Vibration Control System

K2
K2Sprint

TCP Communication Server
Instruction Manual

IMV CORPORATION

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English Edition

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1.0.0	2019.06.26	First issue
1.1.0	2019.06.28	The modification of the following commands description. GetStatus command, SetManualReference command, Excitation Data Response Commands(SHOCK test Test completion status (single axis),NON GAUSSIAN test (single axis))
1.2.0	2019.12.27	Modification of the specifications of GetInfo, Addition of Chapter 8
20.2.0	2021.03.17	Added the description of STX/ETX into the message configuration.

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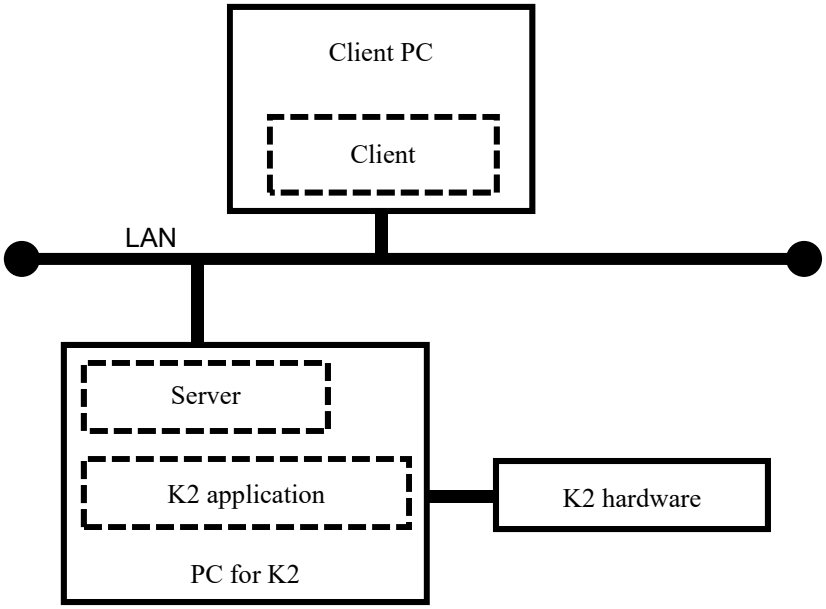
CONTENTS

Chapter 1 Overview

This software is a TCP server software for supporting the software controlling K2 applications (hereinafter referred to as the Client) by transmitting/receiving commands via TCP/IP.

1.1 Configuration

The system configuration for using this software (hereinafter referred to as the Server) is shown below.

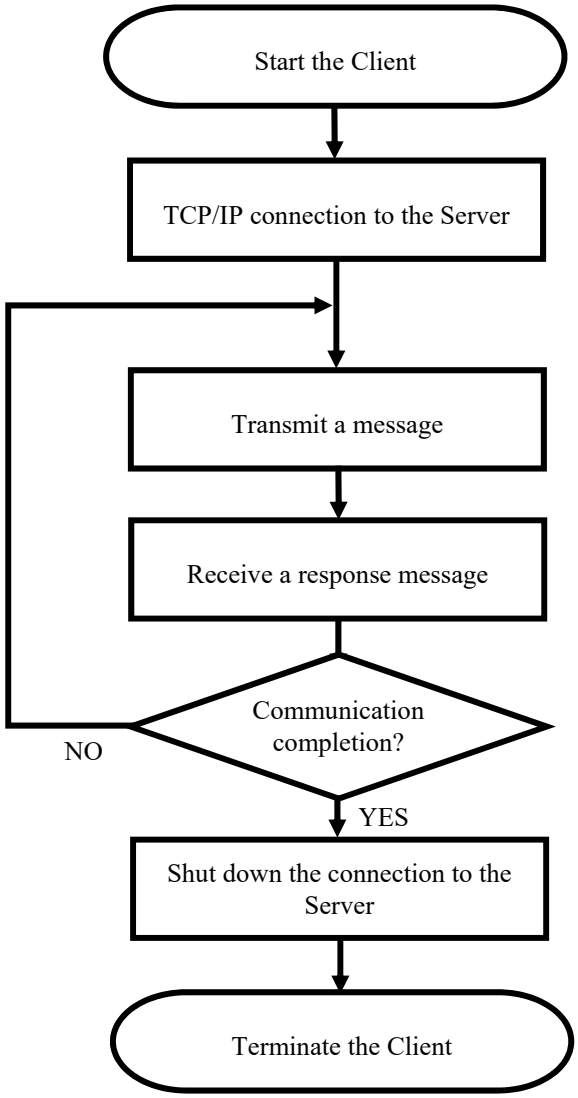


※ Only one client software can connect to the Server.

1.2 Client Process Flow

To control K2 applications, the Client connects to the Server via TCP/IP and performs communication using messages stated in the XML format.

Shown below is an overview of the process flow for the Client.



1.3 Applicable Applications

K2 applications supported by the Server are as follows.

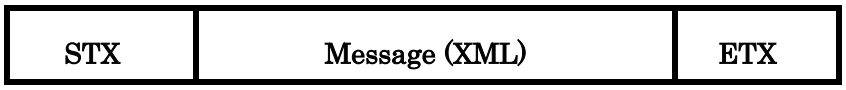
Applicable Applications		
SINE	RANDOM	SHOCK
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

Chapter 2 Message Structure

This chapter explains the structure for the messages transmitted by the Client to control K2 applications and that of response messages sent by the Server.

2.1 Messages configuration

The Client and the Server send and receive the message described at text of XML form, added STX(0x02) and ETX(0x03) as the following figure;



2.2 Transmitted messages

To control a K2 application, the Client needs to transmit a message with the following structure to the Server.

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>XXXXXXXX</command>
    …
</message>
```

Here, the expression **"XXXXXXXX"** represents a command.
The statement after </command> depends on the command and further information is provided later.

2.3 Response messages

Upon processing the message sent from the Client properly, the Server sends a message with the following structure to the Client.

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
<command>XXXXXXXX</command>
<result>True</result>
…
</response>
```

Here, the expression **"XXXXXXXX"** represents the command that has been received by the Server.

Also, the processing result "**True**" is stated in the <result> field.

The statement after </result> depends on the command and further information is provided in the next chapter onward.

Given below is a command responding to an error.

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
<command>XXXXXXXX</command>
<result>False</result>
<error id="%%">**********</error>
</response>
```

Here, the expression **"XXXXXXXX"** also represents the command that has been received by the Server.

The processing result "**False**" is stated in the <result> field.

In addition, the error ID ("%%" in above example) and the error message ("**********" in above example) are stated in the <error> field.

Chapter 3 Command Specifications

This chapter explains the commands supported by the Server.

3.1 Common commands for all applications

The commands common for all K2 applications supported by the Server are given in the table below.

Commands	Function
GetDeviceInfo	Obtain information on the K2 application, such as the version number.
OpenDevice	Start the K2 application and load the designated test definition file.
GetInputSensitivity	Obtain the sensitivity of preset input channel.
SetInputSensitivity	Set the sensitivity of input channel.
PrepareTest	Initialize the hardware and make a transition to the standby state for starting excitation.
StartTest	Start the excitation. If the K2 application was in the excitation complete state, reset it to the standby state for excitation before starting the excitation.
PauseTest	Suspend the excitation momentarily.
ContinueTest	Cancel the suspension to resume the excitation.
StopTest	Stop the excitation.
CloseTest	Close the K2 application. If the K2 application was performing the excitation, stop the excitation before closing the application.
GetStatus	Obtain the status of K2 application.
GetInfo	Obtain information on the K2 application, such as the excitation data.
RetryTest	Reset the application from the excitation complete state to the standby state for excitation.

3.2 Application specific commands

Applications specific commands supported by the Server are listed in the table below.

Commands	Function
LevelUp	Increase the excitation level.
LevelDown	Decrease the excitation level.
GoToHeadFreqency	Return to the head frequency.
TurnSweep	Turn back the sweeping.
GoToNextSpot	Make a transition to the next spot.
HoldFrequency	Hold the excitation frequency.
RelaseFrequency	Cancel the hold on the excitation frequency.
FrequencyUp	Increase the excitation frequency of SINE MANUAL test.
FrequencyDown	Decrease the excitation frequency of SINE MANUAL test.
SetManualReference	Set the excitation frequency and the excitation level of SINE MANUAL test.
StartLevelSchedule	Start the level schedule test of SHOCK test.
UpdateXfrData	Update the XFR data in the SHOCK test.
UpdateDriveData	Update the drive data in the SHOCK test.

Chapter 4 Common Commands for All Applications

This chapter explains the commands supported commonly by all applications in details.

4.1 GetDeviceInfo command

This command is used to obtain information on the K2 application, such as the version number.

Available state for communication
ANY STATE
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>GetDeviceInfo</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>GetDeviceInfo</command>
    <result>True</result>
    <device>
        <manufacture>IMV Corporation</manufacture>
        <product>K2</product>
        <type>K2 TCP/IP Server</type>
        <version>14.5.0.0</version>
    </device>
</response>
```

device	
Tag	**Meaning**
manufacture	Manufacturer name (always “IMV Corporation”)
product	Product name (always “K2”)
type	Software name (always “K2 TCP Server”)
version	The version number of K2 application

4.2 GetStatus command

This command is used to obtain the K2 application status.

Available state for communication
ANY STATE
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>GetStatus</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>GetStatus</command>
    <result>True</result>
    <status id="3" end_id="">RUN</status>
</response>
```

Tag		Meaning	
status		The K2 application status is described here. The statuses supported are listed in the table below.	
		Status	**Condition**
		IDLE	Standby for the start of application launch
		STANDBY	Standby for the start of hardware initialization
		READY	Standby for the start of excitation
		RUN	Excitation in progress
		STOP	Excitation stopped
		PAUSE	Excitation suspended
		FIXED_FREQ	Fixing frequeney
		BUSY	Executing functions other than the above
Attribute	id	The status code of K2 application is stated. (See Chapter 6 for further information.)	
	end_id	The completion status code of K2 application is stated. (A value is set only if the status was STOP. See Chapter 6 for further information.)	

4.3 OpenDevice command

This command is used to start the K2 application and load designate test definition file.

Remember to state the path to the PC, on which the K2 application is installed, for the designated test definition file.

Available state for communication
IDLE
State transition after transmission
STANDBY

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>OpenDevice</command>
    <testpath>C:¥K2Data¥SINE¥Test01.swp2</testpath>
</message>
```

Tag	Meaning
testpath	The path to the test definition file on the PC, on which the K2 application is installed.

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>OpenDevice</command>
    <result>True</result>
</response>
```

4.4 GetInputSensitivity command

This command is used to obtain the sensitivity of input channel set in the test definition.

Available state for communication
ANY STATE except IDLE
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>GetInputSensitivity</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>GetInputSensitivity</command>
    <result>True</result>
    <sensitivity>
        <channel module="000" ch="Ch1">10.5</channel>
        <channel module="000" ch="Ch2">10.1</channel>
        <channel module="000" ch="Ch4">5.6</channel>
    </sensitivity>
</response>
```

sensitivity		
Tag		Meaning
channel		Sensitivity of each input channel
Attribute	module	Module ID
	ch	Channel number

4.5 SetInputSensitivity command

This command is used to set the input channel sensitivity in the test definition.

It is also possible to specify if the test definition should be overwritten.

Available state for communication
STANDBY
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>SetInputSensitivity</command>
    <overwrite>True</overwrite>
    <sensitivity>
        <channel module="000" ch="Ch1">10.8</channel>
        <channel module="000" ch="Ch4">5.1</channel>
    </sensitivity>
</message>
```

Tag		Meaning
overwrite		Specify if the test definition file should be overwritten. (False if not specified)
	True	To be overwritten
	False	Not overwritten
sensitivity		
Tag		**Meaning**
channel		Sensitivity of each input channel
Attribute	module	Module ID
	ch	Channel number

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>SetInputSensitivity</command>
    <result>True</result>
</response>
```

4.6 PrepareTest command

This command is used to initialize the hardware and put it in the standby state for the start of excitation.

Available state for communication
STANDBY
State transition after transmission
READY

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>PrepareTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>PrepareTest</command>
    <result>True</result>
</response>
```

4.7 StartTest command

This command is used to start the excitation.

If the K2 application was in the excitation complete state, it is reset to the standby state for excitation before starting the excitation.

Available state for communication
READY, STOP
State transition after transmission
RUN

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>StartTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>StartTest</command>
    <result>True</result>
</response>
```

4.8 StopTest command

This command is used to stop the excitation.

Available state for communication
RUN, PAUSE, BUSY
State transition after transmission
STOP

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>StopTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>StopTest</command>
    <result>True</result>
</response>
```

4.9 CloseTest command

This command is used to close the K2 application.

If the K2 application was in the process of excitation, it stops the excitation before closing the application.

Available state for communication
ANY STATE except IDLE
State transition after transmission
IDLE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>CloseTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>CloseTest</command>
    <result>True</result>
</response>
```

4.10 GetInfo command

This command is used to obtain the excitation data when the K2 application is in the process of excitation.

Available state for communication
ANY STATE
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>GetInfo</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>GetInfo</command>
    <result>True</result>
    <k2status>
        …
    </k2status>
</response>
```

Tag	Meaning
k2status	The status and data of K2 application are stated. The contents depend on the application. (See Chapter 7 for further information.)

4.11 RetryTest command

This command is used to reset the application from the excitation complete state to the standby state for excitation.

Available state for communication
STOP
State transition after transmission
READY

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>RetryTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>RetryTest</command>
    <result>True</result>
</response>
```

Chapter 5 Application Specific Commands

This chapter explains the details of commands specific to K2 application.

The server supports the commands of the applications written in black shown below.

5.1 PauseTest command

This command is used to suspend the excitation momentarily.

Applicable applications		
SINE	**RANDOM**	SHOCK
Multi-SWEEP SINE	**Multi-SINE**	**Multi-RANDOM**
NON GAUSSIAN		

Available state for communication
RUN
State transition after transmission
PAUSE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>PauseTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>PauseTest</command>
    <result>True</result>
</response>
```

5.2 ContinueTest command

This command is used to cancel the suspension and resume the excitation.

Applicable applications		
SINE	**RANDOM**	SHOCK
Multi-SWEEP SINE	**Multi-SINE**	**Multi-RANDOM**
NON GAUSSIAN		

Available state for communication
PAUSE
State transition after transmission
RUN

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>ContinueTest</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>ContinueTest</command>
    <result>True</result>
</response>
```

5.3 LevelUp command

This command is used to increase the level of excitation in accordance with the specified value for the increment.

