development, fabrication, site installation, program debugging, and other services.

Part 1 GN Company Profile

GN is with enormous capability in software and hardware and has 2 factories with total area of 40,000 square meters running in Chaobai River development area close to Beijing. Another factory in Hebei province under establishing is of 100,000 square meters.

GN company is approved by API certification system. The electrical control products have been certified by IEC Ex and China CNEx, which enable GN’s products to meet high level market requirements.

GN has up-to-date numerical control processing workshop and advanced fabrication machine.

GN is the first one China based electrical products manufacturer who set up the branch in the USA.

GN products are applying in over 70 countries and regions. GN has set up branch and cooperative agency in the USA, Russia, Australia, Latin America and Middle East.

GN has been approved HSE certification system, the company is comply with ISO9001、ISO14001、OHSAS18001 standard.

GN is able to provide customized electrical control solutions including control panel, PLC Program design and integrated system smart control center as per customers’ requirements.

GN Explosion Proof Electrical Products Advantages

- GN is with enormous capability in software and hardware and has 2 factories with total area of 40,000 square meters running in Chaobai River development area close to Beijing. Another factory in Hebei province under establishing is of 100,000 square meters.
- GN company is approved by API certification system. The electrical control products have been certified by IEC Ex and China CNEx, which enable GN’s products to meet high level market requirements.
- GN has up-to-date numerical control processing workshop and advanced fabrication machine.
- GN is the first one China based electrical products manufacturer who set up the branch in the USA.
- GN products are applying in over 70 countries and regions. GN has set up branch and cooperative agency in the USA, Russia, Australia, Latin America and Middle East.
- GN has been approved HSE certification system, the company is comply with ISO9001、ISO14001、OHSAS18001 standard.
- GN is able to provide customized electrical control solutions including control panel, PLC Program design and integrated system smart control center as per customers’ requirements.
GN has set up branch in the USA, from where GN is able to provide quick response to customers from North and South America. The branch company in the meanwhile brings the latest technology back to China headquarter. Nowadays, GN has become one of the qualified suppliers of electrical products in global supply chain.

GN Factory Photographs

GN USA Company

GN China Machining Workshop

GN China Electrical Assembly Workshop
GN Explosion Proof Certification

GN electrical control products have been certified by IEC Ex and China CNEx, which enable GN’s products to meet high level market requirements.
Part 2 Ex Proof Single Motor Starter

The Ex proof single motor starter made by GN Solids Control is with strong and compact design. For the purpose of safety operation and equipment suitability, in accordance with the motor power, GN Ex proof motor starter mainly includes following types: Ex proof electromagnetic starter, Ex proof star delta starter and Ex proof soft starter.

2.1 Ex Proof Electromagnetic Starter

<table>
<thead>
<tr>
<th>Power (kw)</th>
<th>Identification No.</th>
<th>Enclosure Type</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CNEX</td>
<td>IEC Ex</td>
<td>CNDKXZ-3035</td>
</tr>
<tr>
<td>2.2</td>
<td>CNEX-CL-020</td>
<td>IEEX-CL-020</td>
<td></td>
</tr>
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<td>3</td>
<td>CNEX-CL-030</td>
<td>IEEX-CL-030</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>CNEX-CL-040</td>
<td>IEEX-CL-040</td>
<td></td>
</tr>
<tr>
<td>5.5</td>
<td>CNEX-CL-055</td>
<td>IEEX-CL-055</td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td>CNEX-CL-075</td>
<td>IEEX-CL-075</td>
<td>IECCKXZ-3035</td>
</tr>
<tr>
<td>11</td>
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<td>15</td>
<td>CNEX-CL-015</td>
<td>IEEX-CL-015</td>
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<tr>
<td>18.5</td>
<td>CNEX-CL-018</td>
<td>IEEX-CL-018</td>
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</tr>
<tr>
<td>22</td>
<td>CNEX-CL-022</td>
<td>IEEX-CL-022</td>
<td></td>
</tr>
</tbody>
</table>
★ Electrical Schematic Diagram

**Technical Parameters**
1. Enclosure material is made of cast aluminum.
2. Enclosure color Window Gray (RAL7040), External surface Electrostatic powder coating.
3. Cable sealing connector type: DQM-IV.
4. Interior and exterior earthing.
5. Ex Marks: EX d II B T4 Gb.
6. IP Grade: IP65
7. Electric Specs: AC380V/50HZ or customized

**Scope of Application**
1. Suitable for Explosive gas environment Zone1 or Zone 2,
2. Suitable for IIB、IIC Explosive gas environment
3. Suitable for group T1-T4 temperature group
4. Widely used in refinery, chemical plant, offshore oil drilling platform, oil exploitation, oil tanker and other flammable and explosive gas environment
2.2 Ex Proof Star Delta Starter

