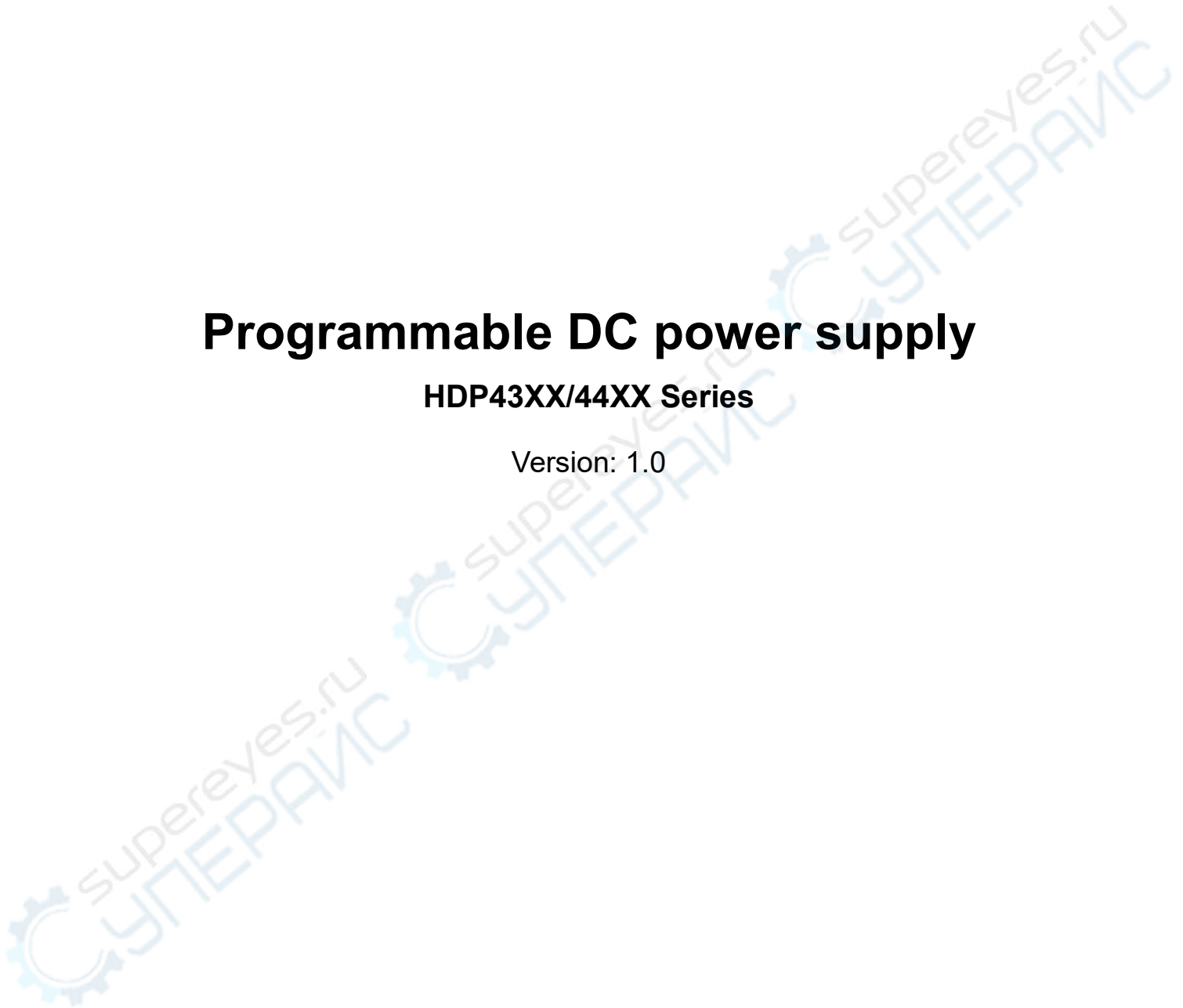


SCPI Programming Reference

Programmable DC power supply

HDP43XX/44XX Series

Version: 1.0



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SCPI Command introduction

SCPI (Standard Commands for Programmable Instruments, abbreviation: SCPI) defines a set of standard syntax and commands for controlling programmable test and measurement instruments. SCPI commands are ASCII strings. It passes into the instrument through the physical transport layer. The command consists of a series of keywords, and some also need to include parameters. In the protocol, the command is specified as the following form: CONFigure. In use, you can write the full name or only the abbreviation that contains only uppercase letters. Usually, the feedback of the instrument to the query command is also ASCII code. When transferring large amounts of data, binary data can also be used.