The operation is same as the one performed by pressing the “up arrow” button on the manual operation panel of K2 application.

Applicable applications		
SINE	**RANDOM**	SHOCK
Multi-SWEEP SINE	**Multi-SINE**	**Multi-RANDOM**
NON GAUSSIAN		

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>LevelUp</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>LevelUp</command>
    <result>True</result>
</response>
```

5.4 LevelDown command

This command is used to decrease the excitation level in accordance with the specified value for the decrement.

The operation is same as the one performed by pressing the “down arrow” button on the manual operation panel of K2 application.

Applicable applications		
SINE	**RANDOM**	SHOCK
Multi-SWEEP SINE	**Multi-SINE**	**Multi-RANDOM**
NON GAUSSIAN		

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>LevelDown</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>LevelDown</command>
    <result>True</result>
</response>
```

5.5 GoToHeadFreqency command

This command is used to return to the head frequency.

Applicable applications		
SINE *1	**RANDOM** *2	SHOCK
Multi-SWEEP SINE *3	**Multi-SINE** *1	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only for the back-and-forth sweeping in the SWEEP test.

*2 Effective only for the sweeping in the SOR or ROR test.

*3 Effective only for the multiple frequency sweep test.

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>GoToHeadFreqency</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>GoToHeadFreqency</command>
    <result>True</result>
</response>
```

5.6 TurnSweep command

This command is used to turn the sweep backward.

Applicable applications		
SINE *1	**RANDOM** *2	SHOCK
Multi-SWEEP SINE *3	**Multi-SINE** *1	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only for the back-and-forth sweeping in the SWEEP test.

*2 Effective only for the back-and-forth sweeping in SOR or ROR test.

*3 Effective only for the multiple frequency sweep test.

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>TurnSweep</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>TurnSweep</command>
    <result>True</result>
</response>
```

5.7 GoToNextSpot command

This command is used to move to the next spot.

Applicable applications		
SINE *1	RANDOM	SHOCK
Multi-SWEEP SINE	**Multi-SINE** *1	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only in the SPOT test.

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>GoToNextSpot</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>GoToNextSpot</command>
    <result>True</result>
</response>
```

5.8 HoldFrequency command

This command is used to hold the excitation frequency.

Applicable applications		
SINE *1	**RANDOM** *2	SHOCK
Multi-SWEEP SINE *3	**Multi-SINE** *1	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only in the SWEEP or SPOT test.

*2 Effective only for sweeping in the SOR or ROR test.

*3 Effective only in the multiple frequency sweep test or delayed sweep test.

Available state for communication
RUN
State transition after transmission
FIXED_FREQ

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>HoldFrequency</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>HoldFrequency</command>
    <result>True</result>
</response>
```

5.9 RelaseFrequency command

This command is used to cancel the hold in the excitation frequency.

Applicable applications		
SINE *1	**RANDOM** *2	SHOCK
Multi-SWEEP SINE *3	**Multi-SINE** *1	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only in the SWEEP or SPOT test.

*2 Effective only for sweeping in the SOR or ROR test.

*3 Effective only in the multiple frequency sweep test or delayed sweep test.

Available state for communication
FIXED_FREQ
State transition after transmission
RUN

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>RelaseFrequency</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>RelaseFrequency</command>
    <result>True</result>
</response>
```

5.10 FrequencyUp command

This command is used to increase the excitation frequency in the SINE MANUAL test by the specified value of increment.

The operation is same as the one performed by pressing the “right arrow” button on the manual operation panel of K2 application.

Applicable applications		
SINE *1	RANDOM	SHOCK
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only in the MANUAL test.

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>FrequencyUp</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>FrequencyUp</command>
    <result>True</result>
</response>
```

5.11 FrequencyDown command

This command is used to decrease the excitation frequency in the SINE MANUAL test by the specified value of decrement.

The operation is same as the one performed by pressing the “left arrow” button on the manual operation panel of K2 application.

Applicable applications		
SINE *1	RANDOM	SHOCK
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only in the MANUAL test.

Available state for communication
RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>FrequencyDown</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>FrequencyDown</command>
    <result>True</result>
</response>
```

5.12 SetManualReference command

This command is used to set the excitation frequency and the excitation level directly in the SINE MANUAL test.

It is impossible to change physical quantity of the excitation level

(Physical quantity of test definition is used.)

Applicable applications		
SINE *1	RANDOM	SHOCK
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

*1 Effective only in the MANUAL test.

Available state for communication
READY, RUN
State transition after transmission
NONE

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command> SetManualReference</command>
    <frequency>101.0</frequency>
    <reference>12.3</reference>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command> SetManualReference</command>
    <result>True</result>
</response>
```

Tag	Meaning
frequency	Excitation frequency
reference	Excitation level

5.13 StartLevelSchedule command

This command is used to start the level schedule test of SHOCK test.

Applicable applications		
SINE	RANDOM	**SHOCK**
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

Available state for communication
READY
State transition after transmission
RUN

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>StartLevelSchedule</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>StartLevelSchedule</command>
    <result>True</result>
</response>
```

5.14 UpdateXfrData command

This command is used to update the XFR data in the SHOCK test.

Applicable applications		
SINE	RANDOM	**SHOCK**
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

Available state for communication
STOP
State transition after transmission
READY

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>UpdateXfrData</command>
    <remakedrive>True</remakedrive>
</message>
```

Tag	Meaning	
remakedrive	Specify if the drive data shall be recreated. (True if not specified)	
	True	To be recreated
	False	Not recreated

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>UpdateXfrData</command>
    <result>True</result>
</response>
```

5.15 UpadateDriveData command

This command is used to update the drive data in the SHOCK test.

Applicable applications		
SINE	RANDOM	**SHOCK**
Multi-SWEEP SINE	Multi-SINE	Multi-RANDOM
NON GAUSSIAN		

Available state for communication
STOP
State transition after transmission
READY

Transferred command example

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
    <command>UpdateDriveData</command>
</message>
```

Response command example

```
<?xml version="1.0" encoding="UTF-8"?>
<response>
    <command>UpdateDriveData</command>
    <result>True</result>
</response>
```

Chapter 6 Status Response Message

This chapter explains the status code stated in the “id” field of <status> and the completion status code stated in the “end_id” field of GetStatus command.

6.1 SINE

Status code	Condition	Status
1	Before the start of test	STANDBY
2	Initialization in progress	STANDBY
3	Standby for the start of excitation	READY
4	Excitation in progress	RUN
5	Excitation complete	END
6	Excitation suspended	PAUSE
3001	Initial loop check in progress	INICHK
3002	Initial measurement in progress	INIMEA
3003	Initial equalization in progress	INIEQ
999	Other than the above	BUSY

Completion status code	Condition
0	Completed normally
1	Stop by the user command
2	Stop by the command from a contact
3	Stop because of not being ready for the test (contact)
4	Stop due to an abort check
5	Stop due to a loop check
6	Suspension due to a detection of timeout by the Client
7	A hardware error has been issued
8	An error detected in the initial loop check
9	The excitation system is not ready for operation
10	Suspension due to a CPU overload
11	Suspension due to a shortage in memory capacity
12	An error detected in the XFR measurement
13	Suspension by the emergency stop contact
14	Suspension by the shutdown command
99	Stop due to a reason other than the above

6.2 RANDOM

Status code	Condition	Status
1	Before the start of test	STANDBY
2	Initialization in progress	STANDBY
3	Standby for the start of excitation	READY
4	Excitation in progress	RUN
5	Excitation complete	END
6	Excitation suspended	PAUSE
2001	Initial loop check in progress	INICHK
2002	Initial measurement in progress	INIMEA
2003	Initial equalization in progress	INIEQ
999	Other than the above	BUSY

Completion status code	Condition
0	Completed normally
1	Stop by the user command
2	Stop by the command from a contact
3	Stop because of not being ready for the test (contact)
4	Stop due to an abort check
5	Stop due to a loop check
6	Suspension due to a detection of timeout by the Client
7	A hardware error has been issued
8	An error detected in the initial loop check
9	The excitation system is not ready for operation
10	Suspension due to a CPU overload
11	Suspension due to a shortage in memory capacity
12	An error detected in the XFR measurement
13	Suspension by the emergency stop contact
14	Suspension by the shutdown command
99	Stop due to a reason other than the above

6.3 SHOCK

Status code	Condition	Status
1	Before the start of test	STANDBY
2	Initialization in progress	STANDBY
3	Standby for the start of excitation	READY
4	Excitation in progress	RUN
5	Excitation complete	END
6	Excitation suspended	PAUSE
1001	Standby for the start of XFR measurement	WXFR
1002	XFR measurement in progress	MXFR
1003	Standby for the start of drive generation	WDRV
1004	Drive generation in progress	MDRV
1005	XFR renewal in progress	UXFR
1006	Iteration in progress	UDRV
999	Other than the above	BUSY

Completion status code	Condition
0	Completed normally
1	Stop by the user command
2	Stop by the command from a contact
3	Stop because of not being ready for the test (contact)
4	Stop due to an abort check
5	Stop due to a loop check
6	Suspension due to a detection of timeout by the Client
7	A hardware error has been issued
8	An error detected in the initial loop check
9	The excitation system is not ready for operation
10	Suspension due to a CPU overload
11	Suspension due to a shortage in memory capacity
12	An error detected in the XFR measurement
13	Suspension by the emergency stop contact
14	Suspension by the shutdown command
99	Stop due to a reason other than the above

6.4 Multi-SWEEP SINE

Status code	Condition	Status
1	Before the start of test	STANDBY
2	Initialization in progress	STANDBY
3	Standby for the start of excitation	READY
4	Excitation in progress	RUN
5	Excitation complete	END
6	Excitation suspended	PAUSE
3001	Initial loop check in progress	INICHK
3002	Initial measurement in progress	INIMEA
3003	Initial equalization in progress	INIEQ
999	Other than the above	BUSY

Completion status code	Condition
0	Completed normally
1	Stop by the user command
2	Stop by the command from a contact
3	Stop because of not being ready for the test (contact)
4	Stop due to an abort check
5	Stop due to a loop check
6	Suspension due to a detection of timeout by the Client
7	A hardware error has been issued
8	An error detected in the initial loop check
9	The excitation system is not ready for operation
10	Suspension due to a CPU overload
11	Suspension due to a shortage in memory capacity
12	An error detected in the XFR measurement
13	Suspension by the emergency stop contact
14	Suspension by the shutdown command
99	Stop due to a reason other than the above

6.5 Multi-SINE, Multi-RANDOM, NON GAUSSIAN

Status code	Condition	Status
1	Before the start of test	STANDBY
2	Initialization in progress	STANDBY
3	Standby for the start of excitation	READY
4	Excitation in progress	RUN
5	Excitation complete	END
6	Excitation suspended	PAUSE
4001	Standby for the start of XFR measurement	WXFR
4002	XFR measurement in progress	MXFR
4003	Initial loop check in progress	INICHK
4004	Initial measurement in progress	INIMEA
4005	Initial equalization in progress	INIEQ
999	Other than the above	BUSY

Completion status code	Condition
0	Completed normally
1	Stop by the user command
2	Stop by the command from a contact
3	Stop because of not being ready for the test (contact)
4	Stop due to an abort check
5	Stop due to a loop check
6	Suspension due to a detection of timeout by the Client
7	A hardware error has been issued
8	An error detected in the initial loop check
9	The excitation system is not ready for operation
10	Suspension due to a CPU overload
11	Suspension due to a shortage in memory capacity
12	An error detected in the XFR measurement
13	Suspension by the emergency stop contact
14	Suspension by the shutdown command
99	Stop due to a reason other than the above

Chapter 7　Excitation Data Response Commands

This chapter explains the information to be given in the <k2status> fields of response command to the GetInfo command.

