

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 1 of 213 Date : 17/06/2014
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TEM – TEST EQUIPMENT SOFTWARE MANUAL
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Modulo:
M-NT Nota Tecnica_000.doc

Table of Contents

1. Scope	8
2. Applicable and Reference documents	8
2.1. Applicable Documents	8
2.2. Reference Documents	8
3. General	9
4. The TEM-S000 software package	11
4.1. Main window	11
4.2. The command interpreter	12
4.3. Sequences and sub-sequences	13
4.4. Logs and Reports	13
4.4.1. Session Log	13
4.4.2. Sequence log and Test report	14
5. Use of TEM-S000	16
5.1. Sequence Wizard	17
6. Command Reference	19
6.1. Syntax	19
6.2. General Purpose commands	20
6.2.1. REPORT_ON	20
6.2.2. REPORT_OFF	20
6.2.3. RUN_SEQUENCE	20
6.2.4. DELAY	21
6.2.5. REM	21
6.2.6. DO, END_DO	21
6.2.7. IF_MSG	21
6.2.8. INPUT_MSG	22
6.2.9. OUT_MSG	22
6.2.10. PAUSE	22
6.2.11. TABLE_INSERT	23
6.2.12. IMAGE_INSERT	23
6.2.13. WAIT	23
6.2.14. RELEASE	23
6.2.15. EXEC	24
6.2.16. SYNCH_EXEC	24
6.2.17. BEEP	24
6.2.18. AUTO-SHUTDOWN	25
6.2.19. OUT_PICTURE	25
6.2.20. CHECK_VALUE	25
6.2.21. IMAGE_INSERT_FROM_EXCEL	25
6.2.22. INSERT_MEASURE_REMARK	26
6.3. Interface commands	27
6.3.1. GPIO	27
6.3.1.1. DIO_OUT	28
6.3.1.2. DIO_IN	31
6.3.1.3. DIO_PORT_OUT	34
6.3.1.4. DIO_PORT_IN	35
6.3.1.5. DIO_RESET	35
6.3.2. RS422 / 485 serial links	36

6.3.2.1.	RS4_OPEN	37
6.3.2.2.	RS4_SEND_BYTE	39
6.3.2.3.	RS4_READ_BYTE	40
6.3.2.4.	RS4_CLOSE	41
6.3.2.5.	RS4_FLUSH	42
6.3.2.6.	RS4_READ_DATA_COMPARE	43
6.3.2.7.	RS4_READ_DATA_SEARCH	44
6.3.2.8.	RS4_SEND_FILE	44
6.3.2.9.	RS4_TERMINAL	45
6.3.2.10.	RS4_TERMINAL_TO_FILE	46
6.3.3.	ANALOG I/O (PCI board)	47
6.3.3.1.	IAN_VOLTAGE	48
6.3.3.2.	IAN_VOLTAGE_MS	50
6.3.3.3.	IAN_VOLTAGE_FROM_FILE	51
6.3.3.4.	IAN_START_WAVEFORM	52
6.3.3.5.	IAN_START_WAVEFORM_PWM	53
6.3.3.6.	IAN_STOP_WAVEFORM	53
6.3.4.	GPIB	54
6.3.4.1.	GPIB_SEL_ADDR	55
6.3.4.2.	GPIB_WRITE	56
6.3.4.3.	GPIB_QUERY_NUM	57
6.3.4.4.	GPIB_QUERY_STR	58
6.3.4.5.	GPIB_QUERY_TO_FILE	58
6.3.4.6.	GPIB_QUERY_NUM_FROM_FILE	59
6.3.4.7.	GPIB_SAVE_SETTINGS & GPIB_LOAD_SETTINGS	60
6.3.5.	Power Supply Unit	61
6.3.5.1.	Delta Elektronika SM70 AR24.	61
6.3.5.1.1.	SM70_SET_SOURCE	62
6.3.5.1.2.	SM70_SET_PWR_ON_OFF	63
6.3.5.1.3.	SM70_SET_OUT_ON_OFF	64
6.3.5.1.4.	SM70_FRONT_PANEL_ON_OFF	65
6.3.5.1.5.	SM70_SET_CURR	66
6.3.5.1.6.	SM70_SET_VOLT	67
6.3.5.1.7.	SM70_MEAS_CURR	68
6.3.5.1.8.	SM70_MEAS_VOLT	69
6.3.5.1.9.	SM70_QUERY_STATUS	70
6.3.5.1.10.	SM70_AUTOTEST	71
6.3.5.1.11.	SM70_RESET	72
6.3.5.2.	XR-300 Magna-Power Electronics	73
6.3.5.2.1.	XR300_SET_PROT_VOLT	74
6.3.5.2.2.	XR300_SET_PROT_CURR	75
6.3.5.2.3.	XR300_SET_OUT_ON_OFF	76
6.3.5.2.4.	XR300_QUERY_STATUS	77
6.3.5.2.5.	XR300_SET_CURR	78
6.3.5.2.6.	XR300_SET_VOLT	79
6.3.5.2.7.	XR300_MEAS_CURR	80
6.3.5.2.8.	XR300_MEAS_VOLT	81
6.3.5.2.9.	XR300_CLEAR_TRIP	82
6.3.5.2.10.	XR300_RESET	83
6.3.5.3.	Agilent E3649	84
6.3.5.3.1.	PSL_SET_OUTPUT_ON_OFF	85
6.3.5.3.2.	PSL_ACQ_ON_OFF_STAT	86

6.3.5.3.3.	PSL_SET_VOLT_CURR	87
6.3.5.3.4.	PSL_SET_CURR	88
6.3.5.3.5.	PSL_SET_VOLT	89
6.3.5.3.6.	PSL_ACQ_CURR_MEAS.....	90
6.3.5.3.7.	PSL_ACQ_VOLT_MEAS.....	91
6.3.5.3.8.	PSL_SET_VOLTAGE_PROTECT	92
6.3.5.3.9.	PSL_AUTOTEST.....	93
6.3.5.3.10.	PSL_RESET.....	94
6.3.5.3.11.	PSL_ACQ_MEAS_FROM_FILE	95
6.3.5.4.	Agilent 6644A.....	96
6.3.5.4.1.	PSM_SET_OUTPUT_ON_OFF.....	97
6.3.5.4.2.	PSM_ACQ_ON_OFF_STAT.....	98
6.3.5.4.3.	PSM_SET_CURR	99
6.3.5.4.4.	PSM_SET_VOLT	100
6.3.5.4.5.	PSM_ACQ_CURR_MEAS.....	101
6.3.5.4.6.	PSM_ACQ_VOLT_MEAS.....	102
6.3.5.4.7.	PSM_SET_VOLTAGE_PROTECT	103
6.3.5.4.8.	PSM_AUTOTEST.....	104
6.3.5.4.9.	PSM_RESET.....	105
6.3.5.4.10.	PSM_ACQ_MEAS_FROM_FILE	106
6.3.5.5.	Agilent N5747A	107
6.3.5.5.1.	PSH_SET_OUTPUT_ON_OFF	108
6.3.5.5.2.	PSH_ACQ_OUTPUT_ON_OFF	109
6.3.5.5.3.	PSH_SET_CURR.....	110
6.3.5.5.4.	PSH_SET_VOLT.....	111
6.3.5.5.5.	PSH_ACQ_CURR_MEAS	112
6.3.5.5.6.	PSH_ACQ_VOLT_MEAS	113
6.3.5.5.7.	PSH_VOLT_LIMIT (T.B.W.).....	114
6.3.5.5.8.	PSH_CURR_PROT_STATUS (T.B.W.).....	115
6.3.5.5.9.	PSH_VOLT_PROT_LEVEL (T.B.W.).....	116
6.3.5.5.10.	PSH_RESET (T.B.W.).....	117
6.3.5.5.11.	PSH_ACQ_MEAS_FROM_FILE (T.B.W.)	118
6.3.6.	Multimeter.....	119
6.3.6.1.	DMM_SET_CONFIG VOLTAGE	120
6.3.6.2.	DMM_ACQ_MEASURE VOLTAGE.....	121
6.3.6.3.	DMM_SET_CONFIG CURRENT.....	122
6.3.6.4.	DMM_ACQ_MEASURE CURRENT	123
6.3.6.5.	DMM_SET_CONFIG RESISTANCE and DMM_SET_CONFIG_RES_4WIRE	124
6.3.6.6.	DMM_ACQ_MEASURE RESISTANCE	125
6.3.6.7.	DMM_SET_CONFIG FREQUENCY.....	126
6.3.6.8.	DMM_ACQ_MEASURE FREQUENCY	127
6.3.6.9.	DMM_SET_TRIGGER_STATUS.....	128
6.3.6.10.	DMM_SET_TRIGGER_DELAY	129
6.3.6.11.	DMM_ACQ_READ	130
6.3.6.12.	DMM_AUTOTEST	131
6.3.6.13.	DMM_RESET	132
6.3.6.14.	DMM_ACQ_READ_FROM_FILE (T.B.W.).....	133
6.3.6.15.	DMM_SET_ACTUAL_INSTR (T.B.W.)	134
6.3.7.	Oscilloscopes	135
6.3.7.1.	SCP_SET_HORIZONTAL_MODE_SCALE.....	137
6.3.7.2.	SCP_SET_HORIZONTAL_MODE	138

