



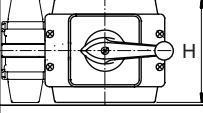

Sample image



Datasheet

Article number: 70010218
Designation: KG20.T203/33.KL11V
Description: Switchgear

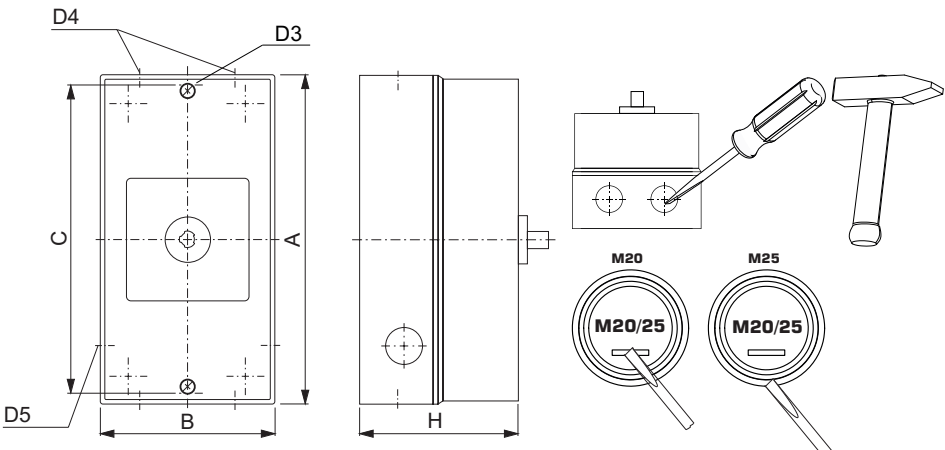
| IEC 60947-3 EN 60947-3, VDE 0660 Teil 107 | | | | | |
|---|--|--------------------------|---------------------------|---|---|
| Rated insulation voltage U_i | | | | | |
| | | | Voltage (V) AC / DC | | |
| | | | 690 AC | | |
| Rated impulse withstand voltage U_{imp} | | | | | |
| Voltage (kV) | | Overvoltage category | | Pollution degree | |
| 6 III | | | | 3 | |
| | | | | Supply system | |
| | | | | Valid for lines with grounded common neutral termination | |
| Rated uninterrupted current I_u/I_{th} | | | | | |
| Current (A) | | Ambient temperature (°C) | | Peak temperature (°C) additional requirements | |
| 25 | | 50 | | 55 Ambient temperature +50°C during 24 hours with peaks up to +55°C | |
| Conventional enclosed thermal current I_{the} | | | | | |
| Current (A) | | Ambient temperature (°C) | | Peak temperature (°C) Additional requirements | |
| 25 | | 35 | | 40 Ambient temperature +35°C during 24 hours with peaks up to +40°C | |
| | | | No. of stages (from - to) | | Mounting |
| | | | -- -- | | -- |
| Rated operational current I_e | | | | | |
| Utilization category | | | Voltage (V) | | Current (A) |
| AC-32A | | | 20 - 400 | | 20 |
| AC-20A | | | 690 | | 25 |
| AC-21A | | | 20 - 690 | | 25 |
| AC-22A | | | 220 - 500 | | 20 |
| AC-22A | | | 660 - 690 | | 20 |
| Rated operational power | | | | | |
| Utilization category | | Voltage (V) | | No. of phases | |
| AC-3 | | 220 - 240 | | 3 | |
| AC-3 | | 380 - 440 | | 3 | |
| AC-3 | | 500 - 500 | | 3 | |
| AC-3 | | 660 - 690 | | 3 | |
| AC-3 | | 220 - 240 | | 1 | |
| AC-3 | | 380 - 440 | | 1 | |
| AC-23A | | 220 - 240 | | 3 | |
| AC-23A | | 380 - 440 | | 3 | |
| AC-23A | | 500 - 500 | | 3 | |
| AC-23A | | 660 - 690 | | 3 | |
| AC-23A | | 220 - 240 | | 1 | |
| AC-23A | | 380 - 440 | | 1 | |
| | | | | No. of poles | |
| | | | | 3 | |
| | | | | 3 | |
| | | | | 3 | |
| | | | | 2 | |
| | | | | 2 | |
| | | | | 3 | |
| | | | | 3 | |
| | | | | 3 | |
| | | | | 2 | |
| | | | | 2 | |
| | | | | 3 | |
| | | | | 5 | |
| Max Fuse Rating IEC | | | | | |
| Fuse characteristic | | | No. of Fuses | | Current (A) |
| gG | | | 1 | | 35 |
| Rated conditional short-circuit current | | | | | |
| Current (kA) | | Text | | cut-off current I_c (kA) | |
| 15 | | - | | 3,50 | |
| Rated breaking capacity | | | | | |
| | | | Voltage (V) | | Current (A) Utilization category / UL (DOL) |
| | | | 220 - 240 | | 180 - |
| | | | 380 - 440 | | 180 - |
| | | | 660 - 690 | | 125 - |
| Rated short-circuit making capacity I_{cm} | | | | | |
| | | | | | Current (A) |
| | | | | | 1000 |
| UL60947-4-1 , UL508 | | | | | |
| Nominal Voltage | | | | | |
| | | | Voltage (V) AC / DC | | |
| | | | 600 AC | | |
| Rated insulation voltage U_i | | | | | |
| | | | Voltage (V) AC / DC | | |
| | | | 600 AC | | |
| Rated thermal current | | | | | |
| Current (A) | | Ambient temperature (°C) | | Additional Text | |
| 25 | | 0 - 40 | | - | |