7.1　Commands common to all applications (waiting for application startup)

IDLE

```
<k2status>
    <status id="0" end_id="">IDLE</status>
</k2status>
```

タグ	意味
status	Same as GetStatus command

7.2　Commands common to all applications (waiting for hardware initialization)

STANDBY

```
<k2status>
    <status id="1" end_id="">STANDBY</status>
    <test_path>C:¥K2Data¥SINE¥Test01.swp2</test_path>
</k2status>
```

タグ	意味
status	Same as GetStatus command
test_path	Test definition file path name being executed

7.3 SINE SWEEP test

Sweep

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥SINE¥Test01.swp2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <frequency>100.0</frequency>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <cycle>10000</cycle>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <sweep>
        <direction>Forward</direction>
        <sweep_count>11</sweep_count>
        <test_time>100 doble-sweep</test_time>
        <pause_time>0:00:00</pause_time>
        <fixed_time>0:00:00</fixed_time>
    </sweep>
    <dwell>
        <status>Dwelling</status>
        <segment>1</segment>
        <phase>91.2</phase>
        <elapsed_time>0:23:45</elapsed_time>
        <test_time>1:23:45</test_time>
        <cycle>10000</cycle>
    </dwell>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <phase>1.2</phase>
            <distortion>1.5</distortion>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
```

```
            <limit>False</limit>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">124.8</response>
            <phase>1.0</phase>
            <distortion>1.1</distortion>
            <error>NoError</error>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <phase>2.1</phase>
            <distortion>2.1</distortion>
            <error>NoError</error>
        </channel>
    </input>
</k2status>
```

Tag		Meaning	
status		Same as GetStatus command	
test_path		Test definition file path name being executed	
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
frequency		The excitation frequency (in the unit of Hz)	
reference		Target control level	
Attribute	unit	The unit for the target control level	
response		Response level	
Attribute	unit	The unit for the response level	
drive		Drive level (in the unit of mV)	
elapsed_time		Elapsed time	
cycle		Number of cycles (in the unit of cycles)	
level		Excitation level (in the unit of dB)	
abort		Abort check result	
		True	Abort check error
		False	No error

alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
sweep		
Tag	**Meaning**	
direction	Sweep direction	
	Forward	Forward
	Backward	Reverse
	Pause	Paused for turning the sweep backward
	Fixed	Sweep being fixed
sweep_count	Number of sweeps	
test_time	Test time (followings are examples of the setting of test definition)	
	Type	**Display example**
	Infinite	Infinite
	By single sweep counts	3 single-sweep
	By double sweep counts	2 double-sweep
	By time	12:34:56
	By the vibration cycle	123 cycle
	By the vibration kcycle	456 kcycle
pause_time	The duration of pause for turning the sweep backward	
fixed_time	The time of fixed sweep at the maximum frequency	
dwell *1		
Tag	**Meaning**	
status	Dwelling at the resonance point	
	OutOfSegment	Out of the segment
	Dwelling	Dwelling at the resonance point
	Searching	Searching for the resonance point
segment	Dwelling segment number	
phase	Phase difference (in the unit of degrees)	
elapsed_time	Elapsed time	
test_time	Defined dwell time	
cycle	Number of cycles (in the unit of cycles)	

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level
Attribute	unit	The unit of input response level
phase		Phase (in the unit of degrees)
distortion		Distortion factor (in the unit of %)
error		Type of error
	NoError	Normal (no error)
	IniLoopOpen	An open loop detected in the initial measurement
	IniExceed	An excessive response detected in the initial measurement
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *2		Abort check result
	True	Abort check error
	False	No error
alarm *2		Alarm check result
	True	Alarm being issued
	False	No alarm
limit *3		Limit check result
	True	Limit effective
	False	No limit

*1 Effective only if the dwelling at resonance point was defined.

*2 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*3 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.4 SINE SPOT test

Spot

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥SINE¥Test01.spt2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <frequency>100.0</frequency>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <cycle>10000</cycle>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <spot>
        <repeat_count>3</repeat_count>
        <test_repeat_count>5</test_repeat_count>
        <spot_number>1</spot_number>
        <test_spot_count>3</test_spot_count>
        <elapsed_time>0:23:45</elapsed_time>
        <test_time>1:23:45</test_time>
        <cycle>10000</cycle>
        <repeat_pause>False</repeat_pause>
        <pause_time>0:00:00</pause_time>
    </spot>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <phase>1.2</phase>
            <distortion>1.5</distortion>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
```

```
            <response unit="m/s2">124.8</response>
            <phase>1.0</phase>
            <distortion>1.1</distortion>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <phase>2.1</phase>
            <distortion>2.1</distortion>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </channel>
    </input>
</k2status>
```

Tag		Meaning
status		Same as GetStatus command
test_path		Test definition file path name being executed
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation
frequency		The excitation frequency (in the unit of Hz)
reference		Target control level
Attribute	unit	The unit for the target control level
response		Response level
Attribute	unit	The unit for the response level
drive		Drive level (in the unit of mV)
elapsed_time		Elapsed time
cycle		Number of cycles (in the unit of cycles)
level		Excitation level (in the unit of dB)

abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit

spot	
Tag	Meaning
repeat_count	Number of repetitions
test_repeat_count	Defined repeat times (followings are defined according to the type)

Type	Display example
Once	1
By repeat times	100
Infinite	Infinite

spot_number	Spot number
test_spot_count	Defined number of spots
elapsed_time	Elapsed time
test_time	Defined stay time
cycle	Number of cycles (in the unit of cycles)
repeat_pause	Paused for turning backward
	True: Paused for turning backward
	False: Other than the above
pause_time	The duration of pause for turning backward

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level
Attribute	unit	The unit of input response level
phase		Phase (in the unit of degrees)

	distortion	Distortion factor (in the unit of %)	
	error	Type of error	
		NoError	Normal (no error)
		IniLoopOpen	An open loop detected in the initial measurement
		IniExceed	An excessive response detected in the initial measurement
		LoopOpen	An open loop detected
		RespExceed	An excessive response detected
		OverLoad	An overload detected
		AmbExceed	An excessive ambient noise detected
	abort *2	Abort check result	
		True	Abort check error
		False	No error
	alarm *2	Alarm check result	
		True	Alarm being issued
		False	No alarm
	limit *3	Limit check result	
		True	Limit effective
		False	No limit

*1 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.5 SINE MANUAL test

Manual

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥SINE¥Test01.mnl2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <frequency>100.0</frequency>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <cycle>10000</cycle>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <phase>1.2</phase>
            <distortion>1.5</distortion>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">124.8</response>
            <phase>1.0</phase>
            <distortion>1.1</distortion>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <phase>2.1</phase>
            <distortion>2.1</distortion>
```

```
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </channel>
    </input>
</k2status>
```

Tag		Meaning	
status		Same as GetStatus command	
test_path		Test definition file path name being executed	
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
frequency		The excitation frequency (in the unit of Hz)	
reference		Target control level	
Attribute	unit	The unit for the target control level	
response		Response level	
Attribute	unit	The unit for the response level	
drive		Drive level (in the unit of mV)	
elapsed_time		Elapsed time	
cycle		Number of cycles (in the unit of cycles)	
level		Excitation level (in the unit of dB)	
abort		Abort check result	
		True	Abort check error
		False	No error
alarm		Alarm check result	
		True	Alarm being issued
		False	No alarm
limit		Limit check result	
		True	Limit effective
		False	No limit

input			
Tag		Meaning	
channel		Input channel response	
Attribute	module	Module ID	
	ch	Channel number	
	name	Channel name	
	channel		
	Tag	Meaning	
	response	Input response level	
	Attribute: unit	The unit of input response level	
	phase	Phase (in the unit of degrees)	
	distortion	Distortion factor (in the unit of %)	
	error	Type of error	
		NoError	Normal (no error)
		IniLoopOpen	An open loop detected in the initial measurement
		IniExceed	An excessive response detected in the initial measurement
		LoopOpen	An open loop detected
		RespExceed	An excessive response detected
		OverLoad	An overload detected
		AmbExceed	An excessive ambient noise detected
	abort *2	Abort check result	
		True	Abort check error
		False	No error
	alarm *2	Alarm check result	
		True	Alarm being issued
		False	No alarm
	limit *3	Limit check result	
		True	Limit effective
		False	No limit

*1 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.6 RADOM test

Random

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥RANDOM¥Test01.ran2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <test_time>1:23:45</test_time>
    <level>0.0</level>
    <loop>1000</loop>
    <crest_factor>3.5</crest_factor>
    <over_clip>False</over_clip>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <tolerance>
        <abort>False</abort>
        <abort_band>0.0</abort_band>
        <alarm>True</alarm>
        <alarm_band>5.0</alarm_band>
        <tolerance_ext number="1">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </tolerance_ext>
    </tolerance>
    <level_schedule>
        <schedule>3</schedule>
        <elapsed_time>0:23:45</elapsed_time>
    </level_schedule>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <error>NoError</error>
            <abort>False</abort>
```

```
            <alarm>False</alarm>
            <limit>False</limit>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>True</alarm>
                <alarm_band>5.0</alarm_band>
                <tolerance_ext number="1">
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
                </tolerance_ext>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">124.8</response>
            <error>NoError</error>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <error>NoError</error>
        </channel>
    </input>
</k2status>
```

Tag	Meaning
status	Same as GetStatus command
test_path	Test definition file path name being executed
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation

reference	Target control level (rms)	
Attribute unit	The unit for the target control level	
response	Response level (rms)	
Attribute unit	The unit for the response level	
drive	Drive level (in the unit of mV rms)	
elapsed_time	Elapsed time	
test_time	Defined test time (followings are defined according to the type)	
	Type	**Display example**
	Infinite	Infinite
	By time	12:34:56
level	Excitation level (in the unit of dB)	
loop	Loop count	
crest_factor	Crest factor	
over_clip	Excessive clipping	
	True	An excessive clipping detected
	False	No error
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
tolerance		
Tag	**Meaning**	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	

tolerance_ext		Extended tolerance check
Attribute	number	Extended tolerance number

tolerance_ext *1

Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

level_schedule *2

Tag	Meaning
schedule	Level schedule number
elapsed_time	Elapsed time

input

Tag	Meaning
channel	Input channel response
Attribute: module	Module ID
Attribute: ch	Channel number
Attribute: name	Channel name

channel

Tag	Meaning	
response	Input response level (rms)	
Attribute: unit	The unit of input response level	
error	Type of error	
	NoError	Normal (no error)
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *3	Abort check result	
	True	Abort check error
	False	No error

alarm *3	Alarm check result		
	True	Alarm being issued	
	False	No alarm	
limit *4	Limit check result		
	True	Limit effective	
	False	No limit	

tolerance		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute number	Extended tolerance number	

	tolerance_ext *1	
	Tag	Meaning
	abort	Abort check result
		True: Abort check error
		False: No error
	abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)
	alarm	Alarm check result
		True: Alarm being issued
		False: No alarm
	alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

*1 Effective only if the extended tolerance is defined.

*2 Effective only if the level schedule is defined.

*3 Effective only on the channel, for which the monitoring profile is defined.

*4 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.7 RANDOM SOR test (sweep)

Sine On Random(Sweep)

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥RANDOM¥Test01.sor2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <loop>1000</loop>
    <crest_factor>3.5</crest_factor>
    <over_clip>False</over_clip>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <tolerance>
        <abort>False</abort>
        <abort_band>0.0</abort_band>
        <alarm>True</alarm>
        <alarm_band>5.0</alarm_band>
        <tolerance_ext number="1">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </tolerance_ext>
    </tolerance>
    <sor_sweep>
        <active>True</active>
        <base_frequency>100.0</base_frequency>
        <direction>Forward</direction>
        <sweep_count>11</sweep_count>
        <test_time>100 doble-sweep</test_time>
        <abort>False</abort>
        <alarm>False</alarm>
        <pause_time>0:00:00</pause_time>
        <fixed_time>0:00:00</fixed_time>
```

```
        <sine number="1">
            <frequency>100.0</frequency>
            <reference unit="m/s2">123.4</reference>
            <response unit="m/s2">123.5</response>
            <drive>890.0</drive>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </sine>
        <sine number="2">
            <frequency>50.0</frequency>
            <reference unit="m/s2">246.8</reference>
            <response unit="m/s2">246.6</response>
            <drive>1620.0</drive>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </sine>
    </sor_sweep>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>True</alarm>
                <alarm_band>5.0</alarm_band>
                <tolerance_ext number="1">
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
                </tolerance_ext>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
```

```
            <response unit="m/s2">124.8</response>
            <error>NoError</error>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <error>NoError</error>
        </channel>
    </input>
</k2status>
```

Tag		Meaning	
status		Same as GetStatus command	
test_path		Test definition file path name being executed	
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
reference		Target control level (rms)	
Attribute	unit	The unit for the target control level	
response		Response level (rms)	
Attribute	unit	The unit for the response level	
drive		Drive level (in the unit of mV rms)	
elapsed_time		Elapsed time	
level		Excitation level (in the unit of dB)	
loop		Loop count	
crest_factor		Crest factor	
over_clip		Excessive clipping	
		True	An excessive clipping detected
		False	No error

abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit

tolerance

Tag		Meaning
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute number	Extended tolerance number	

tolerance_ext *1

Tag		Meaning
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

sor_sweep

Tag	Meaning	
active	Sine wave control active	
	True	Active
	False	Disabled

base_frequency	Reference frequency (in the unit of Hz)	
direction	Sweep direction	
	Forward	Forward
	Backward	Reverse
	Pause	Paused for turning the sweep backward
	Fixed	Sweep being fixed
sweep_count	Number of sweeps (in the count of single sweeps)	
test_time	Defined test time (followings are defined according to the type)	

Type	Display example
Infinite	Infinite
By single sweep counts	3 single-sweep
By double sweep counts	2 double-sweep
By time	12:34:56
By the vibration cycle	123 cycle
By the vibration kcycle	456 kcycle

abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
pause_time	The duration of pause for turning the sweep backward	
fixed_time	Fixed sweep time	
sine	Harmonic frequency element	
Attribute number	Harmonic frequency element number	

sine

Tag	Meaning
frequency	The excitation frequency (in the unit of Hz)
reference	Target control level
Attribute unit	The unit for the target control level
response	Response level
Attribute unit	The unit for the response level
drive	Drive level (in the unit of mV)

	abort	Abort check result	
		True	Abort check error
		False	No error
	alarm	Alarm check result	
		True	Alarm being issued
		False	No alarm
	limit	Limit check result	
		True	Limit effective
		False	No limit

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel			
Tag			Meaning
response			Input response level (rms)
	Attribute	unit	The unit of input response level
error			Type of error
		NoError	Normal (no error)
		LoopOpen	An open loop detected
		RespExceed	An excessive response detected
		OverLoad	An overload detected
		AmbExceed	An excessive ambient noise detected
abort *2			Abort check result
		True	Abort check error
		False	No error
alarm *2			Alarm check result
		True	Alarm being issued
		False	No alarm
limit *3			Limit check result
		True	Limit effective
		False	No limit

tolerance		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute number	Extended tolerance number	

tolerance_ext *1	
Tag	Meaning
abort	Abort check result
True	Abort check error
False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)
alarm	Alarm check result
True	Alarm being issued
False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

*1 Effective only if the extended tolerance is defined.

*2 Effective only on the channel, for which the monitoring profile is defined.

*3 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.8 RANDOM SOR test (fixed frequency)

Sine On Random(Fixed Frequency)

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥RANDOM¥Test01.sor2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <loop>1000</loop>
    <crest_factor>3.5</crest_factor>
    <over_clip>False</over_clip>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <tolerance>
        <abort>False</abort>
        <abort_band>0.0</abort_band>
        <alarm>True</alarm>
        <alarm_band>5.0</alarm_band>
        <tolerance_ext number="1">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </tolerance_ext>
    </tolerance>
    <sor_fixed>
        <active>True</active>
        <base_frequency>100.0</base_frequency>
        <test_time>1:23:45</test_time>
        <abort>False</abort>
        <alarm>False</alarm>
        <sine number="1">
            <frequency>100.0</frequency>
            <reference unit="m/s2">123.4</reference>
            <response unit="m/s2">123.5</response>
```

```
            <drive>890.0</drive>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </sine>
        <sine number="2">
            <frequency>50.0</frequency>
            <reference unit="m/s2">246.8</reference>
            <response unit="m/s2">246.6</response>
            <drive>1620.0</drive>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
        </sine>
    </sor_fixed>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>True</alarm>
                <alarm_band>5.0</alarm_band>
                <tolerance_ext number="1">
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
                </tolerance_ext>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">124.8</response>
            <error>NoError</error>
            <tolerance>
                <abort>False</abort>
```

```
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <error>NoError</error>
        </channel>
    </input>
</k2status>
```

