

# Aufbauübersicht für Elektrogeräte und Maschinen

## Data form for electrical equipment and machinery



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|   |  |   |   |
|---|--|---|---|
| <b>Auftraggeber / Applicant:</b>  | Applicant: Shenzhen Kstar New Energy Company Limited<br>Address: The 9th Floor, R&D Building, Kstar Industrial Park, Guangming Hi-tech Industrial Zone, 518107 Shenzhen, Guangdong Province, PEOPLE'S REPUBLIC OF CHINA                          |   |   |
| <b>Fertigungsstätte / Production facility:</b>  | Factory: Shenzhen KSTAR Science & Technology Co., Ltd. Guangming Branch<br>Address: Kstar High Tech Park, Guangming High, Technology Town, Gongming Street, Baoan District, 518107 Shenzhen City, Guangdong Province, PEOPLE'S REPUBLIC OF CHINA |   |   |
| <b>Geräteart / Type of equipment:</b>   | PV grid-interactive inverter   |   |   |
| <b>Typenbezeichnung / Type/model:</b>   | KSG-30K, KSG-36K-HV, KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV  |   |   |
| <b>Seriennr. / Serial no.:</b>  | ---  |   |   |
| <b>Nennspannung/Frequenz / Rated voltage/frequency:</b>                                 | See next page  |   |   |
| <b>Nennaufnahme/Nennstrom / Rated input power/current:</b>                              | See next page  |   |   |
| <b>Anschlußdaten-Hydraulik / Connection to hydraulic power:</b>                         | N/A  |   |   |
| <b>Anschlußdaten-Pneumatik / Connection to pneumatic power:</b>                         | N/A  |   |   |
| <b>Anschlußdaten-Wasser / Connection to water installation:</b>                         | N/A  |   |   |
| <b>Gewicht / weight:</b>  | Net weight: 61 kg ~ 67,4 kg (Approx.)  |   |   |
| <b>Lärmemission / noise emission (dB A):</b>  | 45 dBA (Approx.)   |   |   |
| <b>Ausführung / Construction:</b>   | Ortsfest   | Stationary  | <input checked="" type="checkbox"/>                 |
|   | Ortsveränderlich   | Portable  | <input type="checkbox"/>                            |
|   | Handgerät  | Hand-held   | <input type="checkbox"/>                            |
|   | Einbaugerät  | Open-frame  | <input type="checkbox"/>                            |
| <b>Schutzklasse / Protection class:</b>   | <b>Schutzklasse</b>  | <b>I:</b> Schutzleiteranschluß                              | PE-connection <input checked="" type="checkbox"/>   |
|   | <b>Schutzklasse</b>  | <b>II:</b> Schutzisoliert                                   | Double insulation <input type="checkbox"/>          |
|   | <b>Schutzklasse</b>  | <b>III:</b> Schutzkleinspannung/<br>interne Stromversorgung | SELV/internally<br>powered <input type="checkbox"/> |
| <b>Schutzart / Degree of protection against liquids:</b>                                | IP65   |   | <input checked="" type="checkbox"/>                 |
| <b>Anschlußart / Supply connection:</b>   | Feste Anschlußleitung  | Non detachable cord   | <input type="checkbox"/>                            |
|   | Fester Anschluß  | Permanent connection  | <input checked="" type="checkbox"/>                 |
|   | Gerätesteckvorrichtung   | Appliance inlet   | <input type="checkbox"/>                            |
| <b>Netzbetriebsart / Rated operation:</b>   | Dauerbetrieb   | Continuous operation  | <input checked="" type="checkbox"/>                 |
|   | Aussetzbetrieb   | Intermittent operation                                      | <input type="checkbox"/>                            |
|   | Kurzzeitbetrieb  | Short time operation  | <input type="checkbox"/>                            |
| <b>Material: a) Gehäuse / Enclosure:</b>  | At least 1,2 mm thickness SECC with outdoor coatings   |   |   |
| <b>b) Leiterplatten / p.c.b.:</b>   | V-0, CTI>175, 130 °C, UL recognized  |   |   |
| <b>Zusätzliche Angaben für Laser, Klassifizierung nach EN 60825</b>                     |  |   |   |
| <b>Additional information for Laser equipment, classification according to EN 60825</b> |  |   |   |
| <b>Klasse / Class:</b>  | N/A  |   |   |
| <b>Wellenlänge / Wavelength:</b>  | N/A  |   |   |
| <b>Pulsdauer / Pulse duration:</b>  | N/A  |   |   |