6.3.7.3.	SCP_SET_HORIZONTAL_MODE_SAMPLE_RATE.....	139
6.3.7.4.	SCP_SET_HORIZONTAL_MODE_ROLL.....	140
6.3.7.5.	SCP_SET_HORIZONTAL_RECORDLENGTH.....	141
6.3.7.6.	SCP_SET_HORIZONTAL_MODE_LIMIT_REC_LENGTH.....	142
6.3.7.7.	SCP_SET_HORIZONTAL_MAIN_POSITION.....	143
6.3.7.8.	SCP_SET_VERTICAL_BANDWIDTH.....	144
6.3.7.9.	SCP_SET_VERTICAL_COUPLING.....	145
6.3.7.10.	SCP_SET_VERTICAL_LABEL.....	146
6.3.7.11.	SCP_SET_VERTICAL_POSITION.....	147
6.3.7.12.	SCP_SET_VERTICAL_SCALE.....	148
6.3.7.13.	SCP_SET_VERTICAL_CH_TERMINATION.....	149
6.3.7.14.	SCP_SET_TRIGGER_FORCE.....	150
6.3.7.15.	SCP_SET_TRIGGER_LEVEL_TO_50%.....	151
6.3.7.16.	SCP_SET_TRIGGER_EDGE_COUPLING.....	152
6.3.7.17.	SCP_SET_TRIGGER_EDGE_SLOPE.....	153
6.3.7.18.	SCP_SET_TRIGGER_EDGE_SLOPE_AUX.....	154
6.3.7.19.	SCP_SET_TRIGGER_EDGE_SOURCE.....	155
6.3.7.20.	SCP_SET_TRIGGER_MODE.....	156
6.3.7.21.	SCP_SET_TRIGGER_STATE.....	157
6.3.7.22.	SCP_SET_TRIGGER_LEVEL.....	158
6.3.7.23.	SCP_SET_FILESYSTEM_COPY.....	159
6.3.7.24.	SCP_SET_FILESYSTEM_CWD.....	160
6.3.7.25.	SCP_SET_FILESYSTEM_DELETE.....	161
6.3.7.26.	SCP_SET_FILESYSTEM_MKDIR.....	162
6.3.7.27.	SCP_SET_FILESYSTEM_RENAME.....	163
6.3.7.28.	SCP_SET_FILESYSTEM_RMDIR.....	164
6.3.7.29.	SCP_SET_EXPORT_SETTINGS.....	165
6.3.7.30.	SCP_SET_EXPORT_START.....	166
6.3.7.31.	SCP_SET_HARDCOPY_SETTINGS.....	167
6.3.7.32.	SCP_SET_HARDCOPY_START.....	168
6.3.7.33.	SCP_SET_MEASURE_IMMED_TYPE.....	169
6.3.7.34.	SCP_ACQ_MEASURE_IMMED.....	172
6.3.7.35.	SCP_SET_CHANNEL_STATE.....	173
6.3.7.36.	SCP_SET_WAVEFORM_STATE.....	174
6.3.7.37.	SCP_SET_MATH_DEFINE.....	175
6.3.7.38.	SCP_SET_SAVE_WAVEFORM.....	176
6.3.7.39.	SCP_SET_LOCK_FRONT_PANEL.....	177
6.3.7.40.	SCP_RESET.....	178
6.3.7.41.	SCP_AUTOTEST.....	179
6.3.7.42.	SCP_SET_MATH_EDITOR.....	180
6.3.7.43.	SCP_DIS_CLOCK (T.B.W.).....	181
6.3.7.44.	SCP_DIS_WAVEFORM (T.B.W.).....	182
6.3.7.45.	SCP_DIS_PERSISTENCE_RESET (T.B.W.).....	183
6.3.7.46.	SCP_DIS_SCREEN_TEXT (T.B.W.).....	184
6.3.7.47.	SCP_DIS_LABEL_TEXT_SHOW (T.B.W.).....	185
6.3.7.48.	SCP_DIS_SET_LABEL_TEXT (T.B.W.).....	186
6.3.7.49.	SCP_ACQ_MODE (T.B.W.).....	187
6.3.7.50.	SCP_ACQ_NUM_SAMPLES (T.B.W.).....	188
6.3.7.51.	SCP_ACQ_STATE (T.B.W.).....	189
6.3.7.52.	SCP_STOP_AFTER (T.B.W.).....	190
6.3.7.53.	SCP_SET_TRIGGER_HOLDOFF (T.B.W.).....	191
6.3.7.54.	SCP_TRIGGER_IS_READY (T.B.W.).....	192

6.3.7.55.	SCP_ACQ_MEASURE_IMMED_FROM_FILE (T.B.W.)	193
6.3.7.56.	SCP_SET_ACTUAL_INSTR (T.B.W.).....	194
6.3.8.	DC Electronic Load.....	195
6.3.8.1.	DEL_SET_LOAD_ON_OFF	196
6.3.8.2.	DEL_SET_LEVEL	197
6.3.8.3.	DEL_SET_MODE	198
6.3.8.4.	DEL_SET_RESISTANCE.....	199
6.3.8.5.	DEL_SHORT_ON_OFF	200
6.3.8.6.	DEL_RESET	201
6.3.8.7.	DEL_SET_CURRENT (T.B.W.).....	202
6.3.8.8.	DEL_PRESET_ON_OFF (T.B.W.)	203
6.3.9.	Progressive Resistance Load	204
6.3.9.1.	RLD_SET_CURR_BOARD	205
6.3.9.2.	RLD_SET_RESISTANCE	206
6.3.9.3.	RLD_GET_RESISTANCE	207
6.3.9.4.	RLD_RESET	207
6.3.10.	SkyTech STM (Status Monitor Module)	208
6.3.10.1.	STM_CHECK_STATUS.....	208
6.3.10.2.	STM_CHECK_LINE (T.B.W.).....	209
6.3.11.	SkyTech DIG_COM (Digital Command Module).....	210
6.3.11.1.	DIG_COM (T.B.W.).....	211
6.3.11.2.	DIG_COM_DWORD (T.B.W.).....	211
6.3.11.3.	DIG_COM_RESET (T.B.W.).....	211
7.	Enclosure 1	212

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 8 of 213 Date : 17/06/2014
-----------------------	------------	---

1. Scope

This document represents the technical reference for the TEM-S000 software package, installed on the “TES” family equipments.

2. Applicable and Reference documents

2.1. Applicable Documents

AD1:

2.2. Reference Documents

RD1: ESA PSS-04-107

RD2: ESA PSS-04-151 MAP Interface

RD3: Saab Ericson Space AB, P-ASIC-NOT-00122-SE, Iss. 11 of 22/03/2006.

RD4: MA28140 CCSDS Packet Telecommand Decoder, DS3839-6.1 of June 2000, DYNEX.

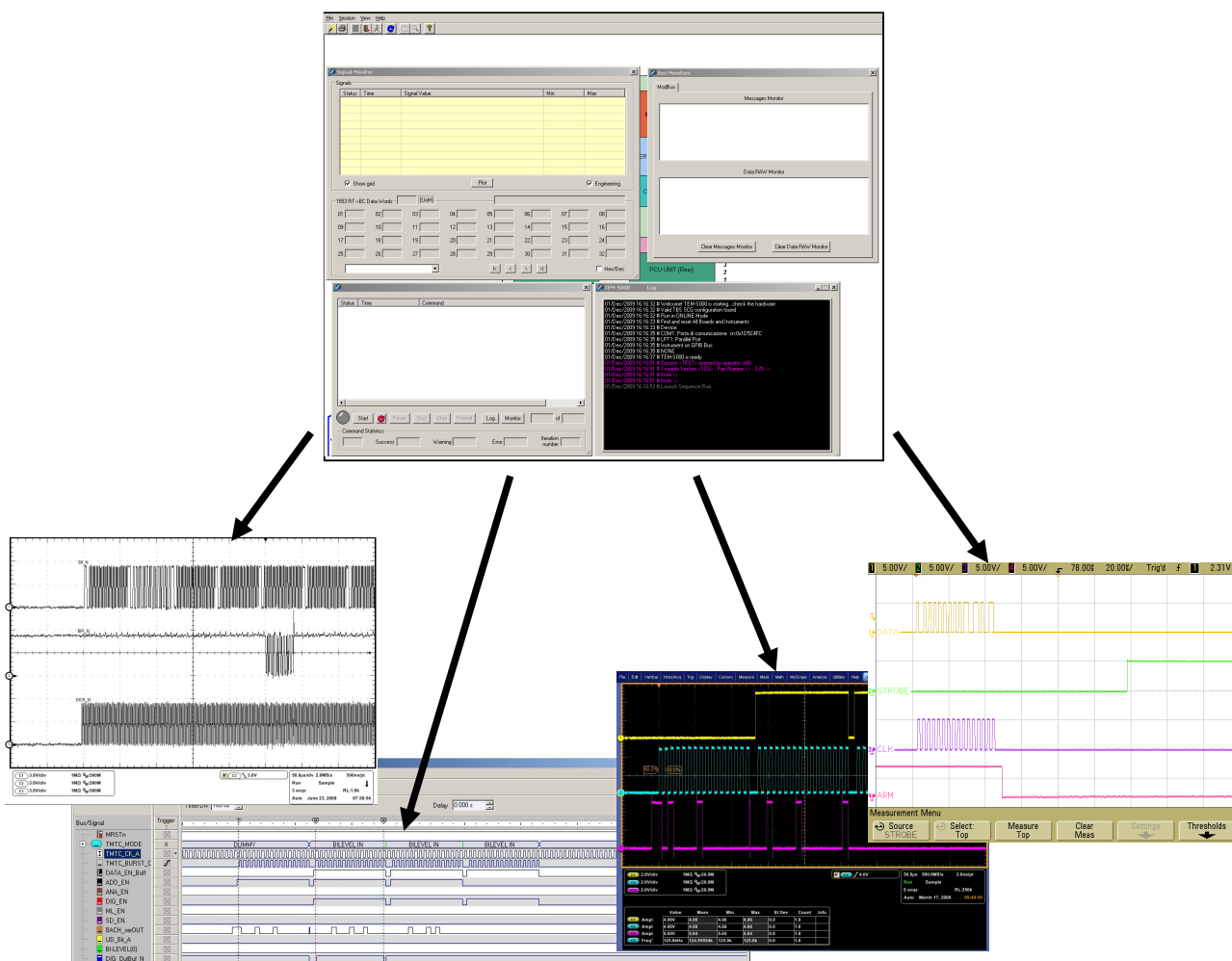
RD5: OBDH485 Bus, SBF 6AV2 AS SP 338, Rev.01 of 30/01/2002, Alcatel Space.