Tag		Meaning	
status		Same as GetStatus command	
test_path		Test definition file path name being executed	
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
reference		Target control level (rms)	
Attribute	unit	The unit for the target control level	
response		Response level (rms)	
Attribute	unit	The unit for the response level	
drive		Drive level (in the unit of mV rms)	
elapsed_time		Elapsed time	
level		Excitation level (in the unit of dB)	
loop		Loop count	
crest_factor		Crest factor	
over_clip		Excessive clipping	
		True	An excessive clipping detected
		False	No error
abort		Abort check result	
		True	Abort check error
		False	No error
alarm		Alarm check result	
		True	Alarm being issued
		False	No alarm

limit	Limit check result	
	True	Limit effective
	False	No limit
tolerance		
Tag	**Meaning**	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute number	Extended tolerance number	
tolerance_ext *1		
Tag	**Meaning**	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	
sor_fixed		
Tag	**Meaning**	
active	Sine wave control active	
	True	Active
	False	Disabled
base_frequency	Reference frequency (in the unit of Hz)	
test_time	Defined test time (followings are defined according to the type)	
	Type	**Display example**
	Infinite	Infinite
	By time	12:34:56

abort		Abort check result	
		True	Abort check error
		False	No error
alarm		Alarm check result	
		True	Alarm being issued
		False	No alarm
sine		Harmonic frequency element	
Attribute	number	Harmonic frequency element number	

sine		
Tag		Meaning
frequency		The excitation frequency (in the unit of Hz)
reference		Target control level
Attribute	unit	The unit for the target control level
response		Response level
Attribute	unit	The unit for the response level
drive		Drive level (in the unit of mV)
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
limit		Limit check result
	True	Limit effective
	False	No limit

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag	**Meaning**	
response	Input response level (rms)	
Attribute unit	The unit of input response level	
error	Type of error	
	NoError	Normal (no error)
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *2	Abort check result	
	True	Abort check error
	False	No error
alarm *2	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit *3	Limit check result	
	True	Limit effective
	False	No limit

tolerance		
Tag	**Meaning**	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute number	Extended tolerance number	

		tolerance_ext *1	
		Tag	Meaning
		abort	Abort check result
			True: Abort check error
			False: No error
		abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)
		alarm	Alarm check result
			True: Alarm being issued
			False: No alarm
		alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

*1 Effective only if the extended tolerance is defined.

*2 Effective only on the channel, for which the monitoring profile is defined.

*3 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.9 RANDOM ROR test

Random On Random

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥RANDOM¥Test01.ror2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <loop>1000</loop>
    <crest_factor>3.5</crest_factor>
    <over_clip>False</over_clip>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <tolerance>
        <abort>False</abort>
        <abort_band>0.0</abort_band>
        <alarm>True</alarm>
        <alarm_band>5.0</alarm_band>
        <tolerance_ext number="1">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </tolerance_ext>
    </tolerance>
    <ror>
        <active>True</active>
        <base_frequency>100.0</base_frequency>
        <direction>Forward</direction>
        <sweep_count>11</sweep_count>
        <test_time>100 doble-sweep</test_time>
        <abort>False</abort>
        <alarm>False</alarm>
        <pause_time>0:00:00</pause_time>
        <fixed_time>0:00:00</fixed_time>
```

```
        <narrow_band number="1">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </narrow_band>
        <narrow_band number="2">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </narrow_band>
    </ror >
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>True</alarm>
                <alarm_band>5.0</alarm_band>
                <tolerance_ext number="1">
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
                </tolerance_ext>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">124.8</response>
            <error>NoError</error>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
```

```
                <alarm_band>0.0</alarm_band>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <error>NoError</error>
        </channel>
    </input>
</k2status>
```

Tag		Meaning	
status		Same as GetStatus command	
test_path		Test definition file path name being executed	
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
reference		Target control level (rms)	
Attribute	unit	The unit for the target control level	
response		Response level (rms)	
Attribute	unit	The unit for the response level	
drive		Drive level (in the unit of mV rms)	
elapsed_time		Elapsed time	
level		Excitation level (in the unit of dB)	
loop		Loop count	
crest_factor		Crest factor	
over_clip		Excessive clipping	
		True	An excessive clipping detected
		False	No error
abort		Abort check result	
		True	Abort check error
		False	No error
alarm		Alarm check result	
		True	Alarm being issued
		False	No alarm

limit	Limit check result	
	True	Limit effective
	False	No limit

tolerance	
Tag	Meaning
abort	Abort check result
	True: Abort check error
	False: No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)
alarm	Alarm check result
	True: Alarm being issued
	False: No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)
tolerance_ext	Extended tolerance check
Attribute: number	Extended tolerance number

tolerance_ext *1	
Tag	Meaning
abort	Abort check result
	True: Abort check error
	False: No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)
alarm	Alarm check result
	True: Alarm being issued
	False: No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

ror	
Tag	Meaning
active	Narrow band control active
	True: Active
	False: Disabled
base_frequency	Reference frequency (in the unit of Hz)
direction	Sweep direction
	Forward: Forward
	Backward: Reverse
	Pause: Paused for turning the sweep backward
	Fixed: Sweep being fixed

sweep_count	Number of sweeps (in the count of single sweeps)	
test_time	Defined test time (followings are defined according to the type)	
	Type	**Display example**
	Infinite	Infinite
	By single sweep counts	3 single-sweep
	By double sweep counts	2 double-sweep
	By time	12:34:56
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
pause_time	The duration of pause for turning the sweep backward	
fixed_time	Fixed sweep time	
narrow_band	Narrow band element	
Attribute	number	Narrow band element number

narrow_band		
Tag	**Meaning**	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

input		
Tag		**Meaning**
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level (rms)
Attribute	unit	The unit of input response level
error		Type of error
	NoError	Normal (no error)
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *2		Abort check result
	True	Abort check error
	False	No error
alarm *2		Alarm check result
	True	Alarm being issued
	False	No alarm
limit *3		Limit check result
	True	Limit effective
	False	No limit

tolerance		
Tag		Meaning
abort		Abort check result
	True	Abort check error
	False	No error
abort_band		Bandwidth above the tolerance check abort line (in the unit of Hz)
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
alarm_band		Bandwidth above the tolerance check alarm line (in the unit of Hz)
tolerance_ext		Extended tolerance check
Attribute	number	Extended tolerance number

tolerance_ext *1		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

*1 Effective only if the extended tolerance is defined.

*2 Effective only on the channel, for which the monitoring profile is defined.

*3 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.10 RANDOM ROR test (extended)

Extended Random On Random

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥RANDOM¥Test01.rorex2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <reference unit="m/s2">123.4</reference>
    <response unit="m/s2">123.5</response>
    <drive>890.0</drive>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <loop>1000</loop>
    <crest_factor>3.5</crest_factor>
    <over_clip>False</over_clip>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <tolerance>
        <abort>False</abort>
        <abort_band>0.0</abort_band>
        <alarm>True</alarm>
        <alarm_band>5.0</alarm_band>
        <tolerance_ext number="1">
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </tolerance_ext>
    </tolerance>
    <extended_ror>
        <active>True</active>
        <abort>False</abort>
        <alarm>False</alarm>
        <fixed>False</fixed>
        <fixed_time>0:00:00</fixed_time>
        <narrow_band number="1">
            <active>True</active>
            <frequency>100.0</base_frequency>
            <response unit="m/s2">123.5</response>
```

```
            <elapsed_time>0:23:45</elapsed_time>
            <direction>Forward</direction>
            <sweep_count>11</sweep_count>
            <test_time>100 doble-sweep</test_time>
            <pause_time>0:00:00</pause_time>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </narrow_band>
        <narrow_band number="2">
            <active>True</active>
            <frequency>100.0</base_frequency>
            <response unit="m/s2">123.5</response>
            <elapsed_time>0:23:45</elapsed_time>
            <test_time>1:23:45</test_time>
            <direction>Fixed</direction>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>False</alarm>
            <alarm_band>0.0</alarm_band>
        </narrow_band>
    </extended_ror>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>True</alarm>
                <alarm_band>5.0</alarm_band>
                <tolerance_ext number="1">
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
```

```
                </tolerance_ext>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">124.8</response>
            <error>NoError</error>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <error>NoError</error>
        </channel>
    </input>
</k2status>
```

Tag		Meaning
status		Same as GetStatus command
test_path		Test definition file path name being executed
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation
reference		Target control level (rms)
Attribute	unit	The unit for the target control level
response		Response level (rms)
Attribute	unit	The unit for the response level
drive		Drive level (in the unit of mV rms)
elapsed_time		Elapsed time
level		Excitation level (in the unit of dB)
loop		Loop count
crest_factor		Crest factor

over_clip	Excessive clipping	
	True	An excessive clipping detected
	False	No error
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit

tolerance	
Tag	**Meaning**
abort	Abort check result
	True: Abort check error
	False: No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)
alarm	Alarm check result
	True: Alarm being issued
	False: No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)
tolerance_ext	Extended tolerance check
Attribute: number	Extended tolerance number

tolerance_ext *1	
Tag	**Meaning**
abort	Abort check result
	True: Abort check error
	False: No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)
alarm	Alarm check result
	True: Alarm being issued
	False: No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

extended_ror		
Tag		Meaning
active		Narrow band control active
	True	Active
	False	Disabled
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
narrow_band		Narrow band element
Attribute	number	Narrow band element number

narrow_band		
Tag		Meaning
active		Narrow band control active
	True	Active
	False	Disabled
frequency		Reference frequency (in the unit of Hz)
response		Response level (PSD)
Attribute	unit	The unit for the response level
drive		Drive level (in the unit of mV rms)
elapsed_time		Elapsed time
direction		Sweep direction
	Forward	Forward
	Backward	Reverse
	Pause	Paused for turning the sweep backward
	Fixed	Fixed
	Finished	Test finished
sweep_count		Number of sweeps (in the count of single sweeps)

	test_time	Defined test time (followings are defined according to the type)	
		Type	**Display example**
		Infinite	Infinite
		By single sweep counts	3 single-sweep
		By double sweep counts	2 double-sweep
		By time	12:34:56
	pause_time	The duration of pause for turning the sweep backward	
	abort	Abort check result	
		True	Abort check error
		False	No error
	abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
	alarm	Alarm check result	
		True	Alarm being issued
		False	No alarm
	alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

input		
Tag		**Meaning**
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		**Meaning**
response		Input response level (rms)
Attribute	unit	The unit of input response level
error		Type of error
	NoError	Normal (no error)
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *2		Abort check result
	True	Abort check error
	False	No error

alarm *2	Alarm check result		
	True	Alarm being issued	
	False	No alarm	
limit *3	Limit check result		
	True	Limit effective	
	False	No limit	

tolerance		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute number	Extended tolerance number	

tolerance_ext *1		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

*1 Effective only if the extended tolerance is defined.

*2 Effective only on the channel, for which the monitoring profile is defined.

*3 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.11 SHOCK

7.11.1 Starting excitation

Shock(In Excitation)

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥SHOCK¥Test01.sho2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <level>0.0</level>
    <polarity>Positive</polarity>
    <loop_update>5</loop_update>
    <xfr_average>8</xfr_average>
    <progress>60.0</progress>
    <repeat>
        <count>10</count>
        <times>Infinite</times>
        <interval>0.0</interval>
    </repeat>
    <level_schedule>
        <schedule>3</schedule>
        <status>Repeat</status>
        <iteration_count>2</iteration_count>
        <repeat_count>5</repeat_count>
    </level_schedule>
</k2status>
```

Tag	Meaning	
status	Same as GetStatus command	
test_path	Test definition file path name being executed	
timestamp	Current date and time on the PC, on which the K2 application is installed	
level	Excitation level (in the unit of %)	
polarity	Polarity	
	Positive	Positive
	Negative	Negative
loop_update	Number of loop updates	
xfr_average	Average number of XFR measurements	
progress	Progress (in the unit of %)	

repeat *1		
Tag	Meaning	
count	Number of repeated excitations	
times	Repeated excitation number setting	
	Infinit	Infinite
interval	Repeat interval (in the unit of millisecond)	
level_schedule *2		
Tag	Meaning	
schedule	Schedule number	
status	Condition	
	Idle	Not yet executed
	Iterration	Iteration in progress
	Excitation	Excitation in progress
	Pause	Excitation suspended
	Stop	Cancelled
	Complete	Completed
iteration_count	Number of iterations	
repeat_count	Number of schedule repetitions	

*1 Effective only if the repeated excitation is defined.

*2 Effective only if the level schedule is defined.

7.11.2 Test completion status (single axis)

Shock (Test Fibnished, Single Axis)