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| Model                          | KSG-30K               | KSG-36K-HV      | KSG-50K               |
|--------------------------------|-----------------------|-----------------|-----------------------|
| Vmax PV                        | 1000 Vd.c.            | 1000 Vd.c.      | 1000 Vd.c.            |
| Isc PV                         | 28 Ad.c. x 3          | 28 Ad.c. x 3    | 38 Ad.c. x 3          |
| Max. Continuous input current  | 26 Ad.c. x 3          | 26 Ad.c. x 3    | 36 Ad.c. x 3          |
| MPPT tracker / strings         | 3 / 2                 | 3 / 2           | 3 / 4                 |
| Nominal AC voltage             | 3/N/PE, 230/400 Va.c. | 3~PE, 480 Va.c. | 3/N/PE, 230/400 Va.c. |
| Nominal Frequency              | 50/60 Hz              | 50/60 Hz        | 50/60 Hz              |
| Max. Continuous output current | 44 Aa.c.              | 44 Aa.c.        | 72 Aa.c.              |
| Nominal output power           | 30 kW                 | 36 kW           | 50 kW                 |
| Max. Continuous output power   | 33 kVA                | 40 kVA          | 55 kVA                |
| Power factor (full load)       | >0,99                 | >0,99           | >0,99                 |
| Protective class               | I                     | I               | I                     |
| Ingress protection             | IP65                  | IP65            | IP65                  |
| Temperature                    | -25 °C ~ +60 °C       | -25 °C ~ +60 °C | -25 °C ~ +60 °C       |

| Model                          | KSG-50K-HV      | KSG-60K               | KSG-60K-HV      |
|--------------------------------|-----------------|-----------------------|-----------------|
| Vmax PV                        | 1000 Vd.c.      | 1000 Vd.c.            | 1000 Vd.c.      |
| Isc PV                         | 38 Ad.c. x 3    | 42 Ad.c. x 3          | 42 Ad.c. x 3    |
| Max. Continuous input current  | 36 Ad.c. x 3    | 40 Ad.c. x 3          | 40 Ad.c. x 3    |
| MPPT tracker / strings         | 3 / 4           | 3 / 4                 | 3 / 4           |
| Nominal AC voltage             | 3~PE, 480 Va.c. | 3/N/PE, 230/400 Va.c. | 3~PE, 480 Va.c. |
| Nominal Frequency              | 50/60 Hz        | 50/60 Hz              | 50/60 Hz        |
| Max. Continuous output current | 61 Aa.c.        | 87 Aa.c.              | 72 Aa.c.        |
| Nominal output power           | 50 kW           | 60 kW                 | 60 kW           |
| Max. Continuous output power   | 55 kVA          | 66 kVA                | 66 kVA          |
| Power factor (full load)       | >0,99           | >0,99                 | >0,99           |
| Protective class               | I               | I                     | I               |
| Ingress protection             | IP65            | IP65                  | IP65            |
| Temperature                    | -25 °C ~ +60 °C | -25 °C ~ +60 °C       | -25 °C ~ +60 °C |

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(Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschränken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen .....

Safety relevant components: (switch, temperature regulator, heating element, plug, socket, wiring, capacitor, motors and other components with windings e.g. transformers, coils)

(emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers .....