<table>
<thead>
<tr>
<th>Power (kw)</th>
<th>Identification No.</th>
<th>Enclosure Type</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>CNEX-YQ-030</td>
<td>CNEX 4056</td>
<td>400 × 560 × 280</td>
</tr>
<tr>
<td>37</td>
<td>CNEX-YQ-037</td>
<td>IEC Ex 4056</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>CNEX-YQ-045</td>
<td>CNDKXZ-5672</td>
<td>560 × 720 × 350</td>
</tr>
<tr>
<td>55</td>
<td>CNEX-YQ-055</td>
<td>IEC Ex 5672</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>CNEX-YQ-075</td>
<td></td>
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</tr>
<tr>
<td>90</td>
<td>CNEX-YQ-090</td>
<td>CNDKXZ-5672/2</td>
<td>1120 × 720 × 350</td>
</tr>
<tr>
<td>110</td>
<td>CNEX-YQ-110</td>
<td>IEC Ex 5672/2</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: 5672/2 means double 5672 enclosures.
**Technical Parameters**

1. Enclosure material is made of cast aluminum.
2. Enclosure color Window Gray (RAL7040), External surface Electrostatic powder coating.
3. Cable sealing connector type: DQM-IV.
4. Interior and exterior earthing.
5. Ex Marks: EX d II B T4 Gb.
6. IP Grade: IP65
7. Electric Specs: AC380V/50HZ or customized

**Scope of Application**

1. Suitable for Explosive gas environment Zone1 or Zone 2,
2. Suitable for IIB, IIC Explosive gas environment
3. Suitable for group T1-T4 temperature group
4. Widely used in refinery, chemical plant, offshore oil drilling platform, oil exploitation, oil tanker and other flammable and explosive gas environment
### 2.3 Ex Proof Soft Starter

<table>
<thead>
<tr>
<th>Power (kw)</th>
<th>Identification No.</th>
<th>Enclosure Type</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>CNEX-RQ-030</td>
<td>IEC Ex</td>
<td>CNEX/RQ-030</td>
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<tr>
<td>37</td>
<td>CNEX-RQ-037</td>
<td>IEC Ex</td>
<td>CNEX/RQ-037</td>
</tr>
<tr>
<td>45</td>
<td>CNEX-RQ-045</td>
<td>IEC Ex</td>
<td>CNEX/RQ-045</td>
</tr>
<tr>
<td>55</td>
<td>CNEX-RQ-055</td>
<td>IEC Ex</td>
<td>CNEX/RQ-055</td>
</tr>
<tr>
<td>75</td>
<td>CNEX-RQ-075</td>
<td>IEC Ex</td>
<td>CNEX/RQ-075</td>
</tr>
<tr>
<td>90</td>
<td>CNEX-RQ-090</td>
<td>IEC Ex</td>
<td>CNEX/RQ-090</td>
</tr>
<tr>
<td>110</td>
<td>CNEX-RQ-110</td>
<td>IEC Ex</td>
<td>CNEX/RQ-110</td>
</tr>
</tbody>
</table>

Remarks: 5672/2 means double 5672 enclosures.
**Technical Parameters**

1. Enclosure material is made of cast aluminum.
2. Enclosure color Window Gray (RAL7040), External surface Electrostatic powder coating.
3. Cable sealing connector type: DQM-IV.
4. Interior and exterior earthing.
5. Ex Marks: EX d II B T4 Gb.
6. IP Grade: IP65
7. Electric Specs: AC380V/50HZ or customized

**Scope of Application**

1. Suitable for Explosive gas environment Zone 1 or Zone 2,
2. Suitable for IIB, IIC Explosive gas environment
3. Suitable for group T1-T4 temperature group
4. Widely used in refinery, chemical plant, offshore oil drilling platform, oil exploitation, oil tanker and other flammable and explosive gas environment
GN explosion proof combination electrical control panels are mainly used for multiple motors control and instrument monitoring. As per clients’ requirements, GN is able to provide customized solution of electrical control chart design, control panel model selection and installation.

### Part 3 Ex Proof Combination Control Panel

<table>
<thead>
<tr>
<th>Power (kw)</th>
<th>Identification No.</th>
<th>Enclosure Type</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.72+1.72</td>
<td>CNEX-ZH2-003 IEEEX-ZH2-003</td>
<td>CNDKXZ-3035 IECDKXZ-3035</td>
<td>300 × 350 × 200</td>
</tr>
<tr>
<td>1.94+1.94</td>
<td>CNEX-ZH2-004 IEEEX-ZH2-004</td>
<td>CNDKXZ-3545 IECDKXZ-3545</td>
<td>350 × 450 × 280</td>
</tr>
<tr>
<td>11KW+3KW</td>
<td>CNEX-ZH2-014 IEEEX-ZH2-014</td>
<td>CNDKXZ-4056 IECDKXZ-4056</td>
<td>400 × 560 × 280</td>
</tr>
<tr>
<td>22+7.5 KW</td>
<td>CNEX-ZH2-029 IEEEX-ZH2-029</td>
<td>CNDKXZ-5672 IECDKXZ-5672</td>
<td>560 × 720 × 353</td>
</tr>
<tr>
<td>37+11+7.5 KW</td>
<td>CNEX-ZH3-056 IEEEX-ZH3-056</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45KW+7.5KW</td>
<td>CNEX-ZH2-053 IEEEX-ZH2-053</td>
<td>CNDKXZ-5672 IECDKXZ-5672</td>
<td></td>
</tr>
<tr>
<td>55+0.55+4KW</td>
<td>CNEX-ZH3-063 IEEEX-ZH3-063</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Customized**