| Horsepower rating | | | | | | |
|--|-------------|--------------------|-------------------------------------|--------------|---------------------------|--|
| <i>Across-the-Line Motor Starting</i> | | | | | | |
| | Voltage (V) | No. of phases | No. of poles | Power (HP) | Ambient temperature [°C] | |
| DOL | 110 - 120 | 1 | 2 | 1 | 40 | |
| DOL | 220 - 240 | 1 | 2 | 3 | 40 | |
| DOL | 277 - 277 | 1 | 2 | 3 | 40 | |
| DOL | 415 - 415 | 1 | 2 | 5 | 40 | |
| DOL | 440 - 480 | 1 | 2 | 5 | 40 | |
| DOL | 550 - 600 | 1 | 2 | 5 | 40 | |
| DOL | 110 - 120 | 3 | 3 | 2 | 40 | |
| DOL | 200 - 240 | 3 | 3 | 7,50 | 40 | |
| DOL | 415 - 415 | 3 | 3 | 10 | 40 | |
| DOL | 440 - 480 | 3 | 3 | 15 | 40 | |
| DOL | 550 - 600 | 3 | 3 | 20 | 40 | |
| Pilot duty rating code | | | | | | |
| <i>Duty Code</i> | | | | | | |
| A600 | | | | | | |
| SCCR / Max. fuse rating | | | | | | |
| <i>Conditions of acceptability</i> | | | | | | |
| This device is suitable for use on circuits capable of delivering not more than 10kA rms symmetrical amperes, 600V ac max. when protected by Type RK1 fuses. | | | | | | |
| Suitable for use on a circuit capable of delivering not more than 65000 rms symmetrical amperes at 600V max., when protected by 40A Class J fuses. | | | | | | |
| Temp. rating of wire | | | | | | |
| <i>Temperature rating (°C)</i> | | | <i>Current (A) Text</i> | | | |
| 60 - 75 | | | -- -- | | | |
| Connecting instructions | | | | | | |
| <i>Markings</i> | | | | | | |
| For use on a flat surface of a type 1 enclosure. | | | | | | |
| The operating handle and position indicating means to be used with these industrial switches should be provided from the manufacturer. | | | | | | |
| General Use | | | | | | |
| AC / DC | Voltage (V) | Current (A) | No. of phases | No. of poles | No. of contacts in series | |
| AC | 277 | 25 | 1 | 1 | 1 | |
| AC | 600 | 25 | 1 | 2 | 1 | |
| AC | 600 | 25 | 3 | 3 | 1 | |
| Suitable as Motor disconnect | | | | | | |
| <i>Yes/No</i> | | | <i>MOTOR-DISCONNECT-UL/CSA Text</i> | | | |
| Y | | | -- | | | |
| General Information | | | | | | |
| <i>Text</i> | | | | | | |
| - When intended for use as switch used in Photovoltaic applications the devices shall be provided with a method of being locked in the OFF-position. | | | | | | |
| - The operating handle and position indicating means to be used with these manual motor controllers should be provided from the manufacturer, or the operating handle and position indicating means to be used should have been previously evaluated in combination with the manual motor controllers. | | | | | | |
| - When intended for use as a motor disconnect the device shall be provided with a method of being locked in the OFF-position. | | | | | | |
| CSA | | | | | | |
| Nominal Voltage | | | | | | |
| | | | <i>Voltage (V) AC / DC</i> | | | |
| | | | 600 AC | | | |
| Rated insulation voltage Ui | | | | | | |
| | | | <i>Voltage (V) AC / DC</i> | | | |
| | | | 600 AC | | | |
| Rated thermal current | | | | | | |
| | | <i>Current (A)</i> | <i>Ambient temperature (°C)</i> | | <i>Additional Text</i> | |
| | | 25 | 0 - 40 | | -- | |
| Horsepower rating | | | | | | |
| <i>Across-the-Line Motor Starting</i> | | | | | | |
| | Voltage (V) | No. of phases | No. of poles | Power (HP) | Ambient temperature [°C] | |
| DOL | 110 - 120 | 1 | 2 | 1 | 40 | |
| DOL | 220 - 240 | 1 | 2 | 3 | 40 | |
| DOL | 277 - 277 | 1 | 2 | 3 | 40 | |
| DOL | 415 - 415 | 1 | 2 | 5 | 40 | |
| DOL | 440 - 480 | 1 | 2 | 5 | 40 | |
| DOL | 550 - 600 | 1 | 2 | 5 | 40 | |
| DOL | 110 - 120 | 3 | 3 | 2 | 40 | |
| DOL | 220 - 240 | 3 | 3 | 7,50 | 40 | |
| DOL | 415 - 415 | 3 | 3 | 10 | 40 | |
| DOL | 440 - 480 | 3 | 3 | 15 | 40 | |
| DOL | 550 - 600 | 3 | 3 | 20 | 40 | |
| Pilot duty rating code | | | | | | |
| <i>Duty Code</i> | | | | | | |
| A600 | | | | | | |
| Temp. rating of wire | | | | | | |
| <i>Temperature rating (°C)</i> | | | <i>Current (A) Text</i> | | | |
| 75 | | | -- -- | | | |
| General Use | | | | | | |
| AC / DC | Voltage (V) | Current (A) | No. of phases | No. of poles | No. of contacts in series | |
| AC | 277 | 25 | 1 | 1 | 1 | |
| AC | 600 | 25 | 1 | 2 | 1 | |
| AC | 600 | 25 | 3 | 3 | 1 | |
| Suitable as Motor disconnect | | | | | | |
| <i>Yes/No</i> | | | <i>MOTOR-DISCONNECT-UL/CSA Text</i> | | | |
| Y | | | SUITABLE FOR MOTOR DISCONNECT. | | | |

