

- You can use `:CHANnel<n>:OFFSet` to set or query the vertical offset for the specified channel.

#### Return Format

The query returns the bottom limit in scientific notation.

#### Example

```
:HISTogram:RANge:BOTTom -2 /*Sets the bottom limit of the
histogram to -2 V.*/
:HISTogram:RANge:BOTTom? /*The query returns -2.000000E0.*/
```

### 3.11.9 :HISTogram:STATistics:RESult?

#### Syntax

```
:HISTogram:STATistics:RESult?
```

#### Description

Queries the statistical results of the histogram.

#### Parameter

N/A

#### Remarks

N/A

#### Return Format

The query returns the results in the following strings.

```
[Sum:5.6khits,Peaks:14hits,Max:3.9us,Min:-4us,Pk_Pk:7.98us,Mean:-20ns,Median:-20ns,Mode:-4us,Bin width:20ns,Sigma:2.303us]
```

For details, refer to [Histogram Analysis Results](#).

#### Example

N/A

## 3.12 IEEE488.2 Common Commands

The IEEE488.2 common commands are used to query the basic information of the instrument or executing basic operations. These commands usually start with "\*", and the command keywords contain 3 characters and are related with status registers.

The standard event status register (SESR) and status byte register (SBR) record the event of a certain type happened during the use of the instrument. IEEE488.2 defines to record one specific type of event for each bit in the status register.

**Table 3.128 Table of the Bit Definition of Standard Event Status Register**

Bit No.	Bit Name	Decimal Value	Description
0	Operation Complete (OPC)	1	"Operation complete" indicates that all pending operations were completed following the execution of the command.
1	Not Used	2	-
2	Query Error (QYE)	4	An attempt is being made to read data from the Output Queue when no output is either present or pending; or data in the Output Queue has been lost; Input Buffer and Output Queue are both full.
3	Device-Specific Error (DDE)	8	Indicates that an error has occurred that is neither a Command Error, a Query Error, nor an Execution Error. A Device-Specific Error is any executed device operation that did not properly complete due to some condition, such as self-check error, calibration error, or other device-specific errors.
4	Execution Error (E)	16	An execution error occurred.
5	Command Error (CME)	32	A command error (command syntax error) has occurred.
6	Not Used	64	-
7	Power On (PON)	128	Indicates that an off-to-on transition has occurred in the device's power supply since last reading or the event register was cleared.

**Table 3.129 Table of the Bit Definition of Status Byte Register**

Bit No.	Bit Name	Decimal Value	Description
0	Not Used	1	-
1	Not Used	2	-

Bit No.	Bit Name	Decimal Value	Description
2	Error Queue	4	1 or multiple errors in the error queue
3	Questionable Data Summary	8	Sets 1 or multiple bits (must be the enabled bit) in the questionable data register.
4	Message Available (MAV)	16	Indicates the available data in the output buffer.
5	Standard Event Summary	32	Sets 1 or multiple bits (must be the enabled bit) in the standard event register.
6	Master Summary Status (MSS)	64	Sets 1 or multiple bits (must be the enabled bit) in the Status Byte Register and generate the service request.
7	Operation Status Register	128	Sets 1 or multiple bits (must be the enabled bit) in the Operation Status Register.

### 3.12.1 \*IDN?

#### Syntax

\*IDN?

#### Description

Queries the ID string of the instrument.

#### Parameter

N/A

#### Remarks

N/A

#### Return Format

The query returns RIGOL TECHNOLOGIES,<model>,<serial number>,<software version>.

- **<model>**: indicates the model number of the instrument.
- **<serial number>**: indicates the serial number of the instrument.

- **<software version>**: indicates the software version of the instrument.

**Example**

N/A

### 3.12.2 \*RST

**Syntax**

\*RST

**Description**

Restores the instrument to its factory default settings.

**Parameter**

N/A

**Remarks**

N/A

**Return Format**

N/A

**Example**

N/A

### 3.12.3 \*CLS

**Syntax**

\*CLS

**Description**

Clears all the event registers, and also clears the error queue.

**Parameter**

N/A

**Remarks**

N/A

**Return Format**

N/A

**Example**

N/A

### 3.12.4 \*ESE

#### Syntax

**\*ESE** <maskargument>

**\*ESE?**

#### Description

Sets or queries the enable register of the standard event register set.