```
<k2status>
    <status id="5" end_id="0">END</status>
    <test_path>C:¥K2Data¥SHOCK¥Test01.sho2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <group number="1" name="">
        <reference unit="m/s2">
            <plus>100.0</plus>
            <plus_time>102.4</plus_time>
            <minus>-25.0</minus>
            <minus_time>204.8</minus_time>
        </reference>
        <response unit="m/s2">
            <plus>101.2</plus>
            <plus_time>102.4</plus_time>
            <minus>-24.8</minus>
            <minus_time>204.8</minus_time>
        </response>
        <control_error unit="m/s2">
            <plus>1.2</plus>
            <plus_time>204.8</plus_time>
            <plus_ratio>1.2</plus_ratio>
            <minus>-0.2</minus>
            <minus_time>409.6</minus_time>
            <minus_ratio>-0.8</minus_ratio>
        </control_error>
        <drive module="000" ch="Ch1" name="">
            <plus>987.6</plus>
            <plus_time>102.4</plus_time>
            <minus>-123.5</minus>
            <minus_time>204.8</minus_time>
        </drive>
        <error_ratio>0.56</error_ratio>
        <abort>False</abort>
        <tolerance>
            <error>True</error>
            <classical_shock>
                <front>False</front>
```

<main>**True**</main>
<rear>**False**</rear>
</classical_shock>
</tolerance>
</group>
<level>**0.0**</level>
<polarity>**Positive**</polarity>
<loop_update>**5**</loop_update>
<xfr_average>**8**</xfr_average>
<progress>**100.0**</progress>
<repeat>
<count>**10**</count>
<times>**10**</times>
<interval>**0.0**</interval>
</repeat>
<level_schedule>
<schedule>**3**</schedule>
<status>**Complete**</status>
<iteration_count>**2**</iteration_count>
<repeat_count>**5**</repeat_count>
</level_schedule>
<input>
<channel module="**000**" ch="**Ch1**" name="**Acc1**">
<response unit="**m/s2**">
<plus>**101.2**</plus>
<plus_time>**102.4**</plus_time>
<minus>**-24.8**</minus>
<minus_time>**204.8**</minus_time>
</response>
<abort>**False**</abort>
</channel>
<channel module="**000**" ch="**Ch2**" name="**Acc2**">
<response unit="**m/s2**">
<plus>**56.7**</plus>
<plus_time>**102.4**</plus_time>
<minus>**-12.3**</minus>
<minus_time>**204.8**</minus_time>
</response>
<abort>**False**</abort>
</channel>

```
    </input>
</k2status>
```

Tag		Meaning
status		Same as GetStatus command
test_path		Test definition file path name being executed
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation
group		Excitation group
Attribute	number	Excitation group number (Always one)
	name	Excitation group name (Always empty)

group

Tag		Meaning
reference		Peak of control target
Attribute	unit	The unit for the peak of control target

reference

Tag	Meaning
plus	Positive peak
plus_time	The duration of positive peak (in the unit of millisecond)
minus	Negative peak
minus_time	The duration of negative peak (in the unit of millisecond)

response		Response peak
Attribute	unit	The unit of response peak

response

Tag	Meaning
plus	Positive peak
plus_time	The duration of positive peak (in the unit of millisecond)
minus	Negative peak
minus_time	The duration of negative peak (in the unit of millisecond)

control_error		Control error peak
Attribute	unit	The unit of control error peak

control_error	
Tag	Meaning
plus	Positive peak
plus_time	The duration of positive peak (in the unit of millisecond)
plus_ratio	Positive peak (in the unit of %)
minus	Negative peak
minus_time	The duration of negative peak (in the unit of millisecond)
minus_ratio	Negative peak (in the unit of %)

drive	Drive output
Attribute: module	Module ID
Attribute: ch	Channel number
Attribute: name	Channel name

drive	
Tag	Meaning
plus	Positive peak (in the unit of mV)
plus_time	The duration of positive peak (in the unit of millisecond)
minus	Negative peak (in the unit of mV)
minus_time	The duration of negative peak (in the unit of millisecond)

error_ratio	Error ratio (in the unit of %)	
abort	Abort check result	
	True	Abort check error
	False	No error

tolerance		
Tag	Meaning	
error	Tolerance check error	
	True	A tolerance error present
	False	No tolerance error
classical_shock	Tolerance check error in the classical shock test *3	

classical_shock		
Tag	Meaning	
front	Before the main pulse	
	True	A tolerance error present
	False	No tolerance error
main	Main pulse	
	True	A tolerance error present
	False	No tolerance error
rear	After the main pulse	
	True	A tolerance error present
	False	No tolerance error

level	Excitation level (in the unit of %)	
polarity	Polarity	
	Positive	Positive
	Negative	Negative
loop_update	Number of loop updates	
xfr_average	Average number of XFR measurements	
progress	Progress (in the unit of %)	
repeat *1		
Tag	**Meaning**	
count	Number of repeated excitations	
times	Repeated excitation number setting	
	Infinit	Infinite
interval	Repetition interval (in the unit of millisecond)	
level_schedule *2		
Tag	**Meaning**	
schedule	Schedule number	
status	Condition	
	Idle	Not yet executed
	Iterration	Iteration in progress
	Excitation	Excitation in progress
	Pause	Excitation suspended
	Stop	Cancelled
	Complete	Completed
iteration_count	Number of iterations	
repeat_count	Number of schedule repetitions	
input		
Tag	**Meaning**	
channel	Input channel response	
Attribute	module	Module ID
	ch	Channel number
	name	Channel name
channel		
Tag	**Meaning**	
response	Response peak	
Attribute	unit	The unit of response peak

	response	
	Tag	Meaning
	plus	Positive peak
	plus_time	The duration of positive peak (in the unit of millisecond)
	minus	Negative peak
	minus_time	The duration of negative peak (in the unit of millisecond)
	abort	Abort check result
		True: Abort check error
		False: No error

*1 Effective only if the repeated excitation is defined.

*2 Effective only if the level schedule is defined.

*3 Effective only if the target waveform is a classical shock.

7.11.3 Test completion status (multi-axis)

Shock (Test Fibnished, Multi Axis)

```
<k2status>
    <status id="5" end_id="0">END</status>
    <test_path>C:¥K2Data¥SHOCK¥Test01.sho2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <group number="1" name="Z-Axis">
        <reference unit="m/s2">
            <plus>100.0</plus>
            <plus_time>102.4</plus_time>
            <minus>-25.0</minus>
            <minus_time>204.8</minus_time>
        </reference>
        <response unit="m/s2">
            <plus>101.2</plus>
            <plus_time>102.4</plus_time>
            <minus>-24.8</minus>
            <minus_time>204.8</minus_time>
        </response>
        <control_error unit="m/s2">
            <plus>1.2</plus>
            <plus_time>204.8</plus_time>
            <plus_ratio>1.2</plus_ratio>
            <minus>-0.2</minus>
            <minus_time>409.6</minus_time>
            <minus_ratio>-0.8</minus_ratio>
        </control_error>
        <drive module="000" ch="Ch1" name="Out-Z">
            <plus>987.6</plus>
            <plus_time>102.4</plus_time>
            <minus>-123.5</minus>
            <minus_time>204.8</minus_time>
        </drive>
        <error_ratio>0.56</error_ratio>
        <abort>False</abort>
        <tolerance>
            <error>True</error>
            <classical_shock>
                <front>False</front>
```

```
                <main>True</main>
                <rear>False</rear>
            </classical_shock>
        </tolerance>
    </group>
    <group number="2" name="X-Axis">
        <reference unit="m/s2">
            <plus>50.0</plus>
            <plus_time>512.0</plus_time>
            <minus>-10.0</minus>
            <minus_time>204.8</minus_time>
        </reference>
        <response unit="m/s2">
            <plus>51.2</plus>
            <plus_time>512.0</plus_time>
            <minus>-11.8</minus>
            <minus_time>204.8</minus_time>
        </response>
        <control_error unit="m/s2">
            <plus>1.2</plus>
            <plus_time>204.8</plus_time>
            <plus_ratio>1.2</plus_ratio>
            <minus>-0.2</minus>
            <minus_time>409.6</minus_time>
            <minus_ratio>-0.8</minus_ratio>
        </control_error>
        < drive module="000" ch="Ch2" name="Out-X">
            <plus>497.6</plus>
            <plus_time>102.4</plus_time>
            <minus>-63.5</minus>
            <minus_time>204.8</minus_time>
        </drive>
        <error_ratio>0.56</error_ratio>
        <abort>False</abort>
        <tolerance>
            <error>True</error>
            <classical_shock>
                <front>False</front>
                <main>True</main>
                <rear>False</rear>
```

```
            </classical_shock>
        </tolerance>
    </group>
    <level>0.0</level>
    <polarity>Positive</polarity>
    <loop_update>5</loop_update>
    <xfr_average>8</xfr_average>
    <progress>100.0</progress>
    <repeat>
        <count>10</count>
        <times>10</times>
        <interval>0.0</interval>
    </repeat>
    <level_schedule>
        <schedule>3</schedule>
        <status>Complete</status>
        <iteration_count>2</iteration_count>
        <repeat_count>5</repeat_count>
    </level_schedule>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">
                <plus>101.2</plus>
                <plus_time>102.4</plus_time>
                <minus>-24.8</minus>
                <minus_time>204.8</minus_time>
            </response>
            <abort>False</abort>
        </channel>
        <channel module="000" ch="Ch2" name="Acc2">
            <response unit="m/s2">
                <plus>56.7</plus>
                <plus_time>102.4</plus_time>
                <minus>-12.3</minus>
                <minus_time>204.8</minus_time>
            </response>
            <abort>False</abort>
        </channel>
    </input>
</k2status>
```

Tag		Meaning
status		Same as GetStatus command
test_path		Test definition file path name being executed
timestamp		Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation
group		Excitation group
Attribute	number	Excitation group number
	name	Excitation group name

group

Tag		Meaning
reference		Peak of control target
Attribute	unit	The unit for the peak of control target

reference

Tag	Meaning
plus	Positive peak
plus_time	The duration of positive peak (in the unit of millisecond)
minus	Negative peak
minus_time	The duration of negative peak (in the unit of millisecond)

response		Response peak
Attribute	unit	The unit of response peak

response

Tag	Meaning
plus	Positive peak
plus_time	The duration of positive peak (in the unit of millisecond)
minus	Negative peak
minus_time	The duration of negative peak (in the unit of millisecond)

control_error		Control error peak
Attribute	unit	The unit of control error peak

control_error	
Tag	Meaning
plus	Positive peak
plus_time	The duration of positive peak (in the unit of millisecond)
plus_ratio	Positive peak (in the unit of %)
minus	Negative peak
minus_time	The duration of negative peak (in the unit of millisecond)
minus_ratio	Negative peak (in the unit of %)

drive	Drive output
Attribute module	Module ID
Attribute ch	Channel number
Attribute name	Channel name

drive	
Tag	Meaning
plus	Positive peak (in the unit of mV)
plus_time	The duration of positive peak (in the unit of millisecond)
minus	Negative peak (in the unit of mV)
minus_time	The duration of negative peak (in the unit of millisecond)

error_ratio	Error ratio (in the unit of %)	
abort	Abort check result	
	True	Abort check error
	False	No error

tolerance		
Tag	Meaning	
error	Tolerance check error	
	True	A tolerance error present
	False	No tolerance error
classical_shock	Tolerance check error in the classical shock test *3	

classical_shock		
Tag	Meaning	
front	Before the main pulse	
	True	A tolerance error present
	False	No tolerance error
main	Main pulse	
	True	A tolerance error present
	False	No tolerance error
rear	After the main pulse	
	True	A tolerance error present
	False	No tolerance error

level	Excitation level (in the unit of %)	
polarity	Polarity	
	Positive	Positive
	Negative	Negative
loop_update	Number of loop updates	
xfr_average	Average number of XFR measurements	
progress	Progress (in the unit of %)	
repeat *1		
Tag	**Meaning**	
count	Number of repeated excitations	
times	Repeated excitation number setting	
	Infinit	Infinite
interval	Repetition interval (in the unit of millisecond)	
level_schedule *2		
Tag	**Meaning**	
schedule	Schedule number	
status	Condition	
	Idle	Not yet executed
	Iterration	Iteration in progress
	Excitation	Excitation in progress
	Pause	Excitation suspended
	Stop	Cancelled
	Complete	Completed
iteration_count	Number of iterations	
repeat_count	Number of schedule repetitions	
input		
Tag	**Meaning**	
channel	Input channel response	
Attribute module	Module ID	
Attribute ch	Channel number	
Attribute name	Channel name	
channel		
Tag	**Meaning**	
response	Response peak	
Attribute unit	The unit of response peak	

	response	
	Tag	Meaning
	plus	Positive peak
	plus_time	The duration of positive peak (in the unit of millisecond)
	minus	Negative peak
	minus_time	The duration of negative peak (in the unit of millisecond)
	abort	Abort check result
		True: Abort check error
		False: No error

*1 Effective only if the repeated excitation is defined.

*2 Effective only if the level schedule is defined.

*3 Effective only if the target waveform is a classical shock.

7.12 Multi-SWEEP SINE multiple frequency sweep test

Multiple Frequency Sweep

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥MMS¥Test01.fds2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <peak_drive>
        <plus>409.6</plus>
        <minus>-408.4</minus>
    </peak_drive>
    <error>NoError</error>
    <multiple_frequency>
        <direction>Forward</direction>
        <sweep_count>11</sweep_count>
        <test_time>100 double-sweep</test_time>
        <pause_time>0:00:00</pause_time>
        <fixed_time>0:00:00</fixed_time>
        <element number="1">
            <frequency>100.0</frequency>
            <reference unit="m/s2">123.4</reference>
            <response unit="m/s2">123.5</response>
            <drive>890.0</drive>
            <elapsed_time>0:23:45</elapsed_time>
            <cycle>10000</cycle>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <error>NoErrorr</error>
            <input>
                <channel module="000" ch="Ch1" name="Acc1">
                    <response unit="m/s2">123.5</response>
                    <phase>1.2</phase>
                    <error>NoError</error>
                    <abort>False</abort>
```

<alarm>**False**</alarm>
<limit>**False**</limit>
</channel>
<channel module="**000**" ch="**Ch2**" name="**Acc2**">
<response unit="**m/s2**">**124.8**</response>
<phase>**1.0**</phase>
<error>**NoError**</error>
</channel>
<channel module="**000**" ch="**Ch4**" name="**Force**">
<response unit="**N**">**56.7**</response>
<phase>**2.1**</phase>
<error>**NoError**</error>
</channel>
</input>
</element>
<element number="**2**">
<frequency>**200.0**</frequency>
<reference unit="**m/s2**">**123.4**</reference>
<response unit="**m/s2**">**123.5**</response>
<drive>**890.0**</drive>
<elapsed_time>**0:23:45**</elapsed_time>
<cycle>**10000**</cycle>
<abort>**False**</abort>
<alarm>**False**</alarm>
<limit>**False**</limit>
<error>**NoError**</error>
<input>
<channel module="**000**" ch="**Ch1**" name="**Acc1**">
<response unit="**m/s2**">**123.5**</response>
<phase>**1.2**</phase>
<error>**NoError**</error>
<abort>**False**</abort>
<alarm>**False**</alarm>
<limit>**False**</limit>
</channel>
<channel module="**000**" ch="**Ch2**" name="**Acc2**">
<response unit="**m/s2**">**124.8**</response>
<phase>**1.0**</phase>
<error>**NoError**</error>
</channel>

```
                <channel module="000" ch="Ch4" name="Force">
                    <response unit="N">56.7</response>
                    <phase>2.1</phase>
                    <error>NoError</error>
                </channel>
            </input>
        </element>
    </multiple_frequency>
</k2status>
```