Command format

The command is composed of keywords and parameters. The keywords are separated by a colon ":", and the keywords are followed by optional parameter settings. If there is a "?" after the command line, it means the query function. The keyword and the first parameter must be separated by a space.

For example:

```
CHANnel1: BWLimit 20M
```

```
CHANnel1: BWLimit?
```

The first-level keyword is CHANnel, and the second-level keyword is BWLimit. The keywords at all levels are also separated by ":", 20M is the parameter, and the keywords are separated by spaces. The question mark "?" indicates a query.

Symbol Description

The following symbols are not sent with the command.

1. Brace {}

The contents in braces are parameter options. The parameter items are usually separated by a vertical bar "|". When using the command, one of the parameters must be selected.

2. Vertical Line |

The vertical line is used to separate multiple parameter options, and one of the parameters must be selected when using the command.

3. Square Brackets []

The content in square brackets can be omitted.

4. Triangle Brackets <>

The parameter in the triangle brackets must be replaced with a valid value.

Command Abbreviations

All commands are not case sensitive, you can use all uppercase or lowercase. But if you want to abbreviate, you must enter all the capital letters in the Command format.

For example:

```
CHANnel1:BWLimit?  Abbreviation CHAN:BWL?
```

SYSTem

Get Device Model: SYSTem:GET:MODEI?

Command format

SYSTem:GET:MODEI?

Function Description

Query the model of the device.

Parameter

None

Description

None

Return value

None

For example

SYSTem:GET:MODEI? /* Return HDP4324B*/

Network DHCP Switch: SYSTem:LAN:DHCP

Command format

SYSTem:LAN:DHCP <swi>
SYSTem:LAN:DHCP?

Function description

Set or query the status of the network DHCP switch.

Parameter

swi: OFF | ON | 0 | 1.

Description

Open the DHCP can automatically obtain IP from DHCP server.
Devices without network ports do not support this command.

Return value

Query returns OFF | ON

For example

SYSTem:LAN:DHCP ON /*Open DHCP*/
SYSTem:LAN:DHCP? /*Return ON*/

Network IP Address: SYSTem:LAN:IP

Command format

SYSTem:LAN:IP <addr1, addr2, addr3, addr4>
SYSTem:LAN:IP?

Function description

Set or query the network IP address.

Parameter

addr1, addr 2, add 3, addr4: 0~255.

Description

This command only works when DHCP is turned off.

Equipment without a network interface does not support this command.

Return value

The query returns the IP address.

For example

```
SYSTem:LAN:IP 10,0,0,105      /* Set the IP address to 10.0.0.105 */
SYSTem:LAN:IP?               /*Return 10.0.0.105*/
```

Network Subnet Mask: SYSTem:LAN:NETMask

Command format

```
SYSTem:LAN:NETMask < addr1, addr2, addr3, addr4>
SYSTem:LAN:NETMask?
```

Function description

Set or query the network subnet mask.

Parameter

addr1, addr2, addr3, addr4: 0~255.

Description

This command only works when DHCP is turned off.

Devices without network ports do not support this command.

Return value

The query returns the subnet mask.

For example

```
SYSTem:LAN:NETMask 255,0,0,0  /* Set the subnet mask to 255.0.0.0 */
SYSTem:LAN:NETMask?          /*Return 255.0.0.0*/
```

Network Gateway: SYSTem:LAN:GATEway

Command format

```
SYSTem:LAN:GATEway < addr1, addr2, addr3, addr4>
SYSTem:LAN:GATEway?
```

Function description

Set or query network gateway.

Parameter

addr1, addr2, addr3, addr4: 0~255.

Description

This command only works when DHCP is turned off.

Devices without network ports do not support this command.

Return value

The query returns to the gateway.

For example

```
SYSTem:LAN:GATEway 10,0,0,1  /* Set the subnet mask to 10.0.0.1*/
SYSTem:LAN:GATEway?          /*Return 10.0.0.1*/
```

OUTPut Subsystem

Channel Switch: OUTPut

Command format

OUTPut <sw,ch>

OUTPut? <ch>

Function description

Set or query the channel switch status.