| MASTER DATA | | | | | | | | | | | | | |
|--|--------|--------------------|--------------------------|--|---|--|---------------------------|---|--------------|----|--|----|--|
| Max. number of stages | | | | | | | | | | | | | |
| | | | | | number of stages | | Modul | | | | | | |
| | | | | | 4 | | KO | | | | | | |
| Switch Measures | | | | | | | | | | | | | |
| Picture name | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | |
| | | B | | F | | H | | H1 | | H2 | | H3 | |
| | | - | | - | | 54 | | - | | - | | - | |
| GENERAL TECHNICAL INFORMATION | | | | | | | | | | | | | |
| Minimal ratings (voltage/current) | | | | | | | | | | | | | |
| Voltage (V) | | Current (mA) | | Environment conditions | | Environment conditions 2 | | Environment conditions 3 | | | | | |
| 24 | | 500 | | Ambient air must be free of particular contamination with sulfur and/or sulfurous components such as H ₂ S etc. | | In case extraordinary contamination with dust is expected an adequate dust protection is required. | | - | | | | | |
| Rated short-time withstand current Icw | | | | | | | | | | | | | |
| | | | | | Time (s) | | Current (A) | | | | | | |
| | | | | | 1 | | 350 | | | | | | |
| Size of conductor | | | | | | | | | | | | | |
| composition of conductor | | Min. / Max. value | | No. of conductor per terminal | | Cross section (mm ²) or (AWG/kcmil) | | Material of the wire | | | | | |
| solid wire | | Min. | | 1 | | 0.75mm ² | | Copper | | | | | |
| solid wire | | Min. | | 2 | | 0.5mm ² | | Copper | | | | | |
| flexible wire | | Min. | | 2 | | 0.75mm ² | | Copper | | | | | |
| flexible wire | | Max. | | 1 | | AWG 10 | | Copper | | | | | |
| flexible wire | | Max. | | 1 | | 4mm ² | | Copper | | | | | |
| flexible wire | | Min. | | 1 | | 1.5mm ² | | Copper | | | | | |
| Single-core or stranded wire | | Max. | | 1 | | 6mm ² | | Copper | | | | | |
| Single-core or stranded wire | | Max. | | 1 | | AWG 10 | | Copper | | | | | |
| flexible wire with sleeve | | Max. | | 1 | | 4mm ² | | Copper | | | | | |
| flexible wire with ferrule according to DIN 46228 | | Min. | | 1 | | 0.75mm ² | | Copper | | | | | |
| flexible wire with ferrule according to DIN 46228 | | Min. | | 2 | | 0.5mm ² | | Copper | | | | | |
| Stripping length | | | | | | | | | | | | | |
| | | | | | Length (mm) | | - | | | | | | |
| | | | | |  | | 9 | | | | | | |
| Recommended screw driver | | | | | | | | | | | | | |
| Type of screw driver | | | | | Value | | | | | | | | |
| Cross Screwdriver | | | | | PH2 | | | | | | | | |
| Slot screwdriver according to DIN 5264 | | | | | 0,8x4 | | | | | | | | |
| Tightening torque of screws | | | | | | | | | | | | | |
| | | | | | tightening torque (Nm) | | tightening torque (lb-in) | | | | | | |
| | | | | | 1,25 | | 11 | | | | | | |
| Power loss per pole | | | | | | | | | | | | | |
| | | | | | Power (W) | | | | | | | | |
| | | | | | 0,70 | | | | | | | | |
| Mechanical life | | | | | | | | | | | | | |
| No. of operating cycles | | | Ambient temperature (°C) | | | Number of stages | | Limitations | | | | | |
| 200000 | | | -5 - 55 | | | | | Valid for manual operation. Valid for switches without optional extras. The value refers to the mechanics of the device, for lifetime of the electrical contacts please refer to "electrical life - values". One operating cycle means 0-1-0. | | | | | |
| Electrical life (B10-Value) | | | | | | | | | | | | | |
| Utilization category | cos(φ) | Time constant (ms) | Voltage (V) | Current (A) | No. of operations | number of series contacts | AC/DC | No. of phases | No. of poles | | | | |
| - | 0,59 | - | 220 | 10 | 200000 | 1 AC | | 1 | 1 | | | | |
| - | 0,64 | - | 220 | 20 | 200000 | 1 AC | | 1 | 1 | | | | |
| - | 0,65 | - | 380 | 5 | 200000 | 1 AC | | 1 | 1 | | | | |
| - | 0,64 | - | 380 | 10 | 200000 | 1 AC | | 1 | 1 | | | | |
| - | 0,64 | - | 380 | 15 | 200000 | 1 AC | | 1 | 1 | | | | |
| - | 0,65 | - | 380 | 20 | 175000 | 1 AC | | 1 | 1 | | | | |
| AC-23 | - | - | 440 | 15,50 | 100000 | 1 AC | | 3 | 3 | | | | |
| - | - | 50 | 24 | 1 | 200000 | 1 DC | | 1 | 1 | | | | |
| - | - | 50 | 48 | 1 | 200000 | 1 DC | | 1 | 1 | | | | |
| - | - | 55 | 110 | 1 | 200000 | 1 DC | | 1 | 1 | | | | |
| - | - | 55 | 220 | 0,50 | 100000 | 1 DC | | 1 | 1 | | | | |
| Degree of protection | | | | | | | | | | | | | |
| IP - Code switch terminal | | | | | | | | | | | | | |
| IP20 | | | | | | | | | | | | | |
| Conditions during transport and storing | | | | | | | | | | | | | |
| Minimum temperature (°C) | | | | | Maximum temperature (°C) additional requirements | | | | | | | | |
| -40 | | | | | 85 In case of temperatures below -5°C no shock load permissible | | | | | | | | |
| Shock / Vibration | | | | | | | | | | | | | |
| Type of oscillation | | | | | Values | | | | | | | | |
| Resistance to vibration | | | | | Min. 4g, 2-100Hz, 1,6mm | | | | | | | | |
| Resistance to shock | | | | | min. 6g, 6ms | | | | | | | | |