Tag	Meaning	
status	Same as GetStatus command	
test_path	Test definition file path name being executed	
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
elapsed_time	Elapsed time	
level	Excitation level (in the unit of dB)	
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
peak_drive	Peak drive	

peak_drive	
Tag	**Meaning**
plus	Positive peak (in the unit of mV)
minus	Negative peak (in the unit of mV)

error	Error status	
	NoError	No error
	OverClip	Excessive clipping error
	LoopOpen	Open loop error

multiple_frequency		
Tag	Meaning	
direction	Sweep direction	
	Forward	Forward
	Backward	Reverse
	Pause	Paused for turning the sweep backward
	Fixed	Sweep being fixed
	Finished	Sweeping finished
sweep_count	Number of sweeps (in the count of single sweeps)	
test_time	Defined test time (followings are defined according to the type)	
	Type	Display example
	Infinite	Infinite
	By single sweep counts	3 single-sweep
	By double sweep counts	2 double-sweep
	By time	12:34:56
pause_time	The duration of pause for turning the sweep backward	
fixed_time	The time of fixed sweep at the maximum frequency	
element	Sweep element	
Attribute number	Element number	

element	
Tag	Meaning
frequency	The excitation frequency (in the unit of Hz)
reference	Target control level
Attribute unit	The unit for the target control level
response	Response level
Attribute unit	The unit for the response level
drive	Drive level (in the unit of mV)
elapsed_time	Elapsed time
cycle	Number of cycles (in the unit of cycles)
abort	Abort check result
	True: Abort check error
	False: No error

alarm	Alarm check result		
		True	Alarm being issued
		False	No alarm
limit	Limit check result		
		True	Limit effective
		False	No limit
error	Type of error		
		NoError	No error
		OverClip	Excessive clipping error
		LoopOpen	Open loop error
		LoopCheckError	Loop check error

input

Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel

Tag		Meaning
response		Input response level
Attribute	unit	The unit of input response level
phase		Phase (in the unit of degrees)
error		Type of error
	NoError	Normal (no error)
	IniLoopOpen	An open loop detected in the initial measurement
	IniExceed	An excessive response detected in the initial measurement
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *1	Abort check result	
	True	Abort check error
	False	No error
alarm *1	Alarm check result	
	True	Alarm being issued
	False	No alarm

		limit *2	Limit check result	
			True	Limit effective
			False	No limit

*1 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.13 Multi-SWEEP SINE delayed sweep test

Time Delayed Sweep

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥MMS¥Test01.tis2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <peak_drive>
        <plus>409.6</plus>
        <minus>-408.4</minus>
    </peak_drive>
    <error>NoError</error>
    <time_delayed>
        <test_time>100 single-sweep</test_time>
        <element number="1">
            <frequency>100.0</frequency>
            <reference unit="m/s2">123.4</reference>
            <response unit="m/s2">123.5</response>
            <drive>890.0</drive>
            <elapsed_time>0:23:45</elapsed_time>
            <cycle>10000</cycle>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <error>NoError</error>
            <direction>Forward</direction>
            <sweep_count>11</sweep_count>
            <input>
                <channel module="000" ch="Ch1" name="Acc1">
                    <response unit="m/s2">123.5</response>
                    <phase>1.2</phase>
                    <error>NoError</error>
                    <abort>False</abort>
                    <alarm>False</alarm>
                    <limit>False</limit>
```

```
            </channel>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">124.8</response>
                <phase>1.0</phase>
                <error>NoError</error>
            </channel>
            <channel module="000" ch="Ch4" name="Force">
                <response unit="N">56.7</response>
                <phase>2.1</phase>
                <error>NoError</error>
            </channel>
        </input>
    </element>
    <element number="2">
        <frequency>200.0</frequency>
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <drive>890.0</drive>
        <elapsed_time>0:23:45</elapsed_time>
        <cycle>10000</cycle>
        <abort>False</abort>
        <alarm>False</alarm>
        <limit>False</limit>
        <error>NoErrorr</error>
        <direction>Forward</direction>
        <sweep_count>11</sweep_count>
        <input>
            <channel module="000" ch="Ch1" name="Acc1">
                <response unit="m/s2">123.5</response>
                <phase>1.2</phase>
                <error>NoError</error>
                <abort>False</abort>
                <alarm>False</alarm>
                <limit>False</limit>
            </channel>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">124.8</response>
                <phase>1.0</phase>
                <error>NoError</error>
            </channel>
```

```
                <channel module="000" ch="Ch4" name="Force">
                    <response unit="N">56.7</response>
                    <phase>2.1</phase>
                    <error>NoError</error>
                </channel>
            </input>
        </element>
    </time_delayed>
</k2status>
```

Tag	Meaning	
status	Same as GetStatus command	
test_path	Test definition file path name being executed	
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
elapsed_time	Elapsed time	
level	Excitation level (in the unit of dB)	
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
peak_drive	Peak drive	

peak_drive	
Tag	Meaning
plus	Positive peak (in the unit of mV)
minus	Negative peak (in the unit of mV)

error	Error status	
	NoError	No error
	OverClip	Excessive clipping error
	LoopOpen	Open loop error

time_delayed			
Tag		Meaning	
test_time		Defined test time (followings are defined according to the type)	
		Type	Display example
		Infinite	Infinite
		By single sweep counts	3 single-sweep
		By time	12:34:56
element		Spot element	
Attribute	number	Element number	

element			
Tag		Meaning	
frequency		The excitation frequency (in the unit of Hz)	
reference		Target control level	
Attribute	unit	The unit for the target control level	
response		Response level	
Attribute	unit	The unit for the response level	
drive		Drive level (in the unit of mV)	
elapsed_time		Elapsed time	
cycle		Number of cycles (in the unit of cycles)	
abort		Abort check result	
		True	Abort check error
		False	No error
alarm		Alarm check result	
		True	Alarm being issued
		False	No alarm
limit		Limit check result	
		True	Limit effective
		False	No limit
direction		Sweep direction	
		Forward	Forward
		Fixed	Sweep being fixed
		Finished	Seeping finished

sweep_count	Number of sweeps (in the count of single sweeps)		
error	Type of error		
	NoError	Normal (no error)	
	OverClip	Excessive clipping error	
	LoopOpen	Open loop error	
	LoopCheckError	Loop check error	
input			
Tag	**Meaning**		
channel	Input channel response		
Attribute: module	Module ID		
Attribute: ch	Channel number		
Attribute: name	Channel name		
channel			
Tag	**Meaning**		
response	Input response level		
Attribute: unit	The unit of input response level		
phase	Phase (in the unit of degrees)		
error	Type of error		
	NoError	Normal (no error)	
	IniLoopOpen	An open loop detected in the initial measurement	
	IniExceed	An excessive response detected in the initial measurement	
	LoopOpen	An open loop detected	
	RespExceed	An excessive response detected	
	OverLoad	An overload detected	
	AmbExceed	An excessive ambient noise detected	
abort *1	Abort check result		
	True	Abort check error	
	False	No error	
alarm *1	Alarm check result		
	True	Alarm being issued	
	False	No alarm	
limit *2	Limit check result		
	True	Limit effective	
	False	No limit	

*1 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.14 Multi-SWEEP SINE multi-spot test

Multi Spot

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥MMS¥Test01.msp2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <elapsed_time>0:23:45</elapsed_time>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <peak_drive>
        <plus>409.6</plus>
        <minus>-408.4</minus>
    </peak_drive>
    <error>NoError</error>
    <multi-spot>
        <test_time>1:23:45 </test_time>
        <element number="1">
            <frequency>100.0</frequency>
            <reference unit="m/s2">123.4</reference>
            <response unit="m/s2">123.5</response>
            <drive>890.0</drive>
            <elapsed_time>0:23:45</elapsed_time>
            <cycle>10000</cycle>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <error>NoError</error>
            <input>
                <channel module="000" ch="Ch1" name="Acc1">
                    <response unit="m/s2">123.5</response>
                    <phase>1.2</phase>
                    <error>NoError</error>
                    <abort>False</abort>
                    <alarm>False</alarm>
                    <limit>False</limit>
                </channel>
                <channel module="000" ch="Ch2" name="Acc2">
```

```
                <response unit="m/s2">124.8</response>
                <phase>1.0</phase>
                <error>NoError</error>
            </channel>
            <channel module="000" ch="Ch4" name="Force">
                <response unit="N">56.7</response>
                <phase>2.1</phase>
                <error>NoError</error>
            </channel>
        </input>
    </element>
    <element number="2">
        <frequency>200.0</frequency>
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <drive>890.0</drive>
        <elapsed_time>0:23:45</elapsed_time>
        <cycle>10000</cycle>
        <abort>False</abort>
        <alarm>False</alarm>
        <limit>False</limit>
        <error>NoErrorr</error>
        <input>
            <channel module="000" ch="Ch1" name="Acc1">
                <response unit="m/s2">123.5</response>
                <phase>1.2</phase>
                <error>NoError</error>
                <abort>False</abort>
                <alarm>False</alarm>
                <limit>False</limit>
            </channel>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">124.8</response>
                <phase>1.0</phase>
                <error>NoError</error>
            </channel>
            <channel module="000" ch="Ch4" name="Force">
                <response unit="N">56.7</response>
                <phase>2.1</phase>
                <error>NoError</error>
```

```
                </channel>
            </input>
        </element>
    </multi-spot>
</k2status>
```

Tag	Meaning	
status	Same as GetStatus command	
test_path	Test definition file path name being executed	
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
elapsed_time	Elapsed time	
level	Excitation level (in the unit of dB)	
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
peak_drive	Peak drive	

peak_drive	
Tag	Meaning
plus	Positive peak (in the unit of mV)
minus	Negative peak (in the unit of mV)

error	Error status	
	NoError	No error
	OverClip	Excessive clipping error
	LoopOpen	Open loop error

multi_spot		
Tag	Meaning	
test_time	Defined test time (followings are defined according to the type)	
	Type	Display example
	Infinite	Infinite
	By time	12:34:56

element		Spot element
Attribute	number	Element number

element	
Tag	Meaning
frequency	The excitation frequency (in the unit of Hz)
reference	Target control level
Attribute: unit	The unit for the target control level
response	Response level
Attribute: unit	The unit for the response level
drive	Drive level (in the unit of mV)
elapsed_time	Elapsed time
cycle	Number of cycles (in the unit of cycles)
abort	Abort check result
True	Abort check error
False	No error
alarm	Alarm check result
True	Alarm being issued
False	No alarm
limit	Limit check result
True	Limit effective
False	No limit
error	Type of error
NoError	Normal (no error)
OverClip	Excessive clipping error
LoopOpen	Open loop error
LoopCheckError	Loop check error

input	
Tag	Meaning
channel	Input channel response
Attribute: module	Module ID
Attribute: ch	Channel number
Attribute: name	Channel name

channel		
Tag		Meaning
response		Input response level
Attribute	unit	The unit of input response level
phase		Phase (in the unit of degrees)
error		Type of error
	NoError	Normal (no error)
	IniLoopOpen	An open loop detected in the initial measurement
	IniExceed	An excessive response detected in the initial measurement
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *1		Abort check result
	True	Abort check error
	False	No error
alarm *1		Alarm check result
	True	Alarm being issued
	False	No alarm
limit *2		Limit check result
	True	Limit effective
	False	No limit

*1 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.15 Multi-SINE SWEEP test

Sweep

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥M-SINE¥Test01.mswp2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <frequency>100.0</frequency>
    <elapsed_time>0:23:45</elapsed_time>
    <cycle>10000</cycle>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <xfr_average>8</xfr_average>
    <sweep>
        <direction>Forward</direction>
        <sweep_count>11</sweep_count>
        <test_time>100 doble-sweep</test_time>
        <pause_time>0:00:00</pause_time>
        <fixed_time>0:00:00</fixed_time>
    </sweep>
    <group number="1" name="Z-Axis">
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <phase>1.2</phase>
        <abort>False</abort>
        <alarm>False</alarm>
        <drive module="000" ch="Ch1" name="Out-Z1">
            <level>890.0</level>
            <phase>1.2</phase>
        </drive>
        <drive module="000" ch="Ch2" name="Out-Z2">
            <level>889.7</level>
            <phase>1.3</phase>
        </drive>
        <input>
            <channel module="000" ch="Ch1" name="Acc1">
                <response unit="m/s2">123.5</response>
                <phase>1.2</phase>
```