Parameter

sw: OFF | ON | 0 | 1.

ch:

3-channel model: (@1) | (@2) | (@3) | (@1,2) | (@1,3) | (@2,3) | (@1,2,3).

4-channel model: Increase on the basis of the 3-channel model (@4) | (@1,4) | (@2,4) | (@3,4) | (@1,2,4) | (@1,3,4) | (@2,3,4) | (@1,2,3,4).

(Ch in the following is equivalent)

Description

ON: Open channel.

OFF: Close channel.

(@?): Operate one or more channels. For example(@1,2): Operate 1 and 2 channels.

Return value

The query returns ON or OFF.

For example

OUTP ON,@1 /*Open channel 1*/

OUTP? (@1) /*Return ON*/

OUTP ON,@1,2 /* Open channel 1,2*/

OUTP? (@1,2) /* Return ON,ON*/

Delay to Open the Channel: OUTPut:DELAy:RISE

Command format

OUTPut:DELAy:RISE <time,ch>

OUTPut:DELAy:RISE? <ch>

Function description

Set or query the channel delay opening time.

Parameter

time: Channel delay open time, unit: s, Floating point.

ch: Refer to the OUTP command.

Description

When the channel is opened, the channel will be opened after the set time.

Return value

The query returns the delay opening time of the channel, unit: s

For example

OUTP:DEL:RISE 5.5,@1 /* Set channel 1 to delay 5.5s to open */

OUTP:DEL:RISE? (@1) /*Return 5.5*/

Delay to Close the Channel: OUTPut:DELAy: FALL

Command format

OUTPut:DELAy:FALL <time,ch>

OUTPut:DELAy:FALL? <ch>

Function description

Set or query the channel delay closing time.

Parameter

time: Channel delay closing time, unit: s, Floating point.

ch: Refer to the OUTP command.

Description

When the channel is closed, the channel will be closed after the set time.

Return value

The query returns the delayed closing time of the channel, unit: s.

For example

OUTPut:DELAy:FALL 5.5,(@1) /* Set channel 1 to delay 5.5s to close */

OUTPut:DELAy:FALL? (@1) /*Return 5.5s */

Channel Coupling Switch: OUTPut:COUPlE

Command format

OUTPut:COUPlE <sw,ch>

OUTPut:COUPlE? <ch>

Function description

Set or query the channel coupling switch status.

Parameter

sw: OFF | ON | 0 | 1.

ch: Refer to the OUTP command.

Description

ON: Turn on channel coupling.

OFF: Turn off channel coupling.

Return value

The query returns ON or OFF.

For example

OUTPut:COUPlE ON,(@1) /* Turn on the channel 1 coupling switch */

OUTPut:COUPlE? (@1) /*Return ON*/

Input Suppression Type: OUTPut:INHibit:MODE

Command format

OUTPut:INHibit:MODE <mode>

OUTPut:INHibit:MODE?

Function description

Set or query input suppression type.

Parameter

mode: OFF | LATCHED | LIVE

Description

After input suppression occurs, all channel outputs will be turned off.

OFF: Turn off input suppression.

LATCHED: When input suppression occurs, unless the input suppression function is turned off or the OUTPUT:INHibit:CLEAr (clear the suppression state, otherwise the suppression state will not be eliminated) command is issued.

LIVE: The input suppression state changes with the input level of the digital IO port (PIN3).

Return value

Return OFF, LATCHED or LIVE.

For example

```
OUTPUT:INHibit:MODE LATCHED /* Power input suppression is set to lock */
```

```
OUTPUT:INHibit:MODE? /* Return LATCHED*/
```

Clear Input Inhibit State: OUTPUT:INHibit:CLEAr

Command format

```
OUTPUT:INHibit:CLEAr
```

Function description

Clear input inhibit state.

Parameter

None.

Description

If input suppression occurs, issue this command to clear the suppression state and restore the channel to its original state.

Return value

None.

For example

```
OUTPUT:INHibit:CLEAr /* Clear input inhibit state */
```

Query

Input

Suppression

Status:OUTPUT:INHibit:STAtE?

Command format

```
OUTPUT:INHibit:STAtE?
```

Function description

Query whether input suppression occurs.

Parameter

None.

Description

None.

