

### TECHNICAL DATASHEET

#### **KA3300-SERIES 3-CHANNEL DC LINEAR POWER SUPPLIES**



#### **Product Description**

KA3300-Series multiple channel digital control and programmable DC power supplies take full advantage of KORAD's consistent top quality in the field of R&D and production of the power supplies. The line features digital panel control, large LED, bright LED indicators, high output resolution, 5 sets of parameters for fast recall, USB & RS232 remote control, intelligent temperature-controlled fan and more.

#### **Key Features**

- Complete digital control and programmable DC power supply
- 10 mV /1 mA high-accuracy and high-res output
- Low noise and ripple
- Triple channel programmable output control
- Serial and parallel functions
- 5 sets of parameters can be stored for fast recall

- OVP & OCP functions
- Built-in control interfaces USB / RS232
- Software supervision via PC
- Voltage drop compensation from the remote measurement terminal
- Analog control interface
- Industrial grade performance





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# **Specifications**

| Voltage/Current Range   0-30V/3A*2   0-30V/5A*2   5V/5A*1     Load Regulation  | Models                                    | KA3303D/KA3303P  | KA3305D/KA3305P  |
|--|---|------------------|------------------|
| SV/SA*1  | Valtaga (Current Banga                    | 0-30V/3A*2       | 0-30V/5A*2       |
| SOL19#-3-mV  | voltage/Current Range                     | 5V/3A*1          | 5V/5A*1          |
| Current   \$0.1%+5mA   \$0.1%+10mA   | Load Regulation                           |                  |                  |
| Line Regulation  | Voltage                                   | ≤0.01%+3mV       | ≤0.01%+5mV       |
| Voltage  |   | ≤0.1%+5mA        | ≤0.1%+10mA       |
| Sol.1%+3mA   Sol.3%+20mV   Sol.3%+20mV   Sol.3%+20mV   Sol.3%+20mV   Sol.3%+3mA   Sol.3%+10mA   Sol.3%+10mA | Line Regulation                           |                  |                  |
| Setup Resolution   | Voltage                                   | ≤0.01%+3mV       | ≤0.01%+3mV       |
| Voltage         10mV         10mV           Current         1mA         1mA           Setup Accuracy(25°C ± 5°C)         10mA         1mA           Voltage         ≤0.5%+20mV         ≤0.5%+20mV           Current         ≤0.5%+5mA         ≤0.5%+10mA           Ripple(20hz-20M)         40mm         20mm           Voltage         ≤1mVrms         ≤2mVrms           Current         ±3mArms         ≤3mArms           Temp.Coefficient         4150ppm         ≤150ppm           Current         ±150ppm         ±150ppm           Read Back Resolution         10mV         10mV           Voltage         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient         10mV         10mV           Voltage         ±150ppm         ±150ppm           Current         ±100mS         ±100mS           Voltage Bios         ±100mS         ±100mS           Voltage Drop   | Current                                   | ≤0.1%+3mA        | ≤0.1%+3mA        |
| Current         1mA         1mA           Setup Accuracy(25°C ± 5°C)  | Setup Resolution                          |                  |                  |
| Setup Accuracy(25°C ± 5°C)         ≤0.5%±20mV         ≤0.5%±20mV           Current         ±0.5%±5mA         ±0.5%±10mA           Ripple(20hz-20M)         ****         ****           Voltage         ±1mVrms         ±2mVrms           Current         ±3mArms         ±3mArms           ***         ±150ppm         ±150ppm           Current         ±150ppm         ±150ppm           Current         ±150ppm         ±150ppm           Current         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient         ***         ***           Voltage         ±150ppm         ±150ppm           Current         ±150ppm         ±150ppm           Current         ±150ppm         ±150ppm           Reaction Time         ***         ***           Voltage Rise         ±100mS         ±100mS           Voltage Drop         ±100mS         ±100mS           ***         ±100mS <td>Voltage</td> <td>10mV</td> <td>10mV</td>  | Voltage                                   | 10mV             | 10mV             |
| Voltage  | Current                                   | 1mA              | 1mA              |
| Current         ≤0.5%+5mA         ≤0.5%+10mA           Ripple(20hz-20M)            Voltage         ≤1mVrms         ≤2mVrms           Current         ≤3mArms         ≤3mArms           Temp.Coefficient           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Read Back Resolution           Current         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time           Voltage Bise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Scale Reaction Time           Voltage Drop         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS         ≤100mS           User manual, power cord (KA3303P & KA3305P)           Weight and Dimension <td>Setup Accuracy(25°C ± 5°C)</td> <td></td> <td></td>  | Setup Accuracy(25°C ± 5°C)                |                  |                  |