```
                <distortion>1.5</distortion>
                <error>NoError</error>
                <abort>False</abort>
                <alarm>False</alarm>
                <limit>False</limit>
            </channel>
            <channel module="000" ch="Ch4" name="Force">
                <response unit="N">56.7</response>
                <phase>2.1</phase>
                <distortion>2.1</distortion>
                <error>NoError</error>
            </channel>
        </input>
    </group>
    <group number="2" name="X-Axis">
        <reference unit="m/s2">56.7</reference>
        <response unit="m/s2">56.5</response>
        <phase>91.2</phase>
        <abort>False</abort>
        <alarm>False</alarm>
        <drive module="000" ch="Ch3" name="Out-X">
            <level>456.7</level>
            <phase>91.3</phase>
        </drive>
        <input>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">56.5</response>
                <phase>1.0</phase>
                <distortion>1.1</distortion>
                <error>NoError</error>
            </channel>
        </input>
    </group>
</k2status>
```

Tag	Meaning
status	Same as GetStatus command
test_path	Test definition file path name being executed

timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
frequency	The excitation frequency (in the unit of Hz)	
elapsed_time	Elapsed time	
cycle	Number of cycles (in the unit of cycles)	
level	Excitation level (in the unit of dB)	
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
xfr_average	Average number of XFR measurements	

sweep		
Tag	**Meaning**	
direction	Sweep direction	
	Forward	Forward
	Backward	Reverse
	Pause	Paused for turning the sweep backward
	Fixed	Sweep being fixed
sweep_count	Number of sweeps (in the count of single sweeps)	
test_time	Defined test time (followings are defined according to the type)	
	Type	**Display example**
	Infinite	Infinite
	By single sweep counts	3 single-sweep
	By double sweep counts	2 double-sweep
	By time	12:34:56
	By the vibration cycle	123 cycle
	By the vibration kcycle	456 kcycle
pause_time	The duration of pause for turning the sweep backward	
fixed_time	The time of fixed sweep at the maximum frequency	
group	Excitation group	
Attribute number	Excitation group number	
Attribute name	Excitation group name	

group		
Tag		Meaning
reference		Target control level
Attribute	unit	The unit for the target control level
response		Response level
Attribute	unit	The unit for the response level
phase		Phase (in the unit of degrees)
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
drive		Drive output
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

drive	
Tag	Meaning
level	Drive level (in the unit of mV)
phase	Phase (in the unit of degrees)

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level
Attribute	unit	The unit of input response level
phase		Phase (in the unit of degrees)
distortion		Distortion factor (in the unit of %)

		error	Type of error	
			NoError	Normal (no error)
			IniLoopOpen	An open loop detected in the initial measurement
			IniExceed	An excessive response detected in the initial measurement
			LoopOpen	An open loop detected
			RespExceed	An excessive response detected
			OverLoad	An overload detected
			AmbExceed	An excessive ambient noise detected
		abort *1	Abort check result	
			True	Abort check error
			False	No error
		alarm *1	Alarm check result	
			True	Alarm being issued
			False	No alarm
		limit *2	Limit check result	
			True	Limit effective
			False	No limit

*1 Effective only on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.16 Multi-SINE SPOT test

Spot

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥M-SINE¥Test01.mspt2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <frequency>100.0</frequency>
    <elapsed_time>0:23:45</elapsed_time>
    <cycle>10000</cycle>
    <level>0.0</level>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <xfr_average>8</xfr_average>
    <spot>
        <repeat_count>3</repeat_count>
        <test_repeat_count>5</test_repeat_count>
        <spot_number>1</spot_number>
        <test_spot_count>3</test_spot_count>
        <elapsed_time>0:23:45</elapsed_time>
        <cycle>10000</cycle>
        <repeat_pause>False</repeat_pause>
        <pause_time>0:00:00</pause_time>
    </spot>
    <group number="1" name="Z-Axis">
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <phase>1.2</phase>
        <abort>False</abort>
        <alarm>False</alarm>
        <drive module="000" ch="Ch1" name="Out-Z1">
            <level>890.0</level>
            <phase>1.2</phase>
        </drive>
        <drive module="000" ch="Ch2" name="Out-Z2">
            <level>889.7</level>
            <phase>1.3</phase>
        </drive>
        <input>
```

```
            <channel module="000" ch="Ch1" name="Acc1">
                <response unit="m/s2">123.5</response>
                <phase>1.2</phase>
                <distortion>1.5</distortion>
                <error>NoError</error>
                <abort>False</abort>
                <alarm>False</alarm>
                <limit>False</limit>
            </channel>
            <channel module="000" ch="Ch4" name="Force">
                <response unit="N">56.7</response>
                <phase>2.1</phase>
                <distortion>2.1</distortion>
                <error>NoError</error>
            </channel>
        </input>
    </group>
    <group number="2" name="X-Axis">
        <reference unit="m/s2">56.7</reference>
        <response unit="m/s2">56.5</response>
        <phase>91.2</phase>
        <abort>False</abort>
        <alarm>False</alarm>
        <drive module="000" ch="Ch3" name="Out-X">
            <level>456.7</level>
            <phase>91.3</phase>
        </drive>
        <input>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">56.5</response>
                <phase>1.0</phase>
                <distortion>1.1</distortion>
                <error>NoError</error>
            </channel>
        </input>
    </group>
</k2status>
```

Tag	Meaning
status	Same as GetStatus command

test_path	Test definition file path name being executed	
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
frequency	The excitation frequency (in the unit of Hz)	
elapsed_time	Elapsed time	
cycle	Number of cycles (in the unit of cycles)	
level	Excitation level (in the unit of dB)	
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
xfr_average	Average number of XFR measurements	

spot		
Tag	**Meaning**	
repeat_count	Number of repetitions	
test_repeat_count	Defined repeat times (followings are defined according to the type)	
	Type	**Display example**
	Once	1
	By repeat times	100
	Infinite	Infinite
spot_number	Spot number	
test_spot_count	Defined number of spots	
elapsed_time	Elapsed time	
test_time	Defined stay time	
cycle	Number of cycles (in the unit of cycles)	
repeat_pause	Paused for turning backward	
	True	Paused for turning backward
	False	Other than the above
pause_time	The duration of pause for turning backward	
group	Excitation group	
Attribute number	Excitation group number	
Attribute name	Excitation group name	

group		
Tag		Meaning
reference		Target control level
Attribute	unit	The unit for the target control level
response		Response level
Attribute	unit	The unit for the response level
phase		Phase (in the unit of degrees)
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
drive		Drive output
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

drive	
Tag	Meaning
level	Drive level (in the unit of mV)
phase	Phase (in the unit of degrees)

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level
Attribute	unit	The unit of input response level
phase		Phase (in the unit of degrees)
distortion		Distortion factor (in the unit of %)

		error	Type of error	
			NoError	Normal (no error)
			IniLoopOpen	An open loop detected in the initial measurement
			IniExceed	An excessive response detected in the initial measurement
			LoopOpen	An open loop detected
			RespExceed	An excessive response detected
			OverLoad	An overload detected
			AmbExceed	An excessive ambient noise detected
		abort *1	Abort check result	
			True	Abort check error
			False	No error
		alarm *1	Alarm check result	
			True	Alarm being issued
			False	No alarm
		limit *2	Limit check result	
			True	Limit effective
			False	No limit

*1 Effective on the channel, for which the target relative tolerance or the monitoring profile is defined.

*2 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.17 Multi-RANDOM test

Random

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥M-RANDOM¥Test01.mran2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <elapsed_time>0:23:45</elapsed_time>
    <test_time>1:23:45</test_time>
    <level>0.0</level>
    <loop>1000</loop>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <xfr_average>8</xfr_average>
    <level_schedule>
        <schedule>3</schedule>
        <elapsed_time>0:23:45</elapsed_time>
    </level_schedule>
    <group number="1" name="Z-Axis">
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <abort>False</abort>
        <alarm>False</alarm>
        <tolerance>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>True</alarm>
            <alarm_band>5.0</alarm_band>
            <tolerance_ext number="1">
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance_ext>
        </tolerance>
        <drive module="000" ch="Ch1" name="Out-Z1">
            <level>890.0</level>
            <crest_factor>3.52</crest_factor>
            <over_clip>False</over_clip>
```

```
        </drive>
        <drive module="000" ch="Ch2" name="Out-Z2">
            <level>889.7</level>
            <crest_factor>3.51</crest_factor>
            <over_clip>False</over_clip>
        </drive>
        <input>
            <channel module="000" ch="Ch1" name="Acc1">
                <response unit="m/s2">123.5</response>
                <error>NoError</error>
                <abort>False</abort>
                <alarm>False</alarm>
                <limit>False</limit>
                <tolerance>
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>True</alarm>
                    <alarm_band>5.0</alarm_band>
                    <tolerance_ext number="1">
                        <abort>False</abort>
                        <abort_band>0.0</abort_band>
                        <alarm>False</alarm>
                        <alarm_band>0.0</alarm_band>
                    </tolerance_ext>
                </tolerance>
            </channel>
            <channel module="000" ch="Ch4" name="Force">
                <response unit="N">56.7</response>
                <error>NoError</error>
            </channel>
        </input>
    </group>
    <group number="2" name="X-Axis">
        <reference unit="m/s2">56.7</reference>
        <response unit="m/s2">56.5</response>
        <abort>False</abort>
        <alarm>False</alarm>
        <tolerance>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
```

```
            <alarm>True</alarm>
            <alarm_band>10.0</alarm_band>
            <tolerance_ext number="1">
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance_ext>
        </tolerance>
        <drive module="000" ch="Ch3" name="Out-X">
            <level>456.7.0</level>
            <crest_factor>3.71</crest_factor>
            <over_clip>False</over_clip>
        </drive>
        <input>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">124.8</response>
                <error>NoError</error>
                <tolerance>
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
                </tolerance>
            </channel>
        </input>
    </group>
</k2status>
```

Tag	Meaning	
status	Same as GetStatus command	
test_path	Test definition file path name being executed	
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation	
elapsed_time	Elapsed time	
test_time	Defined test time (followings are defined according to the type)	
	Type	Display example
	Infinite	Infinite
	By time	12:34:56

level	Excitation level (in the unit of dB)	
loop	Loop count	
abort	Abort check result	
	True	Abort check error
	False	No error
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
limit	Limit check result	
	True	Limit effective
	False	No limit
xfr_average	Average number of XFR measurements	

level_schedule *1

Tag		Meaning
schedule		Level schedule number
elapsed_time		Elapsed time
group		Excitation group
Attribute	number	Excitation group number
	name	Excitation group name

group

Tag		Meaning
reference		Target control level (rms)
Attribute	unit	The unit for the target control level
response		Response level (rms)
Attribute	unit	The unit for the response level
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm

tolerance		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext	Extended tolerance check	
Attribute: number	Extended tolerance number	

tolerance_ext *2		
Tag	Meaning	
abort	Abort check result	
	True	Abort check error
	False	No error
abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
alarm	Alarm check result	
	True	Alarm being issued
	False	No alarm
alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

drive	
Drive output	
Attribute: module	Module ID
Attribute: ch	Channel number
Attribute: name	Channel name

drive		
Tag	Meaning	
level	Drive level (in the unit of mV rms)	
crest_factor	Crest factor	
over_clip	Excessive clipping	
	True	An excessive clipping detected
	False	No error

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level (rms)
Attribute	unit	The unit of input response level
error		Type of error
	NoError	Normal (no error)
	LoopOpen	An open loop detected
	RespExceed	An excessive response detected
	OverLoad	An overload detected
	AmbExceed	An excessive ambient noise detected
abort *3		Abort check result
	True	Abort check error
	False	No error
alarm *3		Alarm check result
	True	Alarm being issued
	False	No alarm
limit *4		Limit check result
	True	Limit effective
	False	No limit

tolerance		
Tag		Meaning
abort		Abort check result
	True	Abort check error
	False	No error
abort_band		Bandwidth above the tolerance check abort line (in the unit of Hz)
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
alarm_band		Bandwidth above the tolerance check alarm line (in the unit of Hz)

		tolerance_ext	Extended tolerance check	
		Attribute number	Extended tolerance number	
		tolerance_ext *1		
		Tag	**Meaning**	
		abort	Abort check result	
			True	Abort check error
			False	No error
		abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)	
		alarm	Alarm check result	
			True	Alarm being issued
			False	No alarm
		alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

*1 Effective only if the level schedule is defined.

*2 Effective only if the extended tolerance is defined.

*3 Effective only on the channel, for which the monitoring profile is defined.

*4 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.18 NON GAUSSIAN test (single axis)

Non Gaussian(Single Axis)

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥N-GAUSS ¥Test01.ngaus2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <elapsed_time>0:23:45</elapsed_time>
    <test_time>1:23:45</test_time>
    <level>0.0</level>
    <loop>1000</loop>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <xfr_average>8</xfr_average>
    <level_schedule>
        <schedule>3</schedule>
        <elapsed_time>0:23:45</elapsed_time>
    </level_schedule>
    <group number="1" name="">
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <kurtosis>5.5</kurtosis>
        <skewness>0.12</skewness>
        <response_clip>False</response_clip>
        <abort>False</abort>
        <alarm>False</alarm>
        <abort_kurtosis>False</abort_kurtosis>
        <alarm_kurtosis>False</alarm_kurtosis>
        <abort_skewness>False</abort_skewness>
        <alarm_skewness>False</alarm_skewness>
        <tolerance>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>True</alarm>
            <alarm_band>5.0</alarm_band>
            <tolerance_ext number="1">
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
```

```
                <alarm_band>0.0</alarm_band>
            </tolerance_ext>
        </tolerance>
        <drive module="000" ch="Ch1" name="">
            <level>890.0</level>
            <crest_factor>3.52</crest_factor>
            <over_clip>False</over_clip>
        </drive>
        <input>
            <channel module="000" ch="Ch1" name="Acc1">
                <response unit="m/s2">123.5</response>
                <kurtosis>5.5</kurtosis>
                <skewness>0.12</skewness>
                <error>NoError</error>
                <abort>False</abort>
                <alarm>False</alarm>
                <limit>False</limit>
                <tolerance>
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>True</alarm>
                    <alarm_band>5.0</alarm_band>
                    <tolerance_ext number="1">
                        <abort>False</abort>
                        <abort_band>0.0</abort_band>
                        <alarm>False</alarm>
                        <alarm_band>0.0</alarm_band>
                    </tolerance_ext>
                </tolerance>
            </channel>
            <channel module="000" ch="Ch2 name="Acc2">
                <response unit=" m/s2">56.7</response>
                <error>NoError</error>
                <kurtosis>5.5</kurtosis>
                <skewness>0.12</skewness>
            </channel>
        </input>
    </group>
</k2status>
```

Tag	Meaning
status	Same as GetStatus command
test_path	Test definition file path name being executed
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation
elapsed_time	Elapsed time
test_time	Defined test time (followings are defined according to the type)