RD6: Specification del Liasons Series Synchrones, SKBS.ASPV.TN000002, Ed. 1 Rev. 0 of 05/04/2000, Alcatel Space.

3. General

The TEM-S000 software package is designed to provide flexible and easy-to-use test resources, necessary for the validation of complex systems and subsystems. In detail, the TME-S000 offers:

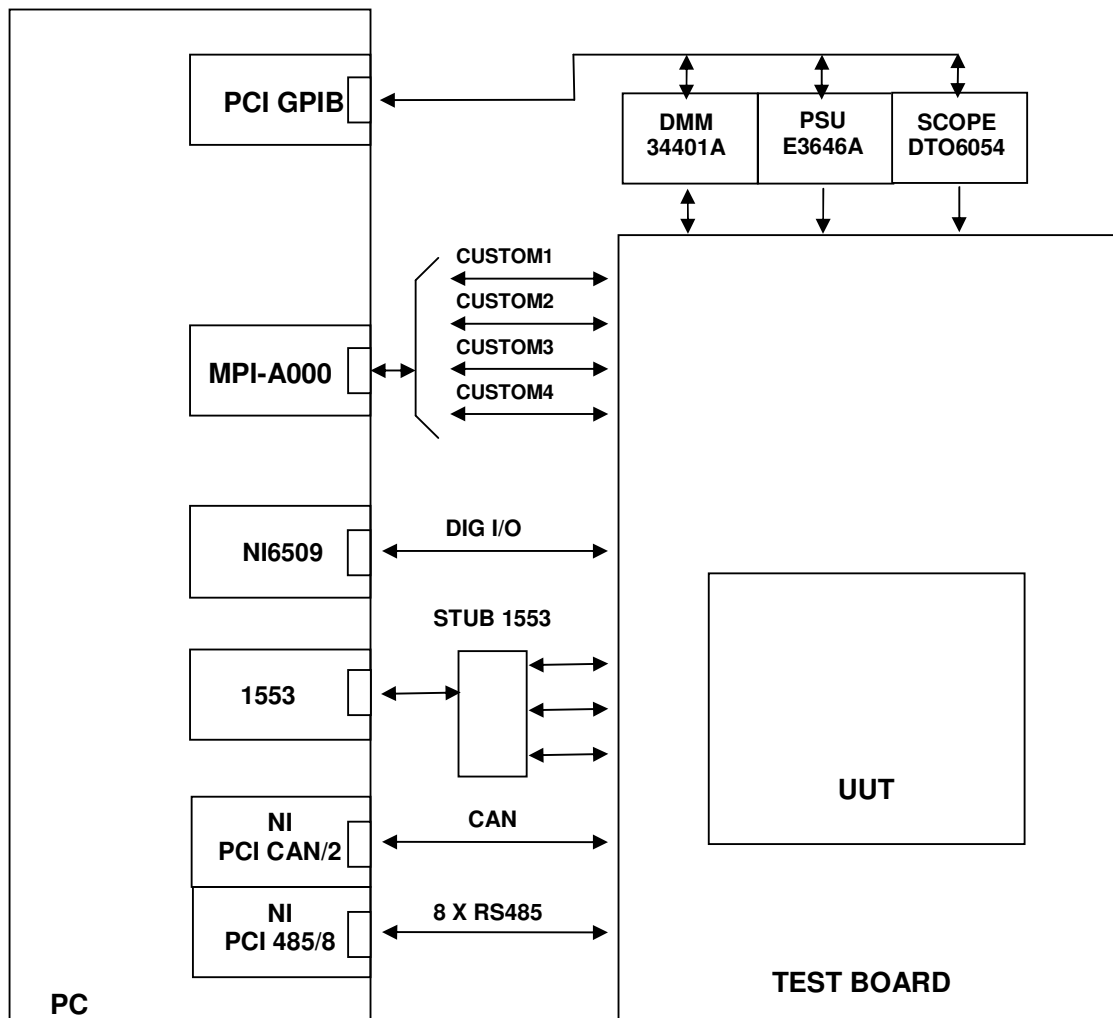
- Creation of Test Sequences using simple commands, in text format, processed by a command interpreter;
- Possibility of nesting sequences and sub-sequences;
- Monitoring of critical parameters;
- Complete Log of the Test Session;
- A huge quantity of common Test Instruments integrated in the system;
- Automatic creation of Test Reports, containing:
 - o report of any single step and related test results;
 - o graphic objects from Test Instruments, such as oscilloscope waveforms;
 - o summary Tables, calculations, and graphs, using an automatic link to Excel;
- A Sequence Wizard, to allow unskilled operators to immediately create Test Sequences;



The TEM-S000 software package runs on any test equipment of the TES family, designed and produced by SkyTech Srl. In general, a test equipment of the TES family is composed of:

- a 19" rack, containing:
 - a test PC with test and control PCI boards, including a GPIB board
 - a commercial set of instruments on a GPIB bus
 - optional keyboard and monitor
- a test board, necessary for interfacing the UUT with test instruments
- a set of special and commercial cables

As an example, a typical block diagram of a TES family test equipment is shown in the following figure:



4. The TEM-S000 software package

4.1. Main window

The Main Window of the TEM-S000 software is shown in the following figure:

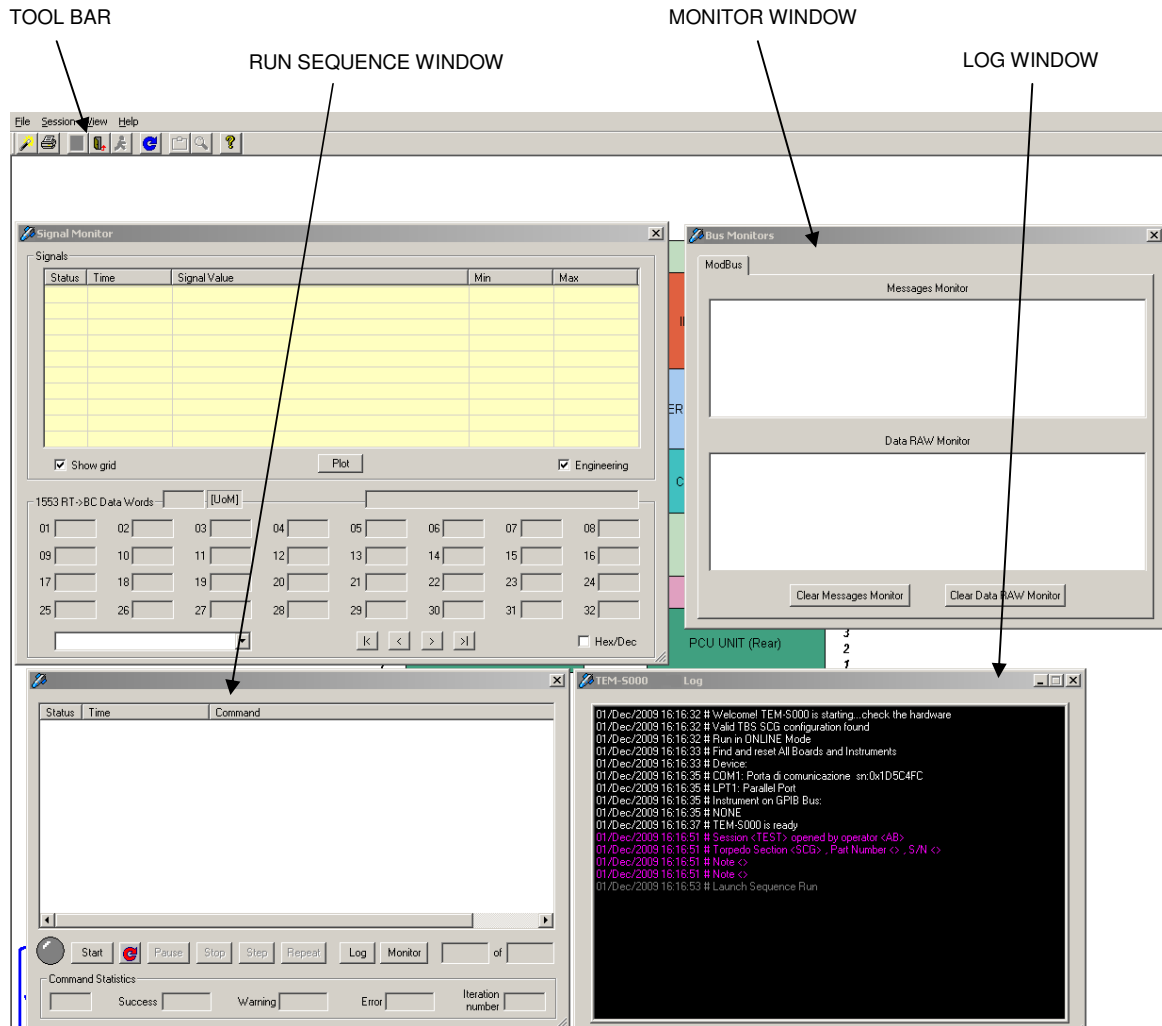


Fig.1

- Tool bar: it contains shortcuts to the most common items;
- Log window: it reports in real time all operations accomplished by the system;
- Monitor window: it reports the GNU debugger output commands (through Linux emulator);
- Run Sequence window: it allows to control the sequence execution;

Other windows (Sequence Wizard, Report Creation etc.) are described in the following.

