



KORAD KEL2000 Series Communication Protocol User Guide

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INSTRUCTIONS FOR USE

1. ***IDN?**

Return product information

XXXX,KEL2000,SN:1214534454,V1.10

2. ***RCL<NR1>**

NR1 {1~100}

*RCL 12

Recall 12 units' content

3. ***SAV<NR1>**

Save to the storage unit NR1{1~100}

*SAV 13

Note: *RCL can be recalled arbitrarily, and *SAV must be saved in CC, CV, CR or CW mode.

4. ***TRG**

Simulate a trigger, only valid in dynamic pulse (PL) mode and reversal (RL) mode.

5. **:SYSTem:BEEP<bool>**

Turn the beep ON or OFF.

:SYST:BEEP ON

Parameters: {1|0|ON|OFF}

Query syntax

:SYST: BEEP?

6. **:SYSTem:LOCK <boo>**

Turn ON and OFF the lock button

:SYST:LOCK ON

Parameters: {1|0|ON|OFF}

Query syntax:

:SYST:LOCK?

7. **:SYSTem:EXIT<NR1>**

1. Turn ON or OFF the external trigger

:SYST: EXIT 1

2. Turn ON the remote switch

:SYST: EXIT 2

Parameters: {2|0|OFF}

Query syntax

:SYST: EXIT?

8. **:SYSTem:COMPensate <boo>**

Turn ON external compensation

:SYST:COMP ON

Parameters: {1|0|ON|OFF}

Query syntax:

:SYST:COMP?

9. **:STATus?**

Query the current status

Query syntax:

:STAT?

Return:

0,4,0,0,0,0

0 Beep Beep status

1. COM port baud rate (0,9600;1,19200;2,38400;3,57600;4,15200).
2. The Key LOCK status
3. External trigger status
4. Remote compensation status
5. Reverse connection status of load polarity (0-no reverse connection; 1-reverse connection)

10. INPut <bool>

Turn the load ON and OFF

Command syntax:

:INP 1

Parameters: {1|0|ON|OFF}

Query syntax:

:INP?

11. :VOLTage<NRf>

Set the current CV voltage

:VOLT 12.35V

Parameters: {MIN~MAX:0.1V~150V }

Query syntax:

:VOLT?

12. :VOLTage:UPPer<NRf>

Set the maximum voltage value.

:VOLT:UPP 18V

Parameters: {MIN~MAX:0.1V~150V }

Query syntax:

:VOLT:UPP?

13. :VOLTage:LOWer?

Query the minimum voltage.

14. :CURRent<NRf>

Set the CC current.

:CURR 3.350A

Parameters: {MIN~MAX:0A ~40A }

Query syntax:

:CURR?

15. :CURRent:UPPer<NRf>

Set the maximum current value.

:CURR:UPP 18A

Parameters: {0A~40A }

Query syntax:

:CURR:UPP?

16. :CURR:LOWer?

Query the minimum current value.

17. :RESistance<NRf>

Set the CR resistance value.

:RES 120.30OHM

Parameters: { 0.2000OHM ~7500OHM }

Query syntax:

:RES?

18. :RESistance:UPPer<NRf>

Set the maximum resistance value.

:RES:UPP 3600OHM

Parameters: { 0.2000OHM~7500OHM }

Query syntax:

:RES:UPP?

19. :RES:LOWer?

Query the minimum resistance value.

20. :POWer<NRf>

Set CW power.

:POW 12.5W

Parameters: { 0W ~300W }

Query syntax:

:POW?

21. :POW:UPPer<NRf>

Set the maximum power value.

:POW:UPP 18W

Parameters: { 0W~300W }

Query syntax:

:POW:UPP?

22. :POW:LOWer

Query the minimum power value.

23. :MEASure:VOLTage?

Query output voltage value.

24. :MEASure:CURRent?

Query output current value.

25. :MEASure:POWer?

Query output power value.

26. :MEASure:TEMP?

Query temperature.

27. :FUNCtion<NRf>

Set the current mode.

:FUNC CC

Parameters: { CC|CV|CR|CW|SHORT}

Query syntax:

:FUNC?

28. :LIST

Set LIST

:LIST 4,3A,2,1A,0.1A/uS,5S,2A,0.1A/uS,5S,3

Parameters:

1. 4, Unit 4
2. 3A, set the CC range to 3A
3. 2, number of steps in LIST
4. 1A, step 1 current 1A
5. 0.1A/uS, slope of step 1
6. 5s, time 5s for step 1
7. 2A, the current 2A of step 2
8. 0.1A/uS, slope of step 2
9. 5s, time 5s for step 2
10. 3, repeated execution times 3.

29. :RCL:LIST<NR1>

Recall the LIST unit.

:RCL LIST 2

Parameters: {1~7}

Query syntax:

:RCL:LIST?

30. :OCP

Set up OCP operations

:OCP 2,15.0V,5.0S,3.0A,2.0A,0.1A,1.0S,1.0A,10.0V,1.5A,1.0A

Parameters:

1. 2, store 2 units
2. 15V,VON 15V
3. 5.0S,VON DELAY 5S
4. 3.0A, current range 3A
5. 2.0A, starting current 2.0A
6. 0.1A, step current 0.1A
7. 1.0S, step delay 1.0S
8. 1.0A, cut-off current 1A
9. 10.0V, OCP voltage 10V
10. 1.5A, overcurrent max. 1.5A
11. 1.0A, the minimum value of overcurrent is 1.0A

31. :RCL:OCP<NR1>

Recall OCP unit.