Technische Daten: Angaben über Stromstärke, Leistung, Transformatorspezifikationsnummer, Isolationsklasse

Konformitätszeichen: Prüfzeichen von(TÜV, VDE, BSI, UL etc.)

Technical data: Information about current, power, transformer specification number, insulating class etc.

Mark of conformity: Test mark from (TÜV, VDE, BSI, UL etc.)

| Critical components list (CDF)  |   |   |   |                            |                           |
|---|---|---|---|----------------------------|---------------------------|
| Object/part No.   | manufacturer/<br>trademark                                      | type/model  | technical data  | Standard                   | mark(s) of<br>conformity! |
| Metal enclosure   | Shenzhen Kstar<br>New Energy<br>Company Limited                 | --  | LxWxD:<br>1010mmx636mmx260mm,<br>AL5052 H32 with outdoor<br>powder coatings   | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance  |
| Heat sink (KSG-30K,<br>KSG-36K-HV)  | Shenzhen Kstar<br>New Energy<br>Company Limited                 | --  | LxWxD:<br>590mmx450mmx80,5mm, 6063<br>aluminum alloy                          | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance  |
| Heat sink (KSG-50K,<br>KSG-50K-HV, KSG-<br>60K, KSG-60K-HV)                     | Shenzhen Kstar<br>New Energy<br>Company Limited                 | --  | LxWxD:<br>525mmx410mmx80,5mm, 6063<br>aluminum alloy                          | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance  |
| Plastic cover for<br>protective LCD   | LG Chemical<br>(Guangzhou)<br>Engineering<br>Plastics Co., Ltd. | LUPOY GP-<br>1006F(f1), LUPOY<br>GP-1006F(m)(f1)          | V-0, 120 °C, 56mmx28mm for<br>LCD window                                      | --                         | UL E248280                |
| --Alternative   | Various   | UL Recognized   | UV resistance, V-1, 120 °C or<br>above  | --                         | UL Recognized             |
| PV connector  | Phoenix   | PV-FT-CF-C-4-250-<br>BV-SP;<br>PV-FT-CM-C-4-250-<br>RD-SP | 1000 Vdc, 40 A, -40 °C ~ +85<br>°C, IP65                                      | EN 50521                   | TÜV R 60029159            |
| -(alternative PV<br>connector)  | Amphenol  | Helios H4 4 mm <sup>2</sup>                               | 1000 Vdc, 40 A@Ta=90 °C, 4<br>mm <sup>2</sup> -40 °C ~ +85 °C, IP68           | EN 50521                   | TÜV R 50157783            |
| DC Switch<br>disconnecter (KSG-<br>30K, KSG-36K-HV)                             | Santon<br>International B.V.                                    | XA100.16P6E-D   | 1000V/16A, 850V/20A,<br>800V/25A, 650V/32A                                    | EN 60947-3                 | KEMA<br>2152871.02        |
| DC Switch<br>disconnecter (KSG-<br>50K, KSG-50K-HV,<br>KSG-60K, KSG-60K-<br>HV) | Santon<br>International B.V.                                    | X75.32P6E-D   | 750V/32A, 1000V/10A,<br>800V/25A, 650V/40A                                    | EN 60947-3                 | KEMA<br>2124402.01        |
| Cable gland for AC<br>output (KSG-30K,<br>KSG-36K-HV, KSG-<br>50K)              | BEISIT ELECTRIC<br>(HANGZHOU)<br>CO.,LTD.                       | MG4030B   | Cable diameter range: 24 ~ 30<br>mm, -40 °C ~ +100 °C, IP68,<br>UV resistance | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance  |
| Cable gland for AC<br>output (KSG-50K-HV,<br>KSG-60K, KSG-60K-<br>HV)           | BEISIT ELECTRIC<br>(HANGZHOU)<br>CO.,LTD.                       | MG5040B   | Cable diameter range: 30 ~ 40<br>mm, -40 °C ~ +100 °C, IP68,<br>UV resistance | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance  |
| Cable gland for<br>external communication<br>cable                              | BEISIT ELECTRIC<br>(HANGZHOU)<br>CO.,LTD.                       | M25-H2-8  | No. of holes x d(mm): 2x8, -40<br>°C ~ +100 °C, IP68, UV<br>resistance        | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance  |

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(Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschränken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen .....