Return value

Return 1 if suppression occurs, otherwise return 0.

For example

OUTPut:INHibit:STAtE? /* Return 0 or 1*/

Operation Mode: OUTPut:OPER:MODE

Command format

OUTPut:OPER:MODE <mode>

OUTPut:OPER:MODE?

Function description

Set or query the current operating mode.

Parameter

mode: INDEPEND | SERIES | PARALLEL | TRACKING.

Description

INDEPEND: Independent.

SERIES: Series, channel 1 and channel 2 are connected in series.

PARALLEL: Parallel, channel 1 and channel 2 are connected in parallel.

TRACKING: Tracking (voltage).

Return value

Return INDEPEND、SERIES、PARALLEL or TRACKING.

For example

OUTPut:OPER:MODE SERIES /* Set channel 1 and channel 2 in series */

OUTPut:OPER:MODE? /*Return SERIES */

CURRent Subsystem

Set Current: CURRent

Command format

CURRent <curr,chn>

CURRent? <chn>

Function description

Set or query the output current value of the channel.

Parameter

curr: Current value, unit A, floating point.

chn: 3 channels model:(@1) | (@2) | (@3).

4 channels model: Add an @4 on the basis of the 3 channels model.

(The chn in the following is equivalent)

Description

The current value curr can be set range:

3 channels model:
Channel 1: 0.002A-3.25A
Channel 2: 0.002A-3.25A
Channel 3: 0.002A-5.05A
4 channels model:
Channel 1: 0.002A-3.25A
Channel 2: 0.002A-3.25A
Channel 3: 0.002A-2.05A
Channel 4: 0.002A-1.55A

Return value

The query returns the current setting value of the query channel, unit A.

For example

```
CURRent 0.5,(@2) /* Set channel 2 current to 0.5A */  
CURRent? (@2) /*Return 0.5*/
```

Overcurrent Protection Switch: CURRent:PROTection:STATe

Command format

```
CURRent:PROTection:STATe <swi,ch>  
CURRent:PROTection:STATe? <ch>
```

Function description

Set or query the channel overcurrent protection switch status.

Parameter

swi: OFF | ON | 0 | 1.
ch: Refer to OOTP command.

Description

Return value

Return ON or OFF.

For example

```
CURRent:PROTection:STATe ON,(@1,2)  
/* Open channel 1 and 2 overcurrent protection */  
CURRent:PROTection:STATe? (@1,2) /*Return ON,ON*/
```

Set Overcurrent Protection Current :

CURRent:PROTection

Command format

```
CURRent:PROTection <curr,chn>  
CURRent:PROTection? <chn>
```

Function description

Set or query the channel overcurrent protection current value.

Parameter

curr: Overcurrent protection current value, unit A, floating point.

chn: Refer to the CURRent command.

Description

Overcurrent protection current value curr can be set range:

3 channels model:

Channel 1: 0.002A-3.25A

Channel 2: 0.002A-3.25A

Channel 3: 0.002A-5.05A

4 channels model:

Channel 1: 0.002A-3.25A

Channel 2: 0.002A-3.25A

Channel 3: 0.002A-2.05A

Channel 4: 0.002A-1.55A

Return value

The query returns the overcurrent protection current setting value of the query channel, unit A.

For example

```
CURRent:PROtection 1.3,(@2)
```

```
/* Set channel 2 overcurrent protection current to 1.3A */
```

```
CURRent:PROtection? (@2) /*Return 1.3*/
```

VOLTage Subsystem

Set Voltage: VOLTage

Command format

```
VOLTage <volt,chn>
```

```
VOLTage? <chn>
```

Function description

Set or query the output voltage value of the channel.

Parameter

volt: Voltage value, unit V, floating point.

chn: Refer to the CURRent command.

Description

Voltage value volt can be set range:

3 channels model:

Channel 1: 0V-32.1V

Channel 2: 0V-32.1V

Channel 3: 0V-8.1V

4 channels model:

Channel 1: 0V-32.1V

Channel 2: 0V-32.1V

Channel 3: 0V-8.1V

Channel 4: 0V-16.1V

Return value

The query returns the voltage setting value of the query channel, unit V.