Type	Display example
Infinite	Infinite
By time	12:34:56

level	Excitation level (in the unit of dB)
loop	Loop count
abort	Abort check result
True	Abort check error
False	No error
alarm	Alarm check result
True	Alarm being issued
False	No alarm
limit	Limit check result
True	Limit effective
False	No limit
xfr_average	Average number of XFR measurements

level_schedule *1

Tag		Meaning
schedule		Level schedule number
elapsed_time		Elapsed time
group		Excitation group
Attribute	number	Excitation group number (Always one)
	name	Excitation group name (Always empty)

group

Tag		Meaning
reference		Target control level (rms)
Attribute	unit	The unit for the target control level

response		Response level (rms)
Attribute	unit	The unit for the response level
kurtosis		Kurtosis
skewness *2		Skewness
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
abort_kurtosis		Kurtosis abort check result
	True	Abort check error
	False	No error
alarm_kurtosis		Kurtosis alarm check result
	True	Alarm being issued
	False	No alarm
abort_skewness *2		Skewness Abort check result
	True	Abort check error
	False	No error
alarm_skewness *2		Skewness Alarm check result
	True	Alarm being issued
	False	No alarm
tolerance		
Tag		**Meaning**
abort		Abort check result
	True	Abort check error
	False	No error
abort_band		Bandwidth above the tolerance check abort line (in the unit of Hz)
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
alarm_band		Bandwidth above the tolerance check alarm line (in the unit of Hz)
tolerance_ext		Extended tolerance check
Attribute	number	Extended tolerance number

tolerance_ext *3		
Tag		Meaning
abort		Abort check result
	True	Abort check error
	False	No error
abort_band		Bandwidth above the extended tolerance check abort line (in the unit of Hz)
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
alarm_band		Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

drive		
drive		Drive output
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

drive	
Tag	Meaning
level	Drive level (in the unit of mV rms)
crest_factor	Crest factor
over_clip	Excessive clipping
True	An excessive clipping detected
False	No error

input	
Tag	Meaning
channel	Input channel response
Attribute module	Module ID
Attribute ch	Channel number
Attribute name	Channel name

channel		
Tag		Meaning
response		Input response level (rms)
Attribute	unit	The unit of input response level
kurtosis		Kurtosis
skewness *2		Skewness

		error	Type of error	
			NoError	Normal (no error)
			LoopOpen	An open loop detected
			RespExceed	An excessive response detected
			OverLoad	An overload detected
			AmbExceed	An excessive ambient noise detected
		abort *4	Abort check result	
			True	Abort check error
			False	No error
		alarm *4	Alarm check result	
			True	Alarm being issued
			False	No alarm
		limit *5	Limit check result	
			True	Limit effective
			False	No limit
		tolerance		
		Tag	**Meaning**	
		abort	Abort check result	
			True	Abort check error
			False	No error
		abort_band	Bandwidth above the tolerance check abort line (in the unit of Hz)	
		alarm	Alarm check result	
			True	Alarm being issued
			False	No alarm
		alarm_band	Bandwidth above the tolerance check alarm line (in the unit of Hz)	
		tolerance_ext	Extended tolerance check	
		Attribute number	Extended tolerance number	

			tolerance_ext *3	
			Tag	Meaning
			abort	Abort check result
				True: Abort check error
				False: No error
			abort_band	Bandwidth above the extended tolerance check abort line (in the unit of Hz)
			alarm	Alarm check result
				True: Alarm being issued
				False: No alarm
			alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

*1 Effective only if the skewness control is defined.

*2 Effective only if the level schedule is defined.

*3 Effective only if the extended tolerance is defined.

*4 Effective only on the channel, for which the monitoring profile is defined.

*5 Effective only on the channel, for which the limit control is defined in the monitoring profile.

7.19 NON GAUSSIAN test (multi-axis)

Non Gaussian(Multi Axis)

```
<k2status>
    <status id="4" end_id="">RUN</status>
    <test_path>C:¥K2Data¥N-GAUSS ¥Test01.ngaus2</test_path>
    <timestamp>2019/01/23 12:34:56</timestamp>
    <elapsed_time>0:23:45</elapsed_time>
    <test_time>1:23:45</test_time>
    <level>0.0</level>
    <loop>1000</loop>
    <abort>False</abort>
    <alarm>False</alarm>
    <limit>False</limit>
    <xfr_average>8</xfr_average>
    <level_schedule>
        <schedule>3</schedule>
        <elapsed_time>0:23:45</elapsed_time>
    </level_schedule>
    <group number="1" name="Z-Axis">
        <reference unit="m/s2">123.4</reference>
        <response unit="m/s2">123.5</response>
        <kurtosis>5.5</kurtosis>
        <skewness>0.12</skewness>
        <response_clip>False</response_clip>
        <abort>False</abort>
        <alarm>False</alarm>
        <abort_kurtosis>False</abort_kurtosis>
        <alarm_kurtosis>False</alarm_kurtosis>
        <abort_skewness>False</abort_skewness>
        <alarm_skewness>False</alarm_skewness>
        <tolerance>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>True</alarm>
            <alarm_band>5.0</alarm_band>
            <tolerance_ext number="1">
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
```

```
            <alarm_band>0.0</alarm_band>
        </tolerance_ext>
    </tolerance>
    <drive module="000" ch="Ch1" name="Out-Z1">
        <level>890.0</level>
        <crest_factor>3.52</crest_factor>
        <over_clip>False</over_clip>
    </drive>
    <drive module="000" ch="Ch2" name="Out-Z2">
        <level>889.7</level>
        <crest_factor>3.51</crest_factor>
        <over_clip>False</over_clip>
    </drive>
    <input>
        <channel module="000" ch="Ch1" name="Acc1">
            <response unit="m/s2">123.5</response>
            <kurtosis>5.5</kurtosis>
            <skewness>0.12</skewness>
            <error>NoError</error>
            <abort>False</abort>
            <alarm>False</alarm>
            <limit>False</limit>
            <tolerance>
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>True</alarm>
                <alarm_band>5.0</alarm_band>
                <tolerance_ext number="1">
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
                    <alarm_band>0.0</alarm_band>
                </tolerance_ext>
            </tolerance>
        </channel>
        <channel module="000" ch="Ch4" name="Force">
            <response unit="N">56.7</response>
            <error>NoError</error>
            <kurtosis>5.5</kurtosis>
            <skewness>0.12</skewness>
```

```
            </channel>
        </input>
    </group>
    <group number="2" name="X-Axis">
        <reference unit="m/s2">56.7</reference>
        <response unit="m/s2">56.5</response>
        <kurtosis>5.5</kurtosis>
        <skewness>0.12</skewness>
        <response_clip>False</response_clip>
        <abort>False</abort>
        <alarm>False</alarm>
        <abort_kurtosis>False</abort_kurtosis>
        <alarm_kurtosis>False</alarm_kurtosis>
        <abort_skewness>False</abort_skewness>
        <alarm_skewness>False</alarm_skewness>
        <tolerance>
            <abort>False</abort>
            <abort_band>0.0</abort_band>
            <alarm>True</alarm>
            <alarm_band>10.0</alarm_band>
            <tolerance_ext number="1">
                <abort>False</abort>
                <abort_band>0.0</abort_band>
                <alarm>False</alarm>
                <alarm_band>0.0</alarm_band>
            </tolerance_ext>
        </tolerance>
        <drive module="000" ch="Ch3" name="Out-X">
            <level>456.7.0</level>
            <crest_factor>3.71</crest_factor>
            <over_clip>False</over_clip>
        </drive>
        <input>
            <channel module="000" ch="Ch2" name="Acc2">
                <response unit="m/s2">124.8</response>
                <error>NoError</error>
                <tolerance>
                    <abort>False</abort>
                    <abort_band>0.0</abort_band>
                    <alarm>False</alarm>
```

```
                    <alarm_band>0.0</alarm_band>
                </tolerance>
            </channel>
        </input>
    </group>
</k2status>
```

Tag	Meaning
status	Same as GetStatus command
test_path	Test definition file path name being executed
timestamp	Current date and time on the PC, on which the K2 application is installed If the K2 application was in the STOP state, the date and time of completing the excitation
elapsed_time	Elapsed time
test_time	Defined test time (followings are defined according to the type)

Type	Display example
Infinite	Infinite
By time	12:34:56

level	Excitation level (in the unit of dB)
loop	Loop count
abort	Abort check result
True	Abort check error
False	No error
alarm	Alarm check result
True	Alarm being issued
False	No alarm
limit	Limit check result
True	Limit effective
False	No limit
xfr_average	Average number of XFR measurements

level_schedule *1

Tag		Meaning
schedule		Level schedule number
elapsed_time		Elapsed time
group		Excitation group
Attribute	number	Excitation group number
	name	Excitation group name

group		
Tag		Meaning
reference		Target control level (rms)
Attribute	unit	The unit for the target control level
response		Response level (rms)
Attribute	unit	The unit for the response level
kurtosis		Kurtosis
skewness *2		Skewness
abort		Abort check result
	True	Abort check error
	False	No error
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
abort_kurtosis		Kurtosis abort check result
	True	Abort check error
	False	No error
alarm_kurtosis		Kurtosis alarm check result
	True	Alarm being issued
	False	No alarm
abort_skewness *2		Skewness Abort check result
	True	Abort check error
	False	No error
alarm_skewness *2		Skewness Alarm check result
	True	Alarm being issued
	False	No alarm
tolerance		
Tag		Meaning
abort		Abort check result
	True	Abort check error
	False	No error
abort_band		Bandwidth above the tolerance check abort line (in the unit of Hz)
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm

alarm_band		Bandwidth above the tolerance check alarm line (in the unit of Hz)
tolerance_ext		Extended tolerance check
Attribute	number	Extended tolerance number

tolerance_ext *3		
Tag		Meaning
abort		Abort check result
	True	Abort check error
	False	No error
abort_band		Bandwidth above the extended tolerance check abort line (in the unit of Hz)
alarm		Alarm check result
	True	Alarm being issued
	False	No alarm
alarm_band		Bandwidth above the extended tolerance check alarm line (in the unit of Hz)

drive		Drive output
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

drive	
Tag	Meaning
level	Drive level (in the unit of mV rms)
crest_factor	Crest factor
over_clip	Excessive clipping
True	An excessive clipping detected
False	No error

input		
Tag		Meaning
channel		Input channel response
Attribute	module	Module ID
	ch	Channel number
	name	Channel name

channel		
Tag		Meaning
response		Input response level (rms)
Attribute	unit	The unit of input response level

		kurtosis	Kurtosis	
		skewness *2	Skewness	
		error	Type of error	
			NoError	Normal (no error)
			LoopOpen	An open loop detected
			RespExceed	An excessive response detected
			OverLoad	An overload detected
			AmbExceed	An excessive ambient noise detected
		abort *4	Abort check result	
			True	Abort check error
			False	No error
		alarm *4	Alarm check result	
			True	Alarm being issued
			False	No alarm
		limit *5	Limit check result	
			True	Limit effective
			False	No limit

tolerance

Tag		Meaning	
abort		Abort check result	
		True	Abort check error
		False	No error
abort_band		Bandwidth above the tolerance check abort line (in the unit of Hz)	
alarm		Alarm check result	
		True	Alarm being issued
		False	No alarm
alarm_band		Bandwidth above the tolerance check alarm line (in the unit of Hz)	
tolerance_ext		Extended tolerance check	
Attribute	number	Extended tolerance number	

tolerance_ext *3

Tag		Meaning	
abort		Abort check result	
		True	Abort check error
		False	No error
abort_band		Bandwidth above the extended tolerance check abort line (in the unit of Hz)	

			alarm	Alarm check result	
				True	Alarm being issued
				False	No alarm
			alarm_band	Bandwidth above the extended tolerance check alarm line (in the unit of Hz)	

*1 Effective only if the level schedule is defined.

*2 Effective only if the skewness control is defined.

*3 Effective only if the extended tolerance is defined.

*4 Effective only on the channel, for which the monitoring profile is defined.

*5 Effective only on the channel, for which the limit control is defined in the monitoring profile.

Chapter 8　Operation procedures of software

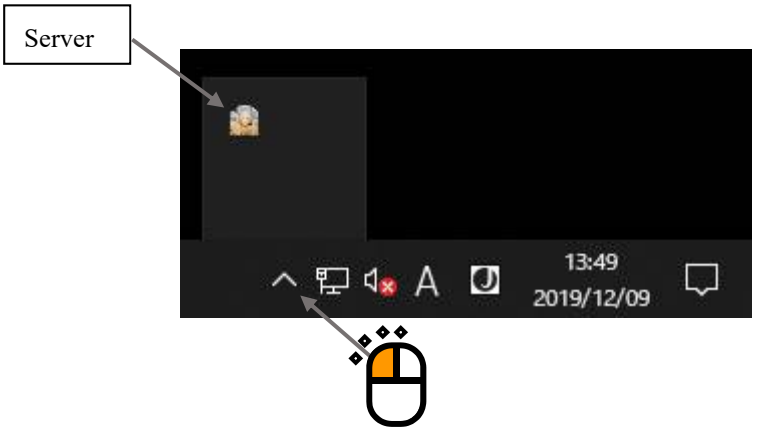
When the PC is started up, the server is automatically executed and resides.

Usually, modification of preset values or operation of the software is not required.

8.1　Display

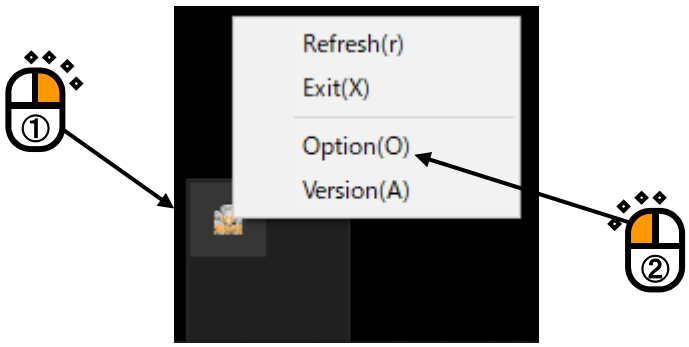
The server is displayed on the task tray.

To display the task tray, click button in the lower right part in Windows screen, as shown below.



8.2　Menu

The menu can be displayed by right-clicking the displayed server icon.



The followings are shown in the menu.

Refresh:　Initializes the server. Use it in case of errors including communication error.

Exit:　Exits the server.

Option:　Modifies the setting of the server. For details, refer to the next section.

Version:　Displays the version and options of the installed K2.

8.3 Setting change

Enter the port number of TCP/IP to be opened by the server. The default is 9000.