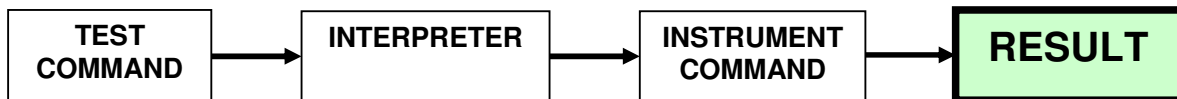
4.2. The command interpreter

The TEM-S000 software package is designed for building custom test sequences in a fast and simple way, by means of a powerful and easy meta-language. Test sequences are contained in text files that can be generated by the User using a common text editor or the Sequence wizard included in the TEM-S000 package.

```
REPORT_ON
REM "*****"
REM " POWER SUPPLY TEST "
REM "*****"
REM ""
REPORT_OFF
RUN_SEQUENCE "C:\TEM-S000\Sequences\XR300_TEST.seq"
0x1C0091 XR300_CLEAR_TRIP 1 [0]
0x1C0062 XR300_SET_VOLT 1 240 [0]
0x1C0052 XR300_SET_CURR 1 1 [0]
0x1C0032 XR300_SET_OUT_ON_OFF 1 ON [0]
0x000011 DELAY 5000
0x1C0083 XR300_MEAS_VOLT 1 235 245 [0]
....
....
REPORT_OFF
```

An example of test sequence

Test commands contained in a test sequence are sequentially processed by the command interpreter. The interpreter translates each command in the relevant low-level command (GPIB, serial or other), it executes the test operation and processes the result in accordance to the value of the test parameters associated with the command. All test operations are logged and the overall test sequence with relevant test results is recorded in a Test Report (in pdf format), that can be generated at the end of the sequence.



Test commands deal with different tasks:

- Instrument setting (e.g. preset the output voltage of a Power Supply Unit, preset the trigger level of an oscilloscope, etc)
- Measurement (e.g. acquisition of a voltage from a digital multimeter, evaluation of the duty cycle from a waveform acquired on the oscilloscope, etc.)
- Flux control and report management

The latter group includes, for instance, the commands for:

- Insert a pause
- Insert a comment in the test sequence and/or the test report
- Toggle on/off the test report
- Call a subsequence
- Etc.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 13 of 213 Date : 17/06/2014
-----------------------	------------	--

4.3. Sequences and sub-sequences

Test sequences can be either launched alone or be called from inside another sequence, with no variations in the syntax.

The command:

RUN_SEQUENCE “<path><filename.seq>”

can be used to call an external sequence. The interpreter opens the sequence file and simply copies all the commands in the caller sequence, in place of the RUN_SEQUENCE statement.

Sub-sequences allow to:

- Create test procedures of any complexity, by assembling small sequences that can be separately run and debugged;
- Create general purpose sequences, for instance the turn-on or turn-off of the system, callable from inside other sequences;
- Increase test report organization and readability;

4.4. Logs and Reports

4.4.1. Session Log

All operations accomplished by the system, from session opening to closure, are logged in the session log file, consisting of a text file.

An example of session log file is shown in the following:

```
10/Sep/2008 16:17:10 # Welcome! TEM-S000 is starting...check the hardware
10/Sep/2008 16:17:10 # Valid configuration found
10/Sep/2008 16:17:10 # Run in ONLINE Mode
10/Sep/2008 16:17:10 # Find and reset All Boards and Instruments
10/Sep/2008 16:17:10 # Device:
10/Sep/2008 16:17:11 # Dev1: NI PCI-6509 Digital I/O sn:0x136C39A socket:0x4 bus:0x2
10/Sep/2008 16:17:14 # PC-PCI Short Card: MIL-STD-1553B Single Stream MIL-STD-1553B sn:HW ver.V2.72 rev.C2
10/Sep/2008 16:17:14 # VMC: SkyTech VMC-A700 PCI Board for TEM DRIVER ver:0.10 DLL ver:0.20
10/Sep/2008 16:17:15 # COM3: NI PCI-485/8 Communications Port 1 sn:0x171F66C
10/Sep/2008 16:17:15 # COM4: NI PCI-485/8 Communications Port 2 sn:0x171F66C
10/Sep/2008 16:17:15 # COM5: NI PCI-485/8 Communications Port 3 sn:0x171F66C
10/Sep/2008 16:17:15 # COM6: NI PCI-485/8 Communications Port 4 sn:0x171F66C
10/Sep/2008 16:17:15 # COM7: NI PCI-485/8 Communications Port 5 sn:0x17212D4
10/Sep/2008 16:17:15 # COM8: NI PCI-485/8 Communications Port 6 sn:0x17212D4
10/Sep/2008 16:17:15 # COM9: NI PCI-485/8 Communications Port 7 sn:0x1722F1C
10/Sep/2008 16:17:15 # COM10: NI PCI-485/8 Communications Port 8 sn:0x1722F1C
10/Sep/2008 16:17:15 # Instrument on GPIB Bus:
10/Sep/2008 16:17:15 # NONE
10/Sep/2008 16:17:17 # TEM-S000 is ready
.....
```

The session log file is created at session opening, remains in memory during the job and it is closed and saved on disk at session closure. During the job, the log window reports in real time the proceeding of the tests.

Session log files are resident in directory **..\TEM-S000\Log\Sessions**; their name contains the hour and date of their closure, e.g.:

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 14 of 213 Date : 17/06/2014
-----------------------	------------	--

TEMLog-10-Sep-2008-17_24.txt

is the name of the log file reported before, closed at 17:24 of September 10th, 2008.

Session log files can be consulted off-line and represent the historical memory of all operations executed by the TES in each work session, including:

- P/N and S/N of UUT
- operator's data
- test hardware used
- operator's notes

4.4.2. Sequence log and Test report

Besides the Session Log, another log file is created that is called Sequence Log file. This file is created every time a single test sequence is called.

The Sequence Log file contains all session info in the header, and reports all test operations accomplished during the sequence, for example:

```

Session: board TEST
Operator: M. GEMMA
Board Type:
Model:
Serial Number:
KIT Number:
Note:

Date: 25/Sep/2008
Start Time: 17:04:02

Load sequence C:\TEM-S000\Sequences\TEM\Board_Test_Sequence.seq
Start sequence C:\TEM-S000\Sequences\TEM\Board_Sequence.seq

*****
" BOARD GENERAL TEST SEQUENCE"
*****
.....

```

The Sequence Log files are contained in the directory **..\TEM-S000\Log\Sequences** and their names are similar to the Session Log files. For example, the above file is called:

Board_Test_Sequence(25-Sep-2008-17_20).txt

where:

Board_Test_Sequence

is the name of the sequence.

By default, all test commands included in the Sequence Log files are also included in the Test Report. Anyway, many test commands are not relevant for the report (for example private test board commands); therefore, the following commands are provided to define the Report contents:

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 15 of 213 Date : 17/06/2014
-----------------------	------------	--

REPORT_ON
REPORT_OFF

The meaning of these commands is the following: all test commands between the REPORT ON and REPORT OFF statements in the sequence are included in the report file, the others are discarded.

Moreover, other specific commands are provided to include:

- images (oscilloscope images);
- tables;
- figures.

To create the Test Report, select the log file by means of the Create Report window of TES, then press "Create". At the end, Acrobat Reader is automatically called to show the Report file.

5. Use of TEM-S000

Test sequences are launched by selecting “Run sequence” in the main window:

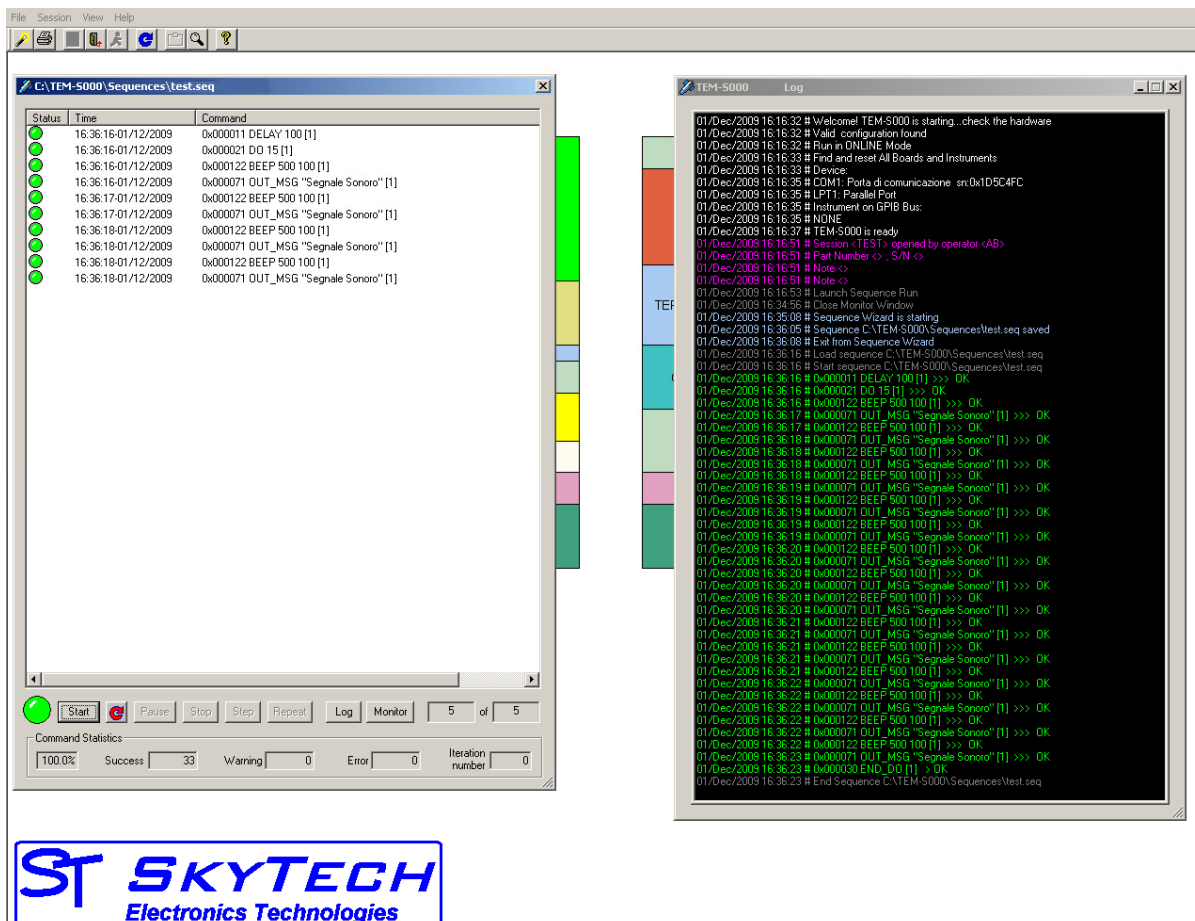


Fig.2

The Run Sequence window contains the following sections:

- Status leds (green=OK, yellow=Warning, red=Abort, gray=N.A.);
- Time, date and hour of the command execution;
- Commands.