For example

```
VOLTage 5.5,(@2) /* Set the voltage of channel 2 to 5.5V */
VOLTage? (@2) /*Return 5.5*/
```

Overvoltage Protection Switch: VOLTage:PROTection:STATe

Command format

```
VOLTage:PROTection:STATe <swi,ch>
VOLTage:PROTection:STATe? <ch>
```

Function description

Set or query the channel overvoltage protection switch status.

Parameter

swi: OFF | ON | 0 | 1.
ch: Refer to OUP command.

Description

None.

Return value

The query returns ON or OFF.

For example

```
VOLTage:PROTection:STATe ON,(@1,2)
/* Open channel 1 and 2 overvoltage protection
*/
VOLTage:PROTection:STATe? (@1,2) /*Return ON,ON*/
```

Set the Overvoltage Protection Voltage: VOLTage:PROTection

Command format

```
VOLTage:PROTection <volt,chn>
VOLTage:PROTection? <chn>
```

Function description

Set or query the channel overvoltage protection voltage value.

Parameter

volt: Overvoltage protection voltage value, unit V, floating point.
chn: Refer to the CURRent command.

Description

Overvoltage protection voltage value volt can be set range:

3 channels model:

Channel 1: 0V-32.1V

Channel 2: 0V-32.1V

Channel 3: 0V-8.1V
 4 channels model:
 Channel 1: 0V-32.1V
 Channel 2: 0V-32.1V
 Channel 3: 0V-8.1V
 Channel 4: 0V-16.1V

Return value

The query returns the overvoltage protection voltage setting value of the query channel, unit V.

For example

```
VOLTage:PROTection 30.5,(@2)
/* Set the overvoltage protection voltage of channel 2 to 30.5V
*/
VOLTage:PROTection? (@2) /*Return 30.5*/
```

MEASure Subsystem

Query Voltage Measurement Value :

MEASure:VOLTage?

Command format

MEASure:VOLTage? <ch>

Function description

Query the measured value of the channel voltage.

Parameter

ch: Refer to OUTP command.

Description

None.

Return value

The query returns the measured voltage value of the channel, unit V.

For example

MEASure:VOLTage? (@1)

Query Current Measurement Value :

MEASure:CURREnt?

Command format

MEASure:CURREnt? <ch>

Function description

Query channel current measurement value.

Parameter

chn: Refer to OUTF command.

Description

None.

Return value

The query returns the measured current value of the channel, unit V.

For example

MEASure:CURRent?(@1)

LIST Subsystem

Number of List Entries: LIST:COUNT

Command format

LIST:COUNT <nums,chn>

LIST:COUNT? <chn>

Function description

Set or query the number of channel list entries.

Parameter

nums: Integer (1~50)

chn: Refer to the CURRent command.

Description

None

Return value

The query returns the number of list entries of the query channel.

For example

LIST:COUNT 2,(@1) /* Set channel 1 list entry to 2 */

LIST:COUNT? (@1) /*Return 2*/

List Item Current Value: LIST:CURRENT

Command format

LIST:CURRENT <curr1,curr2,...,curr?,chn>

LIST:CURRENT? <chn>

Function description

Set or query the current value of the channel list entry.

Parameter

curr?: Current value, unit A, floating point.

chn: Refer to the CURRent command.

Description

The number of currents set must be equal to the number of list entries.

Return value

The query returns the current value of each list item of the query channel, unit A.

For example

LIST:CURRent 0.5,0.6,(@1) /* Set channel 1 list entry current */
LIST:CURRent? (@1) /*Return 0.5,0.6*/

List Entry Voltage Value: LIST:VOLTage

Command format

LIST:VOLTage <volt1,volt2,...,volt?,chn>
LIST:VOLTage? <chn>

Function description

Set or query the voltage value of the channel list entry.

Parameter

volt?: Voltage value, unit V, floating point.
chn: Refer to the CURRent command.

Description

The number of voltages set must be equal to the number of list entries and correspond to the list entries one-to-one.

Return value

The query returns the voltage value of each list item of the query channel, unit V.

For example

LIST:VOLTage 5.5,6.6,(@1) /* Set the channel 1 list entry voltage */
LIST:VOLTage? (@1) /*Return 5.5,6.6*/

List Item Duration: LIST:DWELI

Command format

LIST:DWELI <time1,time2,...,time?,chn>
LIST:DWELI? <chn>

Function description

Set or query the duration of channel list entries.

Parameter

time?: Time value, unit s, floating point.
chn: Refer to the CURRent command.