#### Parameter

Name	Type	Range	Default
<maskargument>	Integer	0 to 255	0

#### Remarks

For the definitions of the bits in the standard event register, refer to [Table 3.128 Table of the Bit Definition of Standard Event Status Register](#). The value of <maskargument> is the sum of the decimal values of all bits set in the standard event register. For example, to enable Bit 2 (4 in decimal), Bit 3 (8 in decimal), and Bit 7 (128 in decimal), set the <maskargument> to 140 (4+8+128).

#### Return Format

The query returns an integer. The integer equals to the decimal-weighted sum of all the bits set in the register.

#### Example

```
*ESE 16 /*Enables Bit 4 (16 in decimal) in the register.*/
*ESE? /*The query returns the enable value of the register 16.*/
```

### 3.12.5 \*ESR?

#### Syntax

**\*ESR?**

#### Description

Queries and clears the event register of the standard event status register.

#### Parameter

N/A

#### Remarks

Bit 1 and Bit 6 in the standard event status register ([Table 3.128 Table of the Bit Definition of Standard Event Status Register](#)) are not used and are always treated as

0; therefore, the range of the returned value is a decimal number corresponding to a binary number X0XXXX0X (X is 1 or 0).

#### Return Format

The query returns an integer. The integer equals to the binary-weighted sum of all the bits set in the register.

#### Example

N/A

### 3.12.6 \*OPC

#### Syntax

\*OPC

\*OPC?

#### Description

The \*OPC command sets bit 0 (Operation Complete, OPC) in the standard event register to 1 after the current operation is finished.

The \*OPC? command queries whether the current operation is finished.

#### Parameter

N/A

#### Remarks

For the definitions of the bits in the standard event register, refer to [Table 3.128 Table of the Bit Definition of Standard Event Status Register](#).

#### Return Format

The query returns 1 after the current operation is finished; otherwise, the query returns 0.

#### Example

N/A

### 3.12.7 \*RCL

#### Syntax

\*RCL

#### Description

Recalls instrument settings from the specified non-volatile memory. The previous saved settings through the \*SAV command will be overwritten.

**Parameter**

N/A

**Remarks**

N/A

**Return Format**

N/A

**Example**

N/A

### 3.12.8 \*SAV

**Syntax****\*SAV** <value>**Description**

Saves the current instrument state to the selected register.

**Parameter**

Name	Type	Range	Default
<value>	Integer	0 to 49	0

**Remarks**

N/A

**Return Format**

N/A

**Example**

\*SAV 1 /\*Saves the current instrument state to Register 1.\*/

### 3.12.9 \*SRE

**Syntax****\*SRE** <maskargument>**\*SRE?****Description**

Sets or queries the enable register of the status byte register set.

**Parameter**

Name	Type	Range	Default
<maskargument>	Integer	0 to 255	0

**Remarks**

For the definitions of the bits in the status byte register, refer to *Table 3.129 Table of the Bit Definition of Status Byte Register*. The value of <maskargument> is the sum of the decimal values of all bits set in the status byte register. For example, to enable Bit 2 (4 in decimal), Bit 3 (8 in decimal), and Bit 7 (128 in decimal), set the <maskargument> to 140 (4+8+128).

**Return Format**

The query returns an integer. The integer equals to the decimal-weighted sum of all the bits set in the register.

**Example**

```
*SRE 16 /*Enables Bit 4 (16 in decimal) in the register.*/
*SRE? /*The query returns the enable value of the register 16.*/
```

**3.12.10 \*STB?****Syntax**

**\*STB?**

**Description**

Queries the event register for the status byte register. After executing the command, the value in the status byte register is cleared.

**Parameter**

N/A

**Remarks**

Bit 0 and Bit 1 in the status byte register (*Table 3.129 Table of the Bit Definition of Status Byte Register*) are not used and are always treated as 0; therefore, the range of the returned value is a decimal number corresponding to a binary number XXXXXX00 (X is 1 or 0).

**Return Format**

The query returns an integer. The integer equals to the decimal-weighted sum of all the bits set in the register.

**Example**

N/A



### 3.12.11 \*WAI

#### Syntax

\*WAI

#### Description

Waits for all the pending operations to complete before executing any additional commands.

#### Parameter

N/A

#### Remarks

This operation command does not have any functions, only to be compatible with other devices.

#### Return Format

N/A

#### Example

N/A

### 3.12.12 \*TST?

#### Syntax

\*TST?

#### Description

Performs a self-test and returns the self-test result.

#### Parameter

N/A

#### Remarks

This command executes a self-test. If the test fails, one or more error messages will be displayed, providing more information. You can use `:SYSTem:ERRor[:NEXT]?` to read the error queue.

#### Return Format

The query returns 0 or 1.

- **0:** it passes.
- **1:** one or more tests fail.