The following commands are available in the Run Sequence window:

- Start: it allows to select and start a test sequence;
- Pause: the sequence stops after the execution of the current command. The execution resumes when the pushbutton is pressed again;
- Stop: it allows to stop the current sequence;
- Step: it allows to execute the sequence step-by-step;
- Repeat: when in pause, it allows to repeat last command;

- Log: it allows to show the log window;
- Monitor: it allows to show the Monitor window;

Besides, the Run Sequence window shows the following informations:

- Line X of Y: X = progressive number of the command being executed, Y= total number of commands in the sequence;
- Success: number of successful tests (green led);
- Warning: number of tests with warning report (yellow led);
- Error: number of tests with error report (red led);
- Iteration number: iteration number of the DO cycle being executed;

Sequences can be written manually or can be generated using Sequence Wizard.

5.1. Sequence Wizard

Sequence Wizard allows the unskilled User to build sequences by means of a friendly graphic interface. Sequence Wizard comprises the following sections:

“Interfaces Commands”:

- Interfaces: combo box for selecting instrument;
- Commands: combo box for selecting command. When a specific command is selected, the parameters' section becomes active and shows the available alternatives for each

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 18 of 213 Date : 17/06/2014
-----------------------	------------	--

parameter. In the example, we choose to read a current, therefore the command parameters are:

1. Type, combo-box (AC, DC etc.)
 2. Range: combo-box (10mA, 100mA etc.)
 3. Resolution: combo-box (Min, max, default)
 4. Min Value: minimum acceptable value (range is shown on the right, if applicable)
 5. Max Value: maximum acceptable value (range is shown on the right, if applicable)
- Abort on error / continue on error: when “Abort” is selected, in case of failed test the sequence is aborted; when “Continue” is selected, in case of failed test a warning is shown but the sequence goes on;
 - Monitoring: select if the result is to be monitored and, in this case, enter the label; the label represents the name of the Excel sheet that will contain the measured value; if the sheet does not exist, the software creates it; if it exists, the measured value is recorded below the preceding value;

“Command Sequence”:

This section shows how to modify a sequence.

To modify a command, double-click it or select it and press “Modify CMD”.

The “Delete CMD” pushbutton allows to delete the selected command.

“Other Commands”:

This section contains some general purpose commands:

Load Sequence: load a sequence for editing;

Save Sequence: save current sequence;

EXIT: exit Sequence Wizard;

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 19 of 213 Date : 17/06/2014
-----------------------	------------	--

6. Command Reference

6.1. Syntax

Command {<param1> .. <paramn>} [<repcode>]

where:

command = command name

<param1> .. <paramn> = command parameters, separated by spaces

<repcode> = report code, identifies operations to be accomplished upon completion of command:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence;
- [2_<string>] = report measured value in the monitor excel table, in sheet <string>; if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [3_<string>] = report measured value in the monitor excel table, in sheet <string>; if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence;

If the test is not passed due to instrument malfunction (for example instrument off or not present) the repcode is assumed to be 0 by default.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 20 of 213 Date : 17/06/2014
-----------------------	------------	--

6.2. General Purpose commands

This section describes the general purpose commands.

6.2.1. REPORT_ON

Syntax

REPORT_ON

Description

It toggles the Report flag ON.

The interpreter shall insert all following meta-commands and related outcomes in the Report file.

Notes

This command allows User to select sequence steps to be included in the final Test Report. This is useful to keep the Report more clear and readable.

See also REPORT_OFF

6.2.2. REPORT_OFF

Syntax

REPORT_OFF

Description

It toggles the report flag OFF.

The interpreter stops inserting meta-commands and related outcomes in the Report file.

Notes

See also REPORT_ON

6.2.3. RUN_SEQUENCE

Syntax

RUN_SEQUENCE "<path><filename.seq>"

Description

The sequence file <filename.seq> is opened and the content is inserted in place of the RUN_SEQUENCE meta-command.

This command allows nesting of sequences.

Notes

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 21 of 213 Date : 17/06/2014
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None

6.2.4. DELAY

Syntax

DELAY <N>

Description

It halts the execution for <N> milliseconds.

Notes

None

6.2.5. REM

Syntax

REM <string>

Description

It inserts a comment (remark) in the log and/or Report file.

Notes

None

6.2.6. DO, END_DO

Syntax

DO <N>
END_DO

Description

This command allows repetition for <N> times of all meta-commands included between DO and END_DO.

Notes

None

6.2.7. IF_MSG

Syntax

IF_MSG <string>

Description

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 22 of 213 Date : 17/06/2014
-----------------------	------------	--

This command asks user to check a condition and return the result (Yes=correct / No=not correct). The result is processed in accordance to the current Abort/continue condition.

Notes

This command is useful to execute checks that cannot be accomplished automatically and require intervention from the operator.

6.2.8. INPUT_MSG

Syntax

INPUT_MSG <string>

Description

This command allows input data from User.

Notes

This command is useful to record data that cannot be automatically acquired.

6.2.9. OUT_MSG

Syntax

OUT_MSG <string>

Description

This command stops the execution and shows a window message with the <string> content. When the operator presses OK, execution is resumed.

Notes

None

6.2.10. PAUSE

Syntax

PAUSE

Description

This command inserts a breakpoint in the sequence. To resume the sequence, press “resume” in the Run Sequence window.

Notes

This command is useful for debug.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 23 of 213 Date : 17/06/2014
-----------------------	------------	--

6.2.11. TABLE_INSERT

Syntax

TABLE_INSERT <Excel file> <Sheet Name> <Row Min> <Col Min> <Row Max> <Col Max>

Description

This command allows to include a table in the report file. The table will be extracted from the specified *sheet* in an *excel file* using the coordinate values as *row* and *column* specified in the command parameters

Notes

None.

6.2.12. IMAGE_INSERT

Syntax

IMAGE_INSERT <Image file name>

Description

This command allows to include an image in the report file.

Notes

None.

6.2.13. WAIT

Syntax

WAIT <Semaphore ID> <Timeout (msec)>

Description

This command forces sequence to wait on the semaphore ID (to choose from eight semaphore ID1 to ID8) with a timeout.

Notes

None.

6.2.14. RELEASE

Syntax

RELEASE <Semaphore ID>

Description

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 24 of 213 Date : 17/06/2014
-----------------------	------------	--

This command instructs sequence to release the ID semaphore specified.

Notes

None.

6.2.15. EXEC

Syntax

EXEC <executable file> <show window>

Description

This command allows to run a external program located at <executable file>. The <show window> parameter specifies how to visualize the main window of the external program.

Notes

See SYNCH_EXEC.

6.2.16. SYNCH_EXEC

Syntax

SYNCH_EXEC <executable file> <show window> <timeout (msec)> <return code>

Description

This command allows to run a external program located at <executable file>. The <show window> parameter specifies how to visualize the main window of the external program. The <timeout> parameter specifies the waiting time before to continue with the next sequence command. The <return code> parameter specifies the expected value returned from the external program when it will be ended.

Notes

See EXEC.

6.2.17. BEEP

Syntax

BEEP <freq (Hz)> <duration (msec)>

Description

This command allows to set frequency and time of the warning sound.

Notes

None.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 25 of 213 Date : 17/06/2014
-----------------------	------------	--

6.2.18. AUTO-SHUTDOWN

Syntax

AUTO_SHUTDOWN <Seconds before shutdown>

Description

This command allows to turn off the PC after the time specified.

Notes

None.

6.2.19. OUT_PICTURE

Syntax

OUT_PICTURE <Image file> <string msg>

Description

This command allows to insert a image and a message to operator in a dialog box that it will be shown during the execution of the sequence.

Notes

None.

6.2.20. CHECK_VALUE

Syntax

CHECK_VALUE <string message> <min> <max> <udm>

Description

This command allows to show a dialog box where the user must be insert a value. This value will be checked within range [min...max]. It's possible specifies a message and a unit of measure.

Notes

None.

6.2.21. IMAGE_INSERT_FROM_EXCEL

Syntax

IMAGE_INSERT_FROM_EXCEL <Excel file> <Sheet Name> < Cell Range (A1:B2)>

Description

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 26 of 213 Date : 17/06/2014
-----------------------	------------	--

This command allows to include an image extracted from a file excel in the report file. The table will be extracted from the specified *sheet* in an *excel file* using the coordinates in the form “cell upper left : cell bottom right”.

Notes

None.