Description

The number of set times must be equal to the number of list entries.

Return value

The query returns the duration of each list item of the query channel, unit s.

For example

LIST:DWELI 3.5,3.5,(@1) /* Set the duration of channel 1 list entry */
LIST:DWELI? (@1) /*Return 3.5,3.5*/

List Entry Stepping Rules: LIST:PACE

Command format

LIST:PACE <type,ch>

LIST:PACE? <ch>

Function description

Set or query the step rule between the channel lists.

Parameter

type: DWELL | TRIGGER.

ch: Refer to OUTP command.

Description

DWELL: After executing the current item, automatically start the next item.

TRIGGER: After executing the current item, wait for the trigger signal on the digital IO port to execute the next item.

Return value

Return DWELL | TRIGGER

For example

LIST:PACE TRIGGER,(@1) /* Set the channel 1 list step rule to TRIGGER */

LIST:PACE? (@1) /*Return TRIGGER */

Output at the End of the List: LIST:TERMinate:LAST

Command format

LIST:TERMinate:LAST <swi,ch>

LIST:TERMinate:LAST? <ch>

Function description

Set or query the output of the channel after the execution of the list is completed.

Parameter

swi: OFF | ON | 0 | 1.

ch: Refer to OUTP command.

Description

ON: When the list ends, the output voltage or current remains at the value of the last item in the list.

OFF: When the list ends, the output voltage or current returns to the settings that were valid before the list was started.

Return value

Return OFF | ON

For example

LIST:TERMinate:LAST ON,(@1)

LIST:TERMinate:LAST? (@1)

List BOST Settings: LIST:TOUTput:BOSTep

Command format

LIST:TOUTput:BOSTep <swi1,swi2,...,swin,chn>

LIST:TOUTput:BOSTep? <chn>

Function description

Set or query the switch status of the BOST function of the list item.

Parameter

Swi?: OFF | ON | 0 | 1.

chn: Refer to the CURRent command.

Description

ON: When the list item starts to output, it will output a pulse on the digital IO port set to TOUTPUT.

OFF:Close.

Return value

Return OFF | ON

For example

```
LIST:TOUTput:BOSTep ON,ON,(@1)          /* Turn on the BOST of the channel 1 list entry */
LIST:TOUTput:BOSTep? (@1)                /*Return ON,ON*/
```

List EOST Settings: LIST:TOUTput:EOSTep

Command format

LIST:TOUTput:EOSTep <swi1,swi2,...,swin,chn>

LIST:TOUTput:EOSTep? <chn>

Function description

Set or query the switch status of the EOST function of the list item.

Parameter

Swi?: OFF | ON | 0 | 1.

chn: Refer to the CURRent command.

Description

ON: When the list entry ends, a pulse will be output on the digital IO port set as TOUTPUT.

OFF:Close

Return value

Return OFF | ON

For example

```
LIST:TOUTput:EOSTep ON,ON,(@1)          /* Enable EOST for channel 1 list entry */
LIST:TOUTput:EOSTep? (@1)                /*Return ON,ON*/
```

List Trigger Source: LIST:TRIGger:SOURce

Command format

LIST:TRIGger:SOURce <source,ch>

LIST:TRIGger:SOURce? <ch>

Function description

Set or query the trigger source to start execution of the list.

Parameter

source: KEY | IO | RMT.

ch: Refer to OUTP command.

Description

KEY: Press the key to trigger, that is, the list will be executed after pressing the

RUN key.

IO: Digital IO port level trigger, that is, after pressing the RUN key, it will execute after waiting for the pulse list of the IO port.

RMT: Remote command trigger, that is, after pressing the RUN key, wait for the LIST:TRIGger command to be executed.

Return value

Return KEY | IO | RMT

For example

LIST:TRIGger:SOURce KEY,(@1)

/ Set the trigger source of the channel 1 list to key trigger */*

LIST:TRIGger:SOURce? (@1) */*Return KEY*/*

List Trigger Delay Time: LIST:TRIGger:DElay

Command format

LIST:TRIGger:DElay <time,ch>

LIST:TRIGger:DElay? <ch>

Function description

Set or query the trigger delay time of the list.

Parameter

time: 0.0~3600.0s

ch: Refer to OUTP command.