Safety relevant components: (switch, temperature regulator, heating element, plug, socket, wiring, capacitor, motors and other components with windings e.g. transformers, coils)

(emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers .....

Technische Daten: Angaben über Stromstärke, Leistung, Transformatorspezifikationsnummer, Isolationsklasse

Konformitätszeichen: Prüfzeichen von(TÜV, VDE, BSI, UL etc.)

Technical data: Information about current, power, transformer specification number, insulating class etc.

Mark of conformity: Test mark from (TÜV, VDE, BSI, UL etc.)

| Critical components list (CDF)  |  |                          |   |                         |  |
|---|--|--------------------------|---|-------------------------|--|
| Object/part No.   | manufacturer/<br>trademark   | type/model               | technical data  | Standard                | mark(s) of<br>conformity <sup>1)</sup>   |
| Output terminal block<br>(KSG-36K-HV, KSG-50K-HV, KSG-60K-HV)   | Shenzhen<br>Connection<br>Electronic Co., Ltd.                               | DRTB38-04-NR             | 100 A, 600 V, 2~10AWG, 125 °C                         | --                      | UL E304128                               |
| Output terminal block<br>(KSG-30K, KSG-50K, KSG-60K)  | Shenzhen<br>Connection<br>Electronic Co., Ltd.                               | DRTB38-05-NR             | 100 A, 600 V, 2~10AWG, 125 °C                         | --                      | UL E304128                               |
| Internal lead wire(between DC switch disconnector and PCB)  | 3Q Wire & Cable Co., Ltd.  | UL 10269                 | 1000 Vac, 1250 Vdc, 105 °C, 10AWG, VW-1               | --                      | UL E341104                               |
| --(alternative)   | Various  | UL 10269                 | 1000 Vac, 1250 Vdc, 105 °C, 10AWG, VW-1               | --                      | UL Recognized                            |
| Internal lead wire, PE  | Various  | UL 1015                  | 600 Vac, 105 °C, 12AWG, VW-1                          | --                      | UL Recognized                            |
| Y capacitor, PV side<br>(C1, C84, C10, C94, C11, C86, C20, C92, C25, C88, C29, C90, C85, C2, C9, C95, C87, C12, C19, C93, C89, C26, C30, C91) | Shantou High-New<br>Technology Dev.<br>Zone Songtian<br>Enterprise Co., Ltd. | CD-Series                | 400 Vac, 4700 PF, Y1, 25/125/21                       | EN 60384-14             | VDE 40025754                             |
| --(alternative)   | Various  | Various                  | 400 Vac, 4700 PF, Y1, 25/125/21                       | IEC/EN 60384-14         | TUV, VDE or other EU certification marks |
| Inductor, PV side (L1, L2, L3)  | Boluo Da Xin<br>Electronic Co., Ltd.   | 3811-0569                | N1(1,2-7,8): 2.5Φ*2P*6Ts;<br>N2(3,4-5,6): 2.5Φ*2P*6Ts | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| -- Magnet wire  | Various  | UL Recognized            | 155 °C or above                                       | --                      | UL Recognized                            |
| --Epoxy board   | Various  | UL Recognized            | V-0, 130 °C or above                                  | --                      | UL Recognized                            |
| --Insulation tape   | Jingjiang Yahua<br>Pressure Sensitive<br>Glue Co., Ltd.                      | CT                       | 130 °C  | --                      | UL E165111                               |
| D1, D2, D3, D4, D5, D6 on DC EMI board<br>(KSG-30K, KSG-36K-HV)   | Cree   | C4D20120D                | 32 A, 1200 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| D1, D2, D3, D4, D5, D6 on DC EMI board<br>(KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV)  | Cree   | C4D10120D                | 18 A, 1200 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| Q5, Q6, Q7, Q8, Q17, Q18, Q19, Q20, Q29, Q30, Q31, Q32 on DC EMI board  | Fairchild  | FGH25T120SMD             | 25 A, 1200 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| Boost inductor (KSG-30K, KSG-36K-HV)  | Boluo Da Xin<br>Electronic Co., Ltd.   | 30K BOOST1<br>30K BOOST2 | BOOST1=BOOST2=BOOST3=Φ2,2x2Px48Ts                     | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |