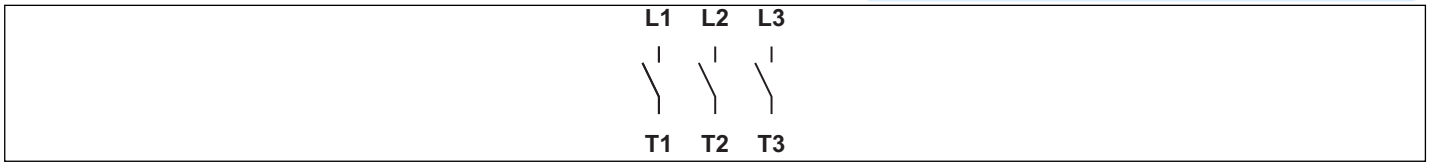
| General Information | |
|--|--|
| Text | |
| - EMC Note: This device is suitable for use in environment A and B. | |
| - Do not lubricate or treat contacts. | |
| - Switches may only be mounted, connected and set into operation by qualified persons according to the accepted rules of technology. | |
| - Use copper wire only. Do not coat the wire end with tin. | |
| - Terminals with factory fitted jumper links are tightened during production. Take care during installation to ensure factory fitted links are not lost by undoing both sides of linked terminals. After wiring, all terminal screws must be tightened to recommended torque specifications. | |
| - For devices with lockable handles: the position of the handle of these devices shall be marked to guide proper operation. | |
| - The "ON" and "OFF" position may be marked using the symbols "I" and "O" according IEC60417, Symbols 5007 and 5008. | |
| Creepage distance | |
| | <i>Distance (mm)</i> |
| | 12,70 |
| Clearance | |
| | <i>Distance (mm)</i> |
| | 12,70 |
| Operating temperature | |
| | <i>Min. Temperature [°C]</i> |
| | -5 |
| | <i>Max. Temperature [°C]</i> |
| | 55 |
| Waste Electrical & Electronic Equipment (WEEE) | |
| <i>Picture name</i> | <i>Description</i> |
|  | Do not throw in the trash as care must be taken to ensure environmentally sound disposal and recycling. Please either use an environmentally friendly waste disposal company; return to the supplier for disposal; or return direct to the manufacturer, Kraus & Naimer. You can find local Kraus & Naimer offices at www.krausnaimer.com |
| Proposition 65 | |
| <i>Picture name</i> | <i>Description</i> |
|  | WARNING: This product can expose you to chemicals including nickel and lead, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov . |

| |
|--|
| Classification Contact: Rigid contact bridge |
| Classification Contact Mat: Silver |
| Classification Terminal: Screw terminal |


| Mounting-KL11V | |
|--|-------------------|
|  | |
| IP - Code front side | IP66, IP67, IP69k |
| Stages | 1,00 - 5,00 |
| A | H 160,00 mm |
| B | H 85,00 mm |
| C | H 150,00 mm |
| D3 | ∅ 4,20 mm |
| D4 | ∅ 4,00 x M20/M25 |
| D5 | ∅ 2,00 x M20 |
| H | H 82,00 mm |

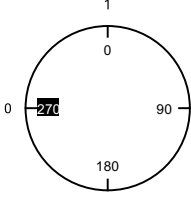

Wiring diagram

KG20.T303.KL11V



Switch program
KG20.T303.KL11V

 Kraus & Naimer

| | | KG20 | T303 | Page 1 of 1 | | | | | |
|---|-----|---|------|-------------|---|----|----|----|----|
| Face Plate | | | | | | | | | |
|  | 1 | L1 | L2 | L3 | | | | | |
| | 0 | 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 |
| | |  | | | | | | | |
| Switching Angle | 90 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Total switching Angle | 90 | T1 | T2 | T3 | | | | | |
| 0 | 270 | | | | | | | | |
| 1 | 0 | █ | █ | █ | | | | | |
| | 90 | | | | | | | | |
| | 180 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Version: 102

Face plate

S1.F656/E10.V9