Description

After the trigger signal occurs, the trigger delay timer starts timing, and the list starts to output after the timing ends.

Return value

Query return delay time, unit s.

For example

LIST:TRIGger:DElay 1.5,(@1)

/ Set the trigger delay of the channel 1 list to 1.5s */*

LIST:TRIGger:DElay? (@1) */*Return 1.5*/*

Number of List Loops: LIST:REPEat:COUNT

Command format

LIST:REPEat:COUNT <nums,ch>

LIST:REPEat:COUNT? <ch>

Function description

Set or query the number of cycles of the list.

Parameter

nums: 0~9999, Integer.

ch: Refer to OUTP command.

Description

If nums is set to 0, the list is output in a continuous loop, if nums is not 0, it represents the number of loops.

Return value

The query returns the number of loops, if it returns 0, it is a continuous loop output.

For example

```
LIST:REPEat:COUNT 10,(@1)
```

/* Set the number of cycles of channel 1 list to

10*/

```
LIST:REPEat:COUNT? (@1) /*Return 10*/
```

List Switch: LIST:RUN

Command format

```
LIST:RUN <swi,chn>
```

```
LIST:RUN? <chn>
```

Function description

Set or query the status of the list switch.

Parameter

swi: OFF | ON | 0 | 1

chn: Refer to the CURRent command.

Description

The function is the same as pressing the RUN/STOP button in the menu.

Return value

Return OFF | WAIT | RUNNING

OFF: List closed.

WAIT: List waiting to be triggered.

RUNNING: List is running.

For example

```
LIST:RUN ON,@1 /* Open channel 1 list */
```

```
LIST:RUN? (@1)
```

List Trigger Signal: LIST:TRIGger

Command format

```
LIST:TRIGger <chn>
```

Function description

Send the list trigger signal of the corresponding channel.

Parameter

chn: Refer to the CURRent command.

Description

If the corresponding channel list is in WAIT state and the trigger source is RMT, the list starts to execute, otherwise it is invalid.

Return value

None

For example

```
LIST:TRIGger (@1) /* Send channel 1 list trigger signal */
```

SENSe Subsystem

Trend **Chart** **Current** **Switch:**

SENSe:DLOG:FUNCTION:CURRENT

Command format

```
SENSe:DLOG:FUNCTION:CURRENT <swi,chn>  
SENSe:DLOG:FUNCTION:CURRENT? <chn>
```

Function description

Set or query the switch status of the current trend of the corresponding channel.

Parameter

swi: OFF | ON | 0 | 1
chn: Refer to the CURRENT command.

Description

ON: Open the current trend graph of the corresponding channel.
OFF:Close.

Return value

Return OFF | ON

For example

```
SENSe:DLOG:FUNCTION:CURRENT ON,(@1) /* Open channel 1 current trend graph */  
SENSe:DLOG:FUNCTION:CURRENT? (@1) /*Return ON*/
```

Trend **Chart** **Voltage** **Switch:**

SENSe:DLOG:FUNCTION:VOLTage

Command format

```
SENSe:DLOG:FUNCTION:VOLTage <swi,chn>  
SENSe:DLOG:FUNCTION:VOLTage? <chn>
```

Function description

Set or query the switch status of the corresponding channel voltage trend.

Parameter

swi: OFF | ON | 0 | 1
chn: Refer to the CURRENT command.

Description

ON: Open the voltage trend graph of the corresponding channel.
OFF:Close.

Return value

查询返回 OFF | ON

For example

```
SENSe:DLOG:FUNCTION:VOLTage ON,(@1)
```

/* Open the channel 1 voltage trend graph */
SENSe:DLOG:FUNCTION:VOLTage? (@1) /*Return ON*/

Trend Chart Power Switch:

SENSe:DLOG:FUNCTION:POWER

Command format

SENSe:DLOG:FUNCTION:POWER <swi,chn>
SENSe:DLOG:FUNCTION:POWER? <chn>

Function description

Set or query the switch status of the corresponding channel power trend.

Parameter

swi: OFF | ON | 0 | 1
chn: Refer to the CURRent command.

Description

ON: Open the power trend graph of the corresponding channel
OFF:Close.