:RCL OCP 2

Parameters: {1~7}

Query syntax:

:RCL:OCP?

Note: you need to recall first before querying.

32. :OPP

Set the OPP operation

:OPP 2,15.0V,5.0S,3.0A,50W,1W,1S,10W,20V,30W,10W

Parameters:

1. 2, store 2 units
2. 15V,VON 15V
3. 5.0S,VON DELAY 5S
4. 3.0A, current range 3A
5. 2.0A, starting current 2.0A
6. 0.1A, step current 0.1A
7. 1.0S, step delay 1.0S
8. 1.0A, cut-off current 1A
9. 10.0V, OCP voltage 10V
10. 1.5A, overcurrent max. 1.5A
11. 1.0A, the minimum value of overcurrent is 1.0A

33. :RCL:OCP<NR1>

Recall OCP unit.

:RCL OCP 2

Parameters: {1~7}

Query syntax:

:RCL:OCP?

Note: you need to recall first before querying.

34. :BATTery

Set up battery operation

:BATT 2,30A,7A,35V,11AH,50M

Parameters:

1. 2, saved in unit 2 {1~7}
2. 30A, battery range 30A
3. 7A, the current starts at 7A
4. 35V, discharge cut-off voltage 35V
5. 11AH, discharge cut-off capacity 11AH
6. 50M, discharge deadline 50 Minutes.

35. :RCL:BATTery<NR1>

Recall BATT unit 2.

:RCL BATT 2

Parameters: {1~7}

Query syntax:

:RCL:BATT?

Note: you need to recall first before querying.

36. :BATTery:TIM?

Query the battery discharge time.

37. :BATTery:CAP?

Query the battery discharge capacity AH.

Note: the above query commands only work in battery mode.

38. :RCL:CURVe

Set VI curve (VI):

:CURVe 2,1.01A,2.02A,0.12A,5S

Parameters:

1. 2, cell {1~7 }
2. 1.01A, starting current value
3. 2.02A, ending current value
4. 0.12A, step current value
5. 5s, running time per step

39. : RCL:CURVe<NRL>

Recall VI curve 2 unit:

:RCL:CURVe 2

Query syntax:

:RCL:CURVe?

40. DYNamic

Set Dynamics (CV):

:DYN 1,1.0001V,2.0003V,1.101HZ,50.001%

Parameters:

1. 1,CV mode {1-CV;2-CC;3-CR;4-CW;5-PL;6-RL}
2. 1.0001V, the first voltage value
3. 2.0003V,the second voltage value
4. 1.101HZ,switching frequency 1.101HZ
5. 50.001%, duty cycle 50.001%

Set dynamic (CC):

:DYN 2,0.212A/uS,0.80A/uS,0.400A,2.10A,101.5HZ,46.00%

Parameters:

1. 2,CC mode {1-CV;2-CC;3-CR;4-CW;5-PL;6-RL}
2. 0.212A/uS, rising slope
3. 0.80A/uS, falling slope
4. 0.400A, the first current value
5. 2.10A, the second current value
6. 101.5HZ, switching frequency 101.5HZ
7. 46.00%, duty cycle 46.00%

Set dynamic (CR):

:DYN 3,1.0001OHM,2.0003OHM,2.0HZ,60.0%

Set dynamic (CW):

:DYN 4,3.2W,8W,1HZ,40.0%

Set dynamic (RL):

:DYN 2,0.212A/uS,0.80A/uS,0.400A,2.10A,101.5HZ,46.00%

Set dynamic (PL):

:DYN 5,0.15A/uS,0.20A/uS,1.2A,3.10A

41. :RCL:DYNamic<NR1>

Recall dynamic mode.

:RCL:DYN 2

Parameters: {1|CV,2|CC,3|CR,4|CW,5|PL,6|RL}

Query syntax 1:

:RCL:DYN?

Query syntax 2:

:DYN

42. :SYSTem:BAUD rate<NR1>

Set baud rate.

:SYST: BAUD 115200

Parameters: {9600|19200|38400|57600|115200}

Query syntax:

: :SYST: BAUD?

43. :SYSTem:IP ADdress<NR1>

Set IP address.

:SYST: IPAD 192.168.0.125

Query syntax:

: :SYST: IPAD?

44. :SYSTem:SMASK<NR1>

Set subnet mask.

:SYST: SMASK 255.255.255.0

Query syntax:

: :SYST: SMASK?

This command is used for setting the gate way.

:SYST: GATE 192.168.0.1

Query syntax:

: :SYST: GATE?

45. :SYSTem:PORT<NR1>

Set IP communication ports.

:SYST: PORT 18152

Parameters: {100~65535}

Query syntax:

: :SYST: PORT?

Note: the port can not be set to 18191.

46. :SYSTem:RTC:YMD<YY,MM,DD>

Set RTC year, month, day.

:SYST: RTC:YMD 20,03,15

Parameters: {YY,MM,DD}

Query syntax:

: :SYST: RTC:YMD?

47. :SYSTem:RTC:HMS<hh,mm,ss>

Query RTC hour, minute, second.

:SYST: RTC:HMS 16,11,15

Parameters: {hh,mm,ss}

Query syntax:

: :SYST: RTC:HMS?

Documents / Resources

	KORAD KEL2000 Series Communication Protocol [pdf] User Guide KEL2000 Series Communication Protocol, KEL2000 Series, Communication Protocol, Protocol
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References

- [User Manual](#)