6.2.22. INSERT_MEASURE_REMARK

Syntax

INSERT_MEASURE_REMARK <string remark>

Description

This command allows to insert in the excel file of the measures a specified <string remark> related with the next measure command performed in the sequence.

Notes

None.

6.3. Interface commands

The following paragraphs contain a description of interface commands and related parameters.

6.3.1. GPIO

Instrument identification: National Instruments NI6509 GPIO board.



Use: This board is used as a general purpose digital I/O board.

Commands:

- DIO_OUT;
- DIO_IN;
- DIO_PORT_OUT;
- DIO_PORT_IN.
- DIO_RESET

In the following paragraphs, a detailed description of the commands is shown.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 28 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.1.1. DIO_OUT

Description This command allows to set the output digital line.

Syntax DIO_OUT <Label> State [Error-flag]

where:

Label <string>: output digital line to select.

State [ON, OFF]: state of the output digital lines, ON or OFF.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DIO_OUT POWER_OUT ON [0]

In this example, the digital output line called POWER_OUT is selected.

The output is set to ON.

[0] means that the test sequence will go on if the test is not passed.

Database

It is possible to add or change the string *Label*, by modifying the following .xls file:

TEM_Tabella_Label_DIGITAL_IO.xls (tem-s000\Config\name-interface) in the sheet “ETICHETTE_OUT”.

The PCDIO NI6509 has 96 lines, with 12 port (each one has 8 lines).

An example is shown in the Figure 5.4.1.1. - 1.

The output ports are listed in left column “Porta”.

The output digital lines are listed in the right column “I/O”.

<i>Porta</i>	<i>I/O</i>
1	POWER_OUT
1	N.U.
1	N.U.
1	N.U.
1	N.U.
1	N.U.
1	N.U.
1	N.U.
1	N.U.
4	ANALOG_SELECT
4	N.U.
4	N.U.
4	N.U.
4	N.U.
4	N.U.
4	N.U.
4	N.U.

Output port number

Output digital lines

Fig. 5.4.1.1. -1

In this case, the output ports are the number 1 and the number 4.
The digital pins are associated according with the table in Fig. 5.4.1.1.- 2.
If a pin is not used, input string "N.U." in the corresponding row of the "I/O" column.

P2.7	1	51	P8.7
P5.7	2	52	P11.7
P2.6	3	53	P8.6
P5.6	4	54	P11.6
P2.5	5	55	P8.5
P5.5	6	56	P11.5
P2.4	7	57	P8.4
P5.4	8	58	P11.4
P2.3	9	59	P8.3
P5.3	10	60	P11.3
P2.2	11	61	P8.2
P5.2	12	62	P11.2
P2.1	13	63	P8.1
P5.1	14	64	P11.1
P2.0	15	65	P8.0
P5.0	16	66	P11.0
P1.7	17	67	P7.7
P4.7	18	68	P10.7
P1.6	19	69	P7.6
P4.6	20	70	P10.6
P1.5	21	71	P7.5
P4.5	22	72	P10.5
P1.4	23	73	P7.4
P4.4	24	74	P10.4
P1.3	25	75	P7.3
P4.3	26	76	P10.3
P1.2	27	77	P7.2
P4.2	28	78	P10.2
P1.1	29	79	P7.1
P4.1	30	80	P10.1
P1.0	31	81	P7.0
P4.0	32	82	P10.0
P0.7	33	83	P6.7
P3.7	34	84	P9.7
P0.6	35	85	P6.6
P3.6	36	86	P9.6
P0.5	37	87	P6.5
P3.5	38	88	P9.5
P0.4	39	89	P6.4
P3.4	40	90	P9.4
P0.3	41	91	P6.3
P3.3	42	92	P9.3
P0.2	43	93	P6.2
P3.2	44	94	P9.2
P0.1	45	95	P6.1
P3.1	46	96	P9.1
P0.0	47	97	P6.0
P3.0	48	98	P9.0
+5 V	49	99	+5 V
GND	50	100	GND

Fig. 5.4.1.1.- 2.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 31 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.1.2. DIO_IN

Description This command allows to set the input digital line.

Syntax DIO_IN <Label> State [Error-flag]

where:

Label <string>: input digital line to select.

State [ON, OFF]: state of the input digital lines, ON or OFF.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DIO_IN POWER_IN ON [0]

In this example, the digital input line called POWER_IN is selected.

Its state is set ON.

[0] means that the test sequence will go if the test will be not passed.

Database

It is possible to add or change the string for the *Label* working on the .xls file :

TEM_Tabella_Label_DIGITAL_IO.xls (tem-s000 configurazione\rack-name\Config\name-interface) in the sheet called “ETICHETTE_IN”.

The PCDIO NI6509 has 96 lines, with 12 port (each one has 8 lines).

An example is shown in the Figure 5.4.1.2. - 1.

The input ports are listed in left column “Porta”.

The input digital lines are listed in the right column “I/O”.

Porta	I/O
6	POWER IN
6	N.U.
6	N.U.
6	N.U.
6	N.U.
6	N.U.
6	N.U.
6	N.U.
6	N.U.

Fig. 5.4.1.2. -1

In this case, the input port is the number 6.
The digital pins are associated according with the table in Fig. 5.4.1.2.- 2.
If a pin is not used, input “N.U.” in the corresponding row in the “I/O” column.

P2.7	1	51	P8.7
P5.7	2	52	P11.7
P2.6	3	53	P8.6
P5.6	4	54	P11.6
P2.5	5	55	P8.5
P5.5	6	56	P11.5
P2.4	7	57	P8.4
P5.4	8	58	P11.4
P2.3	9	59	P8.3
P5.3	10	60	P11.3
P2.2	11	61	P8.2
P5.2	12	62	P11.2
P2.1	13	63	P8.1
P5.1	14	64	P11.1
P2.0	15	65	P8.0
P5.0	16	66	P11.0
P1.7	17	67	P7.7
P4.7	18	68	P10.7
P1.6	19	69	P7.6
P4.6	20	70	P10.6
P1.5	21	71	P7.5
P4.5	22	72	P10.5
P1.4	23	73	P7.4
P4.4	24	74	P10.4
P1.3	25	75	P7.3
P4.3	26	76	P10.3
P1.2	27	77	P7.2
P4.2	28	78	P10.2
P1.1	29	79	P7.1
P4.1	30	80	P10.1
P1.0	31	81	P7.0
P4.0	32	82	P10.0
P0.7	33	83	P6.7
P3.7	34	84	P9.7
P0.6	35	85	P6.6
P3.6	36	86	P9.6
P0.5	37	87	P6.5
P3.5	38	88	P9.5
P0.4	39	89	P6.4
P3.4	40	90	P9.4
P0.3	41	91	P6.3
P3.3	42	92	P9.3
P0.2	43	93	P6.2
P3.2	44	94	P9.2
P0.1	45	95	P6.1
P3.1	46	96	P9.1
P0.0	47	97	P6.0
P3.0	48	98	P9.0
+5 V	49	99	+5 V
GND	50	100	GND

Fig. 5.4.1.2.- 2.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 34 of 213 Date : 17/06/2014
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6.3.1.3. DIO_PORT_OUT

Description This command allows to set the output port.

Syntax DIO_PORT_OUT <Port> <Value> [Error-flag]

Port [0÷11]: number of the output port selected;

Value [0÷255]: value to be written in the register associated to the selected output port;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DIO_PORT_OUT 2 16 [1]

In this example:

2 is the number of the output port selected.

16 is the value written in the register related to it.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 35 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.1.4. DIO_PORT_IN

Description This command allows to set the input port.

Syntax DIO_PORT_IN <Port> <Value> [Error-flag]

Port [0÷11]: number of input port selected.

Value [0÷255]: value read in the register associated to the selected input port.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DIO_PORT_IN 3 16 [1]

In this example:

3 is the number of the input port selected.

16 is the value read in the register.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

6.3.1.5. DIO_RESET

Description This command allows to reset the NI6509 GPIO board to default state.

Syntax DIO_RESET [Error-flag]

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence

6.3.2. RS422 / 485 serial links

Instrument identification: National Instruments RS485/8 serial board



Use: This board is used as a general purpose RS485 board with 8 lines.

Commands:

- RS4_OPEN;
- RS4_SEND_BYTE;
- RS4_READ_BYTE;
- RS4_CLOSE;
- RS4_FLUSH;
- RS4_READ_DATA_COMPARE;
- RS4_READ_DATA_SEARCH.
- RS4_SEND_FILE
- RS4_TERMINAL
- RS4_TERMINAL_TO_FILE

In the following paragraphs, a detailed description of the commands is proposed.

6.3.2.1. RS4_OPEN

Description This command allows to open the communication with a serial port.

Syntax

RS4_OPEN < Serial Port> < Baud rate> < Parity> < Data bits> < Stop bits> <Flow-Control > [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port to open.

Baud rate:

It is possible to choose the baud rate according to the following table:

Parameter	Label
1200	1200
2400	2400
4800	4800
9600	9600
19200	19200
38400	38400
57600	57600

Parity: it is parity bit.

It is possible to choose the parity bit according to the following table:

Parameter	Label
2	None
0	Even
3	Odd
1	Mark
4	Space

Data bits: it is the bit number.

It is possible to choose the data bits according to the following table:

Parameter	Label
8	8
7	7
6	6
5	5

Stop bits: allows to stop the bits.

It is possible to choose the stop bits according to the following table:

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 38 of 213 Date : 17/06/2014
-----------------------	------------	--

Parameter	Label
1	1
1,5	1,5
2	2

Flow Control : it is a control presence.

It is possible to choose the flow control according to the following table:

Parameter	Label
0	None
1	CtsRts
2	CtsDtr
3	DsrRts
4	DsrDtr
5	XonXoff

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RS4_OPEN 1 57600 None 8 1 None [1]

In this example, the port number 1 is open.

57600 is the baud rate.