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Safety relevant components: (switch, temperature regulator, heating element, plug, socket, wiring, capacitor, motors and other components with windings e.g. transformers, coils)

(emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers .....

Technische Daten: Angaben über Stromstärke, Leistung, Transformatorspezifikationsnummer, Isolationsklasse

Konformitätszeichen: Prüfzeichen von(TÜV, VDE, BSI, UL etc.)

Technical data: Information about current, power, transformer specification number, insulating class etc.

Mark of conformity: Test mark from (TÜV, VDE, BSI, UL etc.)

| Critical components list (CDF)   |   |  |  |                            |  |
|--|---|--|--|----------------------------|--|
| Object/part No.  | manufacturer/<br>trademark  | type/model                             | technical data   | Standard                   | mark(s) of<br>conformity <sup>1)</sup> |
|  | Shenzhen Click<br>Technology Co.,<br>Ltd.   | 30K BOOST3                             |  |                            |  |
| Boost inductor (KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV)  | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | 50K BOOST1<br>50K BOOST2<br>50K BOOST3 | BOOST1=BOOST2=BOOST3=<br>Φ2,0x4Px74Ts                          | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| Invert inductor (KSG-30K, KSG-36K-HV)  | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | 30K-INV1<br>30K-INV2<br>30K-INV3       | INV1=INV2=INV3=Φ2,1x4Px64<br>Ts                                | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| Invert inductor (KSG-50K, KSG-50K-HV, KSG-60K-HV)  | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | 50K-INV1<br>50K-INV2<br>50K-INV3       | INV1=INV2=INV3=Φ1,5x14Px3<br>1Ts                               | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| Invert inductor (KSG-60K)  | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | 60K-INV1<br>60K-INV2<br>60K-INV3       | INV1=INV2=INV3=Φ1,4x20Px2<br>7Ts                               | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| AC output EMI inductor (KSG-30K, KSG-36K-HV)   | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | EMI-30K                                | L1=L2=L3=Φ1,5x6Px19Ts,<br>three inductor located in one<br>box | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| AC output EMI inductor (KSG-50K, KSG-50K-HV, KSG-60K-HV)   | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | EMI-50K                                | L1=L2=L3=Φ1,6x6Px17Ts,<br>three inductor located in one<br>box | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| AC output EMI inductor (KSG-60K)   | Boluo Da Xin<br>Electronic Co., Ltd.<br>Shenzhen Click<br>Technology Co.,<br>Ltd. | EMI-60K                                | L1=L2=L3=Φ1,6x8Px15Ts,<br>three inductor located in one<br>box | IEC 62109-1 IEC<br>62109-2 | Tested with<br>appliance               |
| --Below list are the critical components in the above boost inductor, invert inductor and AC output EMI inductor (KSG-30K, KSG-36K-HV, KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV) |   |  |  |                            |  |
| --Magnet wire  | Various   | UL Recognized                          | 180 °C or above  | --                         | UL Recognized                          |
| --Lead wire  | Various   | UL 10269                               | 1000 Vac, 1250 Vdc, 105 °C,<br>8AWG, VW-1                      | --                         | UL Recognized                          |
| --Heat shrinkable tubing   | Changyuan<br>Electronics Group<br>Co., Ltd.                                       | CB-HFT                                 | 600 V, 125 °C, VW-1  | --                         | UL E180908                             |