GN is able to provide solution as per customers’ requirements.
★ Electrical Schematic Diagram

Fit for: CNEX-ZH2-003
/ CNEX-ZH2-004

Fit for: CNEX-ZH2-014
/ CNEX-ZH2-029

Fit for: CNEX-ZH2-053
**Technical Parameters**

1. Enclosure material is made of cast aluminum.
2. Enclosure color Window Gray (RAL7040), external surface Electrostatic powder coating.
3. Cable sealing connector type: DQM-IV.
4. Interior and exterior earthing.
5. Ex Marks: EX d II B T4 Gb.
6. IP Grade: IP65
7. Electric Specs: AC380V/50HZ or customized

**Scope of Application**

1. Suitable for Explosive gas environment Zone1 or Zone 2,
2. Suitable for IIB、IIC Explosive gas environment
3. Suitable for group T1-T4 temperature group
4. Widely used in refinery, chemical plant, offshore oil drilling platform, oil exploitation, oil tanker and other flammable and explosive gas environment
Part 4 Ex Proof Enclosure Dimensional Drawing

Dimension Unit: mm

Enclosure Type: CNDKXZ–3035

Enclosure Type: CNDKXZ–3545
Dimension Unit: mm

Enclosure Type: CNDKXZ-4056

Enclosure Type: CNDKXZ-5672
GN Explosion Proof Pressurized Control Panel is mostly used for VFD control and soft starter of motor, especially in high temperature ambient. The explosion proof pressurized control panel consists of main cabinet and auxiliary cabinet. Main cabinet enclosure is made of stainless steel, while the auxiliary cabinet is aluminum alloy material Exd type for main power connecting. GN is able to provide flame proof type control panel for VFD control.

### Part 5 Ex Proof Positive Pressure Control Panel

<table>
<thead>
<tr>
<th>Power (kw)</th>
<th>Identification No. (Model refer control panel)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CNEX Flame Proof</td>
</tr>
<tr>
<td>37+11+7.5 KW</td>
<td>CNEX-BP3-056</td>
</tr>
<tr>
<td>45KW+7.5KW</td>
<td>CNEX-BP2-053</td>
</tr>
<tr>
<td>55+0.55+4KW</td>
<td>CNEX-BP3-063</td>
</tr>
<tr>
<td>55+22+15</td>
<td>CNEX-BP3-092</td>
</tr>
<tr>
<td>90+37+22</td>
<td>CNEX-BP3-149</td>
</tr>
<tr>
<td>Customized</td>
<td>GN is able to provide VFD control panel type selection and PLC program design according to customers’ control requirements.</td>
</tr>
</tbody>
</table>

www.gnsolidscontrol.com
VFD Control Panel Features

- Double VFD or 3 VFD available
- VFD brand is ABB, SIEMENS or other famous brands.
- The positive pressurized VFD control panel can be cooling by vertex tube or air conditioner to work for ambient Temp. up to +55 Degree Celsius.
- The VFD panel is optional for IEC Ex or ATEX or CNEX Zone 1 or Zone 2 application.
- The HMI and PLC system for user-friendly operation and smart control and protection.
- It’s optional for client to choose bearing temperature protection and vibration switch.

Application Scope
- Suitable for Explosive gas environment Division 1 or Division 2
- Suitable for IIB, IIC Explosive gas environment
- Suitable for combustible dust environment zone 21, zone 22.
- Suitable for group T1-T4 temperature group
- Protection level: IP65/IP66.

Working Principle
Positive pressure ventilation Ex proof adopts principle of dielectric isolation ignition source, equivalent to all the electrical components installed in a positive pressurized clean medium shell, the mixed gas in the flammable and explosive substances outside of shell cannot come into contact with electrical components, not appear in normal electric studio spark or dangerous temperature, so as to achieve the purpose of electrical explosion proof.
Please provide below information for order and request for quote.

1. Number of motors need to be controlled
   E.g. 1 ea, 2 ea, 3 ea, …

2. Motor Power (HP or KW)
   E.g. 40HP, 1.72Kw+1.72Kw, 37Kw+11Kw+7.5Kw, …

3. Required control method
   E.g. Soft start, remote control, PLC VFD control, …

4. Application site Voltage and Frequency.
   E.g. 380V/50Hz, 460V/60Hz, …

5. Explosion-proof grade request
   E.g. Ex dIIBT4 for Zone 1, Exdeib PZ IIB T6 Gc for Zone 2, …

6. Explosion-proof standard
   E.g. China CNEx, IEC Ex, ATEX, …

7. Other relative information.
Contact us

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