None means that the parity is set to 2.

8 is the data bit.

1 is the Stop bit.

None means that the Flow Control is 0.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 39 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.2. RS4_SEND_BYTE

Description This command allows to send the data.

Syntax RS4_SEND_BYTE < Serial Port> < Value> [Error-Flag]

Where:

Serial Port [0÷18]: number of serial port.

Value [0x00÷0xFF]: data value.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RS4_SEND_BYTE 1 16 [1]

In this example:

1 is the port to which send data;

16 is the data value.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 40 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.3. RS4_READ_BYTE

Description This command allows to read the data.

Syntax RS4_READ_BYTE < Serial Port> < Expected Value > [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port

Expected value [0x00÷0xFF]: value of the expected data.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RS4_READ_BYTE 1 2 [1]

In this example,

1 is the number of the port.

2 is the expected data.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 41 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.4. RS4_CLOSE

Description This command allows to close a serial port.

Syntax RS4_CLOSE <Serial Port> [Error-Flag]

Where:

Serial Port [0÷18]: it is the number of the serial port to close.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RS4_CLOSE 1 [1]

1 is the number of the port to close.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 42 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.5. RS4_FLUSH

Description This command allows to empty the buffer.

Syntax RS4_FLUSH < Serial Port> [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port to flush.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RS4_FLUSH 1 [1]

1 is the serial port to flush.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 43 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.6. RS4_READ_DATA_COMPARE

Description This command allows to compare the data received file with another one.

Syntax RS4_READ_DATA_COMPARE < Serial Port> < Timeout> < File to match> [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port.

Timeout [ms]: operation time.

File match [0÷1024]: data to read and compare.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RS4_READ_DATA_COMPARE 1 [1]

In this example, the buffer of the port number 1 will be emptied.
[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 44 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.7. RS4_READ_DATA_SEARCH

Description This command allows to search and compare the received data file with a string.

Syntax RS4_READ_DATA_SEARCH < Serial Port> < Timeout> < String File> [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port.

Timeout [ms]: operation time.

String File: data to search and compare with the received file.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

Database

N.A.

6.3.2.8. RS4_SEND_FILE

Description This command allows to send a file trough a serial port.

Syntax RS4_SEND_FILE < Serial Port> <File Name> <CR_LF> <Type> [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port.

File Name: path and name of the file to be send.

CR_LF: how to manage the special characters like CR and LF. (Value: NONE, CR, LF, CR_LF)

Type: the file type to be send (Value: BIN or TXT)

Error-flag [0÷1]:

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 45 of 213 Date : 17/06/2014
-----------------------	------------	--

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

Database

N.A.

6.3.2.9. RS4_TERMINAL

Description This command allows to receive data from a serial port and compare them with an existing file.

Syntax RS4_TERMINAL < Serial Port> <Timeout> <File to Match> [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port.

Timeout: the time in millisec before to exit when no more characters are received.

File to Match: the file to be compared with the received data.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 46 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.2.10. RS4_TERMINAL_TO_FILE

Description This command allows to receive data from a serial port and save them in the specified file.

Syntax RS4_TERMINAL_TO_FILE < Serial Port> <Timeout> <File name> [Error-Flag]

Where:

Serial Port [0÷18]: number of the serial port.

Timeout: the time in millisec before to exit when no more characters are received.

File name: the file where the data received will be saved.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

Database

N.A.

6.3.3. ANALOG I/O (PCI board)

Instrument identification: National Instruments PCI board NI-6255

Use: this board is used to generate and read analog voltages.



Commands

- IAN_VOLTAGE
- IAN_VOLTAGE_MS
- IAN_VOLTAGE_FROM_FILE
- IAN_START_WAVEFORM
- IAN_START_WAVEFORM_PWM
- IAN_STOP_WAVEFORM

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 48 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.3.1. IAN_VOLTAGE

Description This command allows to measure the input voltage.

Syntax IAN_VOLTAGE <Line> < min val > < max val > < Multiplier > [Error-Flag]

Where:

Line <string>: it allows to select the input analog voltage.

min val [V] : min acceptable value of the input analog voltage.

max val [V] : it the max acceptable value of the input analog voltage.

Multiplier: proportional factor related to the voltage to measure and the hardware.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

IAN_VOLTAGE I_volt 0.4 0.5 0.559 [1]

I_volt is the input analog voltage to measure.

0.4 is the lower limit.

0.5 is the upper limit.

0.559 is the multiplier value.

[1] means that the test sequence will stop if the test will be not passed.

Database

It is possible to add or change the string for the *Line* in the .xls file :

TEM_Tabella_Label_ANALOG_IN.xls (tem-s000 configurazione\rack-name\Config\name-interface) in the sheet called “ETICHETTE_VOLTAGE”.

An example is shown in the Figure 5.4.3.1. - 1.

The input lines are listed in left column “Linea”.

The input analog names are listed in the right column “Nome”.

Input line →

Linea	Nome
1	M16V_CURR_SENSE
2	5V_CURR_SENSE
3	29V_CURR_SENSE
4	SPARE
5	SPARE
6	SPARE
8	SPARE
9	SPARE
11	SPARE
12	SPARE
13	SPARE
14	SPARE
15	SPARE
16	SPARE
17	SPARE
18	SPARE
19	SPARE

→ Input digital name

Fig. 5.4.3.1. - 1.

If a pin is not used, input "SPARE" in the corresponding row in the "Nome" column.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 50 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.3.2. IAN_VOLTAGE_MS

Description This command allows to measure the input voltage as a mean value of a specified number of samples.

Syntax

IAN_VOLTAGE_MS <Line> < min val > < max val > < Num Sample> < Multiplier > [Error-Flag]

Line <string>: the input analog voltage line to select.

min val [V] : min acceptable value of the input analog voltage.

max val [V] : max acceptable value of the input analog voltage.

Num_Sample [0÷100]: number of samples to evaluate.

Multiplier: it is a proportional factor related to the voltage to measure and the hardware.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

IAN_VOLTAGE_MS I_volt_M 0.8 1 100 0.08 [1]

I_volt_M is the input analog voltage to measure.

0.8 is the lower limit.

1 is the upper limit.

100 is the sample number

0.08 is the multiplier value.

[1] means that the test sequence will stop if the test will be not passed.

Database

It is possible to add or change the string for the *Line* in the .xls file:

TEM_Tabella_Label_ANALOG_IN.xls (the path is normally the following: tem-s000 configurazione\rack-name\Config\name-interface) in the sheet called “ETICHETTE_VOLTAGE”.

An example is shown in the Figure 5.4.3.1. - 1.

The input lines are listed in left column “Linea”.

The input analog names are listed in the right column “Nome”.

Input line →

<i>Linea</i>	<i>Nome</i>
1	29V_CURR_SENSE
2	SGM_N
3	SGM_R
4	SPARE
5	SPARE
6	SPARE
8	SPARE
9	SPARE
11	SPARE
12	SPARE
13	SPARE
14	SPARE
15	SPARE
16	SPARE
17	SPARE
18	SPARE
19	SPARE

← Input digital name

Fig. 5.4.3.1. - 1.

If a pin is not used, put “SPARE” in the corresponding row in the “Nome” column.

6.3.3.3. IAN_VOLTAGE_FROM_FILE

Description This command allows to measure the input voltage. The read value will be checked in a range defined by <label>, a entry of a text or excel file.

Syntax IAN_VOLTAGE_FROM_FILE <Line> <Multiplier> <File> <Sheet> <label> [Error-Flag]

Where:

Line <string>: it allows to select the input analog voltage.

Multiplier: proportional factor related to the voltage to measure and the hardware.

File: The name of the file where the range labels are.

Sheet: If <File> is a excel file, it specifies the sheet where the range labels are, else don't care.

label: Is the string that is used to extract the values [min, max] of the range.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 52 of 213 Date : 17/06/2014
-----------------------	------------	--

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

IAN_VOLTAGE_FROM_FILE I_volt 0.559 “My_Ranges.txt” “” “MY_LABEL” [1]

I_volt is the input analog voltage to measure.

0.559 is the multiplier value.

“My_Ranges.txt” is the file name

“MY_LABEL” is the label name.

[1] means that the test sequence will stop if the test will be not passed.

Database

6.3.3.4. IAN_START_WAVEFORM

Description This command allows to generate a square waveform.

Syntax

IAN_START_WAVEFORM <Line> <Frequency> <Duty cycle> <Amplitude pk-pk> <Offset> [Error-Flag]

Line <0-1>: the output line to select (AO0 or AO1);

frequency [Hz] : frequency of the PWM (max 100KHz)

Duty cycle [%] : Duty cycle value, from 1% to 100%, integer value

Amplitude pk-pk [V]: the amplitude pk-pk of the square wave, from 0.01 to 20 V

Offset [V]: the offset value around zero, from -10 to 10 V

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

IAN_START_WAVEFORM 1 100000 50 10.0 0.0 [1]

This command generates, on output line AO1, a 100KHz waveform, Duty cycle 50%, pk-pk 10 volt, offset 0 volt .

6.3.3.5. IAN_START_WAVEFORM_PWM

Description This command allows to generate a PWM waveform.

Syntax

IAN_START_WAVEFORM <Line> < Frequency > < Duty cycle > < Voltage > [Error-Flag]

Line <0-1>: the output line to select (AO0 or AO1);

frequency [Hz] : frequency of the PWM (max 100KHz)

Duty cycle [%] : Duty cycle value, from 1% to 100%, integer value

Voltage [V]: max Output Voltage, from 0 to 5 V

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

IAN_START_WAVEFORM_PWM 0 100000 50 3.3 [1]

This command generates, on output line AO0, a 100KHz waveform, Duty cycle 50%, 3.3V

6.3.3.6. IAN_STOP_WAVEFORM

Description This command allows to stop a PWM or square waveform previously generated.