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| Critical components list (CDF)   |   |              |  |                         |  |
|--|---|--------------|--|-------------------------|--|
| Object/part No.  | manufacturer/<br>trademark                        | type/model   | technical data   | Standard                | mark(s) of<br>conformity <sup>1)</sup>   |
| --fiberglass sleeving  | Shenzhen Wahchangwei Industrial Co., Ltd.         | SRS-70*      | 600 V, 200 °C, Grade A Silicone coated fiberglass sleeving | --                      | UL E233803                               |
| --Nomex insulation sheet   | Zhuzhou Times Electric Insulation Co., Ltd.       | TJ6640 NMN   | 180 °C   | --                      | UL E355960                               |
| --Insulating tape  | Jingjiang Yahua Pressure Sensitive Glue Co., Ltd. | PF* (d)(g)   | 180 °C, Polyimide film insulating tapes                    | --                      | UL E165111                               |
| --Margin tape  | Jingjiang Yahua Pressure Sensitive Glue Co., Ltd. | WF           | 130 °C   | --                      | UL E165111                               |
| --Silicone Molding resin   | Shenzhen Anpin Silicone Material Co., Ltd.        | AP-905*      | V-0, 105 °C  | --                      | UL E257078                               |
| --Above list are the critical components in the above boost inductor, invert inductor and AC output EMI inductor (KSG-30K, KSG-36K-HV, KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV) |   |              |  |                         |  |
| Cooling fans, 2 pcs used for boost and invert inductor, 4 pcs used for IGBT heat sink  | Sanyo Denki Co., Ltd.                             | 9WP0812G403  | 12 Vdc, 0,38 A, 4500RPM                                    | EN 60950-1              | TÜV R 50122368                           |
| Q1, Q2... ~ Q24 on invert board, (KSG-30K, KSG-36K-HV, KSG-50K, KSG-50K-HV, KSG-60K-HV)  | Fairchild   | FGA60N65SMD  | 60 A, 650 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| Q1, Q2... ~ Q24 on invert board, (KSG-60K)   | Fairchild   | FGH75T65SHD  | 75 A, 650 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| D5, D6, D9, D10, D17, D18, D21, D22, D29, D30, D33, D34 on invert board (KSG-30K, KSG-36K-HV, KSG-50K, KSG-50K-HV, KSG-60K-HV)   | Fairchild   | FFH60UP60STU | 60 A, 600 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| D5, D6, D9, D10, D17, D18, D21, D22, D29, D30, D33, D34 on invert board (KSG-60K)  | Fairchild   | FFH75H60S    | 75 A, 600 V  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| X capacitor C49, C52, C58 on AC EMI board, (KSG-30K, KSG-50K, KSG-60K)   | Shenzhen Jinghao Capacitor Co., Ltd.              | CBB62B       | 2,2 µF, 305 Vac, X2, 40/110/56                             | IEC/EN 60384-14         | VDE 40018690                             |
| --(alternative)  | Various   | Various      | 2,2 µF, 305 Vac, X2, 40/110/56                             | IEC/EN 60384-14         | TUV, VDE or other EU certification marks |

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*Max Fang*



*Kennen Wang*



# Aufbauübersicht für Elektrogeräte und Maschinen

## Data form for electrical equipment and machinery

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Sicherheitsrelevante Bauteile: (Schalter, Temperaturregler, Heizkörper, Stecker, Fassungen, Leitungen, Kondensatoren, Motoren und sonstige Wicklungen z.B. Transformatoren, Magnetspulen)

(Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschränken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen .....

Safety relevant components: (switch, temperature regulator, heating element, plug, socket, wiring, capacitor, motors and other components with windings e.g. transformers, coils)

(emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers .....

Technische Daten: Angaben über Stromstärke, Leistung, Transformatorspezifikationsnummer, Isolationsklasse

Konformitätszeichen: Prüfzeichen von(TÜV, VDE, BSI, UL etc.)