| Current         ≤0.5%+5mA         ≤0.5%+10mA           Ripple(20hz-20M)          ≤1mVrms         ≤2mVrms           Current         ≤3mArms         ≤3mArms           Temp.Coefficient           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Read Back Resolution         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           RS232,USB         Accessories         User manual,power cord,(K3303D & KA3305P)           Weight and Dimension         Ka33037,8kg/220(W)*156(H)*260(D)   | Voltage                                   | ≤0.5%+20mV       | ≤0.5%+20mV       |
| Voltage  |   | ≤0.5%+5mA        | ≤0.5%+10mA       |
| Current         ≤3mArms         ≤3mArms           Temp.Coefficient         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Read Back Resolution         00mV         10mV           Voltage         10mV         10mA           Read Back Temp.Coefficient         10mA         11mA           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time         10mS         ≤100mS           Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           User manual, power cord, USB cable & software CD(KA3303P & KA3305P)         Weight and Dimension           KA3303:7.8kg/220(W)*156(H)*260(D)   | Ripple(20hz-20M)                          | '                |                  |
| Temp.Coefficient         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Read Back Resolution         S150ppm         ≤150ppm           Voltage         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient         S150ppm         ≤150ppm           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time         Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Voltage Organization (10% Rated load)         (10% Rated load)           Interface(for programmable models KA3303P & KA3305P)         RS232,USB           Accessories         User manual, power cord, (KA3303D & KA3305D)           User manual, power cord, USB cable & software CD(KA3303P & KA3305P)         Weight and Dimension           KA3303:7.8kg/220(W)*156(H)*260(D)   | Voltage                                   | ≤1mVrms          | ≤2mVrms          |
| Voltage  | Current                                   | ≤3mArms          | ≤3mArms          |
| Current         ≤150ppm         ≤150ppm           Read Back Resolution         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time           Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)           RS232,USB           Accessories           User manual,power cord,(KA3303D & KA3305D)           User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)   | Temp.Coefficient                          | '                |                  |
| Read Back Resolution         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient         150ppm         ≤150ppm           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time         Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Voltage Prop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         KR5232,USB           Accessories         User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)         KA3303:7.8kg/220(W)*156(H)*260(D)   | Voltage                                   | ≤150ppm          | ≤150ppm          |
| Voltage         10mV         10mV           Current         1mA         1mA           Read Back Temp.Coefficient         4150ppm         ≤150ppm           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time           Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           (10% Rated load)         (10% Rated load)           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)           RS232,USB         Accessories           User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)  | Current                                   | ≤150ppm          | ≤150ppm          |
| Current         1mA         1mA           Read Back Temp.Coefficient         \$150ppm         \$150ppm           Current         \$150ppm         \$150ppm           Current Time         \$150ppm         \$150ppm           Voltage Rise         \$100mS         \$100mS           Voltage Drop         \$100mS         \$100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           RS232,USB         Accessories           User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)  | Read Back Resolution                      |                  |                  |