Return value

Return OFF | ON

For example

SENSe:DLOG:FUNCTION:POWER ON,(@1)
/* Open the channel 1 power trend graph */
SENSe:DLOG:FUNCTION:POWER? (@1) /*Return ON*/

Trend Chart Recording Time :

SENSe:DLOG:FUNCTION:TIME

Command format

SENSe:DLOG:FUNCTION:TIME <time>
SENSe:DLOG:FUNCTION:TIME?

Function description

Set or query the total duration of trend graph recording.

Parameter

time: Unit s, floating point.

Description

None

Return value

The query returns the total time of the trend graph record, unit s.

For example

SENSe:DLOG:FUNCTION:TIME 60 /* Set the trend chart recording time to 60s */
SENSe:DLOG:FUNCTION:TIME? /*Return 60*/

Trend Graph Automatically Adjusts the Waveform :

SENSe:DLOG:FUNCTION:AUTOset

Command format

SENSe:DLOG:FUNCTION:AUTOset

Function description

Automatically adjust the trend graph waveform.

Parameter

None

Description

None

Return value

None

For example

SENSe:DLOG:FUNCTION:AUTOset

Trend Switch: SENSe:DLOG:STATE

Command format

SENSe:DLOG:STATE <swi>

SENSe:DLOG:STATE?

Function description

Set or query the switch status of the trend graph.

Parameter

swi: OFF | ON | 0 | 1

Description

ON: Trend chart starts to record.

OFF: Close trend graph.

Return value

Return OFF | ON

For example

SENSe:DLOG:STATE ON /* Open trend chart */

SENSe:DLOG:STATE? /*Return ON*/

DIGital Subsystem

Digital IO Function: DIGital:PIN<1-3>:FUNCTION

Command format

DIGital:PIN<1-3>:FUNCTION <func>

DIGital:PIN<1-3>:FUNCTION?

Function description

Set or query the digital IO port function.

Parameter

func: DIO | DINPUT | TOUTPUT | TINPUT | OFFCOUPLE | ONCOUPLE | INHIBIT

Description

DIO: Ordinary digital IO port for input/output.

DINPUT: Only as input, output is ignored.

TOUTPUT: Trigger output, BOST and EOST for the list.

TINPUT: Trigger input, can be selected as the source of the trigger signal.

OFFCOUPLE: Synchronize the output Off state of each channel (couple on), only one pin can be configured for this function, and the polarity of the pin is fixed.

ONCOUPLE: Synchronize the output On state of each channel (couple on), only one pin can be configured for this function, and the polarity of the pin is fixed.

INHIBIT: Refer to OUTPut:INHibit:MODE command.

Return value

Return DIO | DINPUT | TOUTPUT | TINPUT | OFFCOUPLE | ONCOUPLE | INHIBIT

For example

```
DIGital:PIN1:FUNCTION DINPUT      /* Set PIN1 pin function to DINPUT */
DIGital:PIN1:FUNCTION?             /*Return DINPUT */
```

Digital IO Polarity: DIGital:PIN<1-3>:POLarity

Command format

DIGital:PIN<1-3>:POLarity <pol>

DIGital:PIN<1-3>:POLarity?

Function description

Set or query the polarity of the digital IO port.

Parameter

pol: NEGATIVE | POSITIVE

Description

NEGATIVE: When In is 1, the actual level on the pin is low.

POSITIVE: When In is 1, the actual level on the pin is high.

Return value

Return NEGATIVE | POSITIVE

For example

```
DIGital:PIN1:POLarity POSITIVE    /* Set PIN1 pin polarity to POSITIVE */
DIGital:PIN1:POLarity?            /*Return POSITIVE */
```

Digital IO Output: DIGital:OUTPut:DATA

Command format

DIGital:OUTPut:DATA <data>

Function description

Set digital IO port output.

Parameter

data: Output Data (0~7)

Description

When the digital control port is configured as DIO, this command sets the output data on the digital control port. Among the binary weighted values written to the port, the pins are controlled according to the following bit allocation:

Pin	1	2	3
pin	0	1	2

Return value

None

For example

DIGital:OUTPut:DATA 3 /* Set PIN1 output 1, PIN2 output 1, PIN3 output 0 */

Digital IO Input: DIGital:INPut:DATA?

Command format

DIGital:INPut:DATA?

Function description

Query digital IO port input.

Parameter

None

Description

Pin	1	2	3
pin	0	1	2

Return value

Return 0~7

For example

DIGital:INPut:DATA?