Technical data: Information about current, power, transformer specification number, insulating class etc.

Mark of conformity: Test mark from (TÜV, VDE, BSI, UL etc.)

| Critical components list (CDF)   |   |  |  |                         |  |
|--|---|--|--|-------------------------|--|
| Object/part No.  | manufacturer/<br>trademark  | type/model                                     | technical data   | Standard                | mark(s) of<br>conformity <sup>1)</sup>   |
| Capacitor C49, C52, C58 on AC EMI board, (KSG-36K-HV, KSG-50K-HV, KSG-60K-HV)  | EPCOS   | Metallized Polypropylene Film Capacitors (MKP) | 2,2 µF, 350 Vac, MKP   | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| Capacitor C35, C40, C45 on AC EMI board, (KSG-30K, KSG-50K, KSG-60K)   | EPCOS   | B32796E3206K000                                | 20 µF, 300 Vac, MKP film capacitors  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| Capacitor C35, C40, C45 on AC EMI board, (KSG-36K-HV, KSG-50K-HV, KSG-60K-HV)  | EPCOS   | B32796E8206J000                                | 20 µF, 350 Vac, MKP film capacitors  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| Relays for disconnect AC output on AC EMI board RY1, RY2, RY3, RY4, RY5, RY6, (KSG-30K, KSG-36K-HV)                      | Song Chuan Precision Co., Ltd.                                      | 510-P-2A-C                                     | Contact ratings: 35 A, 250 Vac, double pole, 2,1 mm contact gap, T85, Coil ratings: 12 Vdc, 2,4 W, class F | IEC/EN 61810-1          | TÜV R 50199385                           |
| Relays for disconnect AC output on AC EMI board RY1, RY2, RY3, RY4, RY5, RY6, (KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV) | Song Chuan Precision Co., Ltd.                                      | 510H-P-2A-F-C                                  | Contact ratings: 54 A, 250 Vac, double pole, 2 mm contact gap, T85, Coil ratings: 12 Vdc, 4,8 W, class F   | IEC/EN 61810-1          | TÜV R 50199385                           |
| Y capacitor C53, C54, C57, C50, C59, C65 on AC EMI board   | Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd. | CD-Series                                      | 400 Vac, 4700 PF, Y1, 25/125/21  | EN 60384-14             | VDE 40025754                             |
| --alternative  | Various   | Various  | 400 Vac, 4700 PF, Y1, 25/125/21  | IEC/EN 60384-14         | TUV, VDE or other EU certification marks |
| Filter on AC EMI board (L5)  | Boluo Da Xin Electronic Co., Ltd.                                   | 30KW-EMI                                       | L1=L2=L3=Φ2,2x5Px5Ts, class B  | IEC 62109-1 IEC 62109-2 | Tested with appliance                    |
| MOV10, MOV11, MOV12 on AC EMI board  | Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd. | STE-20D621K                                    | 385 Vac, 6500 A <sub>peak</sub> , 40/085/21  | IEC 61051-2-2           | VDE 40023049                             |
| Gas tubes ZV1 on AC EMI board, (KSG-30K, KSG-50K, KSG-60K)   | EPCOS   | A81-A600X                                      | 600 V, 20 kA   | --                      | UL E163070                               |
| Gas tubes ZV1 on AC EMI board, (KSG-36K-HV, KSG-50K-HV, KSG-60K-HV)  | EPCOS   | A71-H08X                                       | 800 V, 10 kA   | --                      | UL E163070                               |
| Fuse link on AC EMI board, (KSG-30K, KSG-36K-HV)   | Bussmann  | 80LET  | 80 A, 240 Vac  | --                      | UL E91958                                |

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(Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschraken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen .....

Safety relevant components: (switch, temperature regulator, heating element, plug, socket, wiring, capacitor, motors and other components with windings e.g. transformers, coils)

(emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers .....