Syntax

IAN_STOP_WAVEFORM <Line> [Error-Flag]

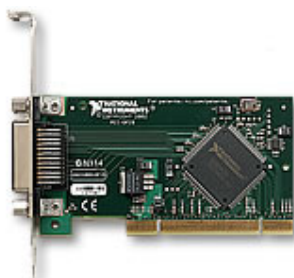
Line <0-1>: the output line to select (AO0 or AO1);

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

6.3.4. GPIB

Instrument identification: GPIB bus.



Use: The General Purpose Interface Bus is a bus for the interconnection and control of electronic equipment.

Commands:

- GPIB_SEL_ADDR;
- GPIB_WRITE;
- GPIB_QUERY_NUM;
- GPIB_QUERY_STR;
- GPIB_QUERY_TO_FILE;
- GPIB_QUERY_NUM_FROM_FILE;
- GPIB_SAVE_SETTINGS;
- GPIB_LOAD_SETTINGS;

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 55 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.4.1. GPIB_SEL_ADDR

Description This command allows to select the address of the instrument.

Syntax GPIB_SEL_ADDR <Instrument Address> [Error-Flag]

Instrument Address [1-30]: it allows to select the instrument address.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

GPIB_SEL_ADDR 1 [1]

1 is the instrument address,

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 56 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.4.2. GPIB_WRITE

Description This command allows to send a command to the instrument selected by GPIB_SEL_ADDR.

Syntax GPIB_WRITE <string command> [Error-Flag]

String command : the command to send.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

GPIB_WRITE “*RST;*CLS” [1]

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 57 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.4.3. GPIB_QUERY_NUM

Description

This command allows to query a measure to the instrument and the numeric result relative to the interrogation will be checked in a range specified by [min, max].

Syntax GPIB_QUERY_NUM <String command> <min> <max> <udm> [Error-Flag]

String command : the command query to send

Min: The min value of the range that will be used to check the measure.

Max: The max value of the range that will be used to check the measure.

Udm: the string that specifies the unit of measure of the query.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

GPIB_QUERY_NUM “MEAS:VOLT?” -5.0 5.0 “volt” [1]

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 58 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.4.4. GPIB_QUERY_STR

Description This command allows to query a string to the instrument and the string result will be matched with another string.

Syntax GPIB_QUERY_STR <String command> <String to match> [Error-Flag]

String command : the command query to send.

String to match: The string value to be matched with the query response.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

GPIB_QUERY_STR “*IDN?” “AGILENT TECHNOLOGIES,E3640” [1]

Database

N.A.

6.3.4.5. GPIB_QUERY_TO_FILE

Description This command allows to query binary (raw) data to the instrument and to save them to a file.

Syntax GPIB_QUERY_TO_FILE <String command> <File name> [Error-Flag]

String command : the command query to send.

File name: The name of file where the data will be saved.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 59 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.4.6. GPIB_QUERY_NUM_FROM_FILE

Description This command allows to query a measure to the instrument and the numeric result relative to the interrogation will be checked in a range extracted from a file by a label.

Syntax `GPIB_QUERY_NUM_FROM_FILE` <String command> <File> <Sheet> <label> [Error-Flag]

Where:

String command : the command query to send.

File: The name of the file where the range labels are.

Sheet: If <File> is a excel file, it specifies the sheet where the range labels are, else don't care.

label: Is the string that is used to extract the values [min, max] of the range.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

GPIB_QUERY_NUM_FROM_FILE "MEAS:VOLT?" "My_Ranges.txt" "" "MY_LABEL" [1]

"MEAS:VOLT?" is the command query.

"My_Ranges.txt" is the file name.

"MY_LABEL" is the label name.

[1] means that the test sequence will stop if the test will be not passed.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 60 of 213 Date : 17/06/2014
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6.3.4.7. GPIB_SAVE_SETTINGS & GPIB_LOAD_SETTINGS

Description This command allows to save/load to/from a file the setting parameters of the instrument currently selected.

Syntax *GPIB_SAVE_SETTINGS* <File name> [Error-Flag]
GPIB_LOAD_SETTINGS <File name> [Error-Flag]

Where:

File: The name of the file where the settings will be saved/loaded

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

6.3.5. Power Supply Unit

6.3.5.1. Delta Elektronika SM70 AR24.

Instrument identification: Delta Elektronika SM70 AR24.



Use: this unit is used to supply single voltage 0-28 [V], 0-15 [A].

In the following paragraphs, a detailed description of the commands is shown:

- SM70_SET_SOURCE;
- SM70_SET_PWR_ON_OFF;
- SM70_SET_OUT_ON_OFF ;
- SM70_FRONT_PANEL_ON_OFF;
- SM70_SET_CURR;
- SM70_SET_VOLT;
- SM70_MEAS_CURR;
- SM70_MEAS_VOLT ;
- SM70_QUERY_STATUS;
- SM70_AUTOTEST;
- SM70_RESET.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 62 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.1. SM70_SET_SOURCE

Description This command allows to configure the power source.

Syntax

SM70_SET_SOURCE <Power Number> <Voltage value> <Current value> [Error-Flag]

Where:

Power number [1]: number of the instrument.

Voltage value [(0÷35) V]: voltage setting

Current value [(0÷24) A] : current setting

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example SM70_SET_SOURCE 1 20 10 [1]

1 is the Power number.

20 is voltage setting

10 is the current setting

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 63 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.2. SM70_SET_PWR_ON_OFF

Description This command allows to turn on or turn off the power supply.

Syntax SM70_SET_PWR_ON_OFF <Power Number> <Status> [Error-flag]

Where:

Power number [1]: number of the instrument.

Status [ON, OFF]: set the turning on or off.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example SM70_SET_PWR_ON_OFF 1 ON [1]

1 is the Power number.

ON means that the power supply is turned ON.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 64 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.3. SM70_SET_OUT_ON_OFF

Description This command allows to turn on/off the output of the power supply.

Syntax SM70_SET_OUT_ON_OFF <Power Number> <Status> [Error-flag]

Where:

Power number [1]: is the number of the instrument.

Status [ON, OFF]: it allows to set the turning on/ off.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example SM70_SET_OUT_ON_OFF 1 ON [0]

1 is the Power number.

ON means that the output of power supply is turned ON.

[0] means that the test sequence will go on if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 65 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.4. SM70_FRONT_PANEL_ON_OFF

Description This command allows to set the front panel turning on/off.

Syntax SM70_FRONT_PANEL_ON_OFF <Power Number> <Status> [Error-flag]

Where:

Power number [1]: number of the instrument.

Status [ON, OFF]: it allows to set the turning on or the turning off for the front panel of power supply.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example SM70_FRONT_PANEL_ON_OFF 1 ON [0]

1 is the Power number.

ON means that the front panel of power supply is ON.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 66 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.5. SM70_SET_CURR

Description This command allows to set the max current value.

Syntax SM70_SET_CURR <Power Number> <Current> [Error-flag]

Where:

Power number [1]: number of the instrument.

Current [(0÷24) A]: it allows to set current value.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_SET_CURR 1 1 [0]

1 is the Power number.

1 is the current value set.

[0] means that the test sequence will go on if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 67 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.6. SM70_SET_VOLT

Description This command allows to set the voltage value.

Syntax SM70_SET_VOLT <Power Number> <Voltage> [Error-flag]

Where:

Power number [1]: number of the instrument.

Voltage [(0÷35) V]: it allows to set the voltage value.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_SET_VOLT 1 28 [0]

1 is the Power number.

28 is the voltage value set.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 68 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.7. SM70_MEAS_CURR

Description This command allows to acquire the value of the measured current. This value will be checked with a range specified by min and max values.

Syntax SM70_MEAS_CURR <Power Number> <min> <max> [Error-flag]

Where:

Power number [1]: number of the instrument.

Min [A]: lower limit of the measured current.

Max [A]: upper limit of the measured current.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_MEAS_CURR 1 0 .01 [0]

1 is the Power number.

0 is the lower limit.

0.01 is the upper limit.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 69 of 213 Date : 17/06/2014
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6.3.5.1.8. SM70_MEAS_VOLT

Description This command allows to acquire the value of the measured voltage. This value will be checked with a range specified by min and max values.

Syntax SM70_MEAS_VOLT <Power Number> <min> <max> [Error-flag]

Where:

Power number [1]: number of the instrument.

Min [V]: lower limit for the measured voltage.

Max [V]: upper limit for the measured voltage.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_MEAS_VOLT 1 27.5 28.5 [0]

1 is the Power number.

27.5 is the lower limit.

28.5 is the upper limit.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 70 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.9. SM70_QUERY_STATUS

Description This command allows to acquire the current status (on/off) of the instrument.

Syntax SM70_QUERY_STATUS <Power Number> <Status> [Error-flag]

Where:

Power number [1]: number of the instrument.

Status [ON, OFF] : status (on or off) of the instrument.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_QUERY_STATUS 1 ON [0]

1 is the Power number.

ON means that the instrument is on.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 71 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.1.10. SM70_AUTOTEST

Description This command allows to run the embedded auto-test of the instrument.

Syntax SM70_AUTOTEST <Power Number> [Error-flag]

Where:

Power number [1]: number relative of the instrument.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_AUTOTEST 1 [0]

1 is the Power number.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 72 of 213 Date : 17/06/2014
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6.3.5.1.11. SM70_RESET

Description This command allows to reset the instrument.

Syntax SM70_RESET <Power Number> [Error-flag]

Where:

Power number [1]: number of the instrument.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SM70_RESET 1 [0]

1 is the Power number.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

6.3.5.2. XR-300 Magna-Power Electronics

Instrument identification: XR-300 Magna-Power Electronics.



Use: this unit is used to supply single voltage 0-24 [V], 0-15[A].

- XR300_SET