| Current         1mA         1mA           Read Back Temp.Coefficient         150ppm         ≤150ppm           Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time         Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           RS232,USB         Accessories           User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)  | Voltage                                   | 10mV             | 10mV             |
| Voltage         ≤150ppm         ≤150ppm           Current         ≤150ppm         ≤150ppm           Reaction Time           Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         KS232, USB           RS232, USB         Accessories           User manual, power cord(KA3303D & KA3305D)         User manual, power cord, USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)   |   | 1mA              | 1mA              |
| Current         ≤150ppm         ≤150ppm           Reaction Time          ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           RS232,USB         Accessories         User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)         KA3303:7.8kg/220(W)*156(H)*260(D)   | Read Back Temp.Coefficient                |                  |                  |
| Current         ≤150ppm         ≤150ppm           Reaction Time          ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           RS232,USB         Accessories         User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)         KA3303:7.8kg/220(W)*156(H)*260(D)   | Voltage                                   | ≤150ppm          | ≤150ppm          |
| Voltage Rise         ≤100mS         ≤100mS           Voltage Drop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           RS232,USB         RS232,USB           Accessories         User manual,power cord(KA3303D & KA3305D)         User manual,power cord,USB cable & software CD(KA3303P & KA3305P)           Weight and Dimension         KA3303:7.8kg/220(W)*156(H)*260(D)  |   | ≤150ppm          | ≤150ppm          |
| Voltage Drop         ≤100mS         ≤100mS           Interface(for programmable models KA3303P & KA3305P)         (10% Rated load)         (10% Rated load)           RS232,USB         Accessories         User manual, power cord(KA3303D & KA3305D)         User manual, power cord,USB cable & software CD(KA3303P & KA3305P)         Weight and Dimension           KA3303:7.8kg/220(W)*156(H)*260(D)         KA3303:7.8kg/220(W)*156(H)*260(D)         ≤100mS         ≤100mS   | Reaction Time                             |                  |                  |
| (10% Rated load) (10% Rated load)  Interface(for programmable models KA3303P & KA3305P)  RS232,USB  Accessories  User manual,power cord,USB cable & software CD(KA3303P & KA3305P)  Weight and Dimension  KA3303:7.8kg/220(W)*156(H)*260(D)  | Voltage Rise                              | ≤100mS           | ≤100mS           |
| Interface(for programmable models KA3303P & KA3305P)  RS232,USB  Accessories  User manual,power cord,USB cable & software CD(KA3303P & KA3305P)  Weight and Dimension  KA3303:7.8kg/220(W)*156(H)*260(D)   | Voltage Drop                              | ≤100mS           | ≤100mS           |
| RS232,USB  Accessories User manual,power cord,USB cable & software CD(KA3303P & KA3305P)  Weight and Dimension  KA3303:7.8kg/220(W)*156(H)*260(D)  |   | (10% Rated load) | (10% Rated load) |
| Accessories User manual,power cord,(KA3303D & KA3305D) User manual,power cord,USB cable & software CD(KA3303P & KA3305P) Weight and Dimension KA3303:7.8kg/220(W)*156(H)*260(D)  |   |                  |                  |
| User manual,power cord(KA3303D & KA3305D) User manual,power cord,USB cable & software CD(KA3303P & KA3305P)  Weight and Dimension  KA3303:7.8kg/220(W)*156(H)*260(D)   | RS232,USB                                 |                  |                  |
| User manual,power cord,USB cable & software CD(KA3303P & KA3305P)  Weight and Dimension  KA3303:7.8kg/220(W)*156(H)*260(D)   | Accessories                               |                  |                  |
| User manual,power cord,USB cable & software CD(KA3303P & KA3305P)  Weight and Dimension  KA3303:7.8kg/220(W)*156(H)*260(D)   | User manual,power cord(KA3303D & KA3305D) |                  |                  |
| Weight and Dimension           KA3303:7.8kg/220(W)*156(H)*260(D)   |   | 305P)            |                  |
| KA3303:7.8kg/220(W)*156(H)*260(D)  |   |                  |                  |
|  |   |                  |                  |
|  |   |                  |                  |