Technische Daten: Angaben über Stromstärke, Leistung, Transformatorspezifikationsnummer, Isolationsklasse

Konformitätszeichen: Prüfzeichen von(TÜV, VDE, BSI, UL etc.)

Technical data: Information about current, power, transformer specification number, insulating class etc.

Mark of conformity: Test mark from (TÜV, VDE, BSI, UL etc.)

| Critical components list (CDF)   |                                      |                 |   |                         |  |
|--|--------------------------------------|-----------------|---|-------------------------|--|
| Object/part No.  | manufacturer/<br>trademark           | type/model      | technical data  | Standard                | mark(s) of<br>conformity <sup>1)</sup> |
| Fuse link on AC EMI board, (KSG-50K, KSG-50K-HV, KSG-60K, KSG-60K-HV)  | Bussmann                             | 125LET          | 125 A, 240 Vac  | --                      | UL E91958                              |
| X capacitor C51, C56, C60 on AC EMI board, (KSG-30K, KSG-50K, KSG-60K)   | Shenzhen Jinghao Capacitor Co., Ltd. | CBB62B          | 2,2 µF, 305 Vac, X2, 40/110/56  | IEC/EN 60384-14         | VDE 40018690                           |
| X capacitor C51, C56, C60 on AC EMI board, (KSG-36K-HV, KSG-50K-HV, KSG-60K-HV)  | EPCOS                                | B32794D8225J000 | 2,2 µF, 305 Vac, Metallized polypropylene film capacitors   | IEC/EN 60384-14         | VDE 40018690                           |
| Communication isolated optocouplers (U5, U7, U8, U9, U10, U4, U1, U11, U12, U13)   | Cosmo Electronics Corp.              | K1010-4C        | V <sub>ORM</sub> =890 V, DTI≥0,5, Cr=Ci≥6,5, mm, 55/115/21  | EN 60747-5-5            | VDE 101347                             |
| Isolated transformer on auxiliary power supply board (TX1)   | Shenzhen Click Technology Co., Ltd.  | 3801-2296       | Pri.: N2(pin8-10)Φ0,4*2P(2uew-B) 20Ts, N3(pin6-7)Φ0,2*1P(2uew-B) 14Ts; Sec.: N1(pin5-4)Φ0,3*2P(TEX-E)8Ts N4(pin2-3)Φ0,3*2P(TEX-E)2Ts  | IEC 62109-1 IEC 62109-2 | Tested with appliance                  |
| Isolated transformer on auxiliary power supply board (TX01)  | Shenzhen Click Technology Co., Ltd.  | 3801-2316       | Pri.: N1(pin6-7)Φ0,2*1P(2uew-B) 40Ts, N6(pin7-8)Φ0,2*1P(2uew-B) 40Ts, N5(pin9-10)Φ0,2*1P(2uew-B) 14Ts; Sec.: N7(pin1-2)Φ0,2*1P(2UEW-B) 13Ts, N2(pin2-4)Φ0,35*5P(2UEW-B) 8Ts, N3(pin4-3)Φ0,35*5P(2UEW-B) 3Ts, N4(pin3-5)Φ0,35*5P(2UEW-B) 2Ts | IEC 62109-1 IEC 62109-2 | Tested with appliance                  |
|  | Suzhou Cormex Electronics Co., Ltd.  |                 |   |                         |  |
| Isolated optocouplers on auxiliary power supply board (U02)  | Cosmo Electronics Corp.              | K1010-4C        | V <sub>ORM</sub> =890 V, DTI≥0,5, Cr=Ci≥6,5, mm, 55/115/21  | EN 60747-5-5            | VDE 101347                             |
| PCB  | Various                              | Various         | V-0, CTI>175, 130 °C  | --                      | UL recognized                          |
| Note:<br>(1) If no special indicate, list of critical components are applied for all models.<br>(2) Throughout this file (CDF) a comma is used as the decimal separator. |                                      |                 |   |                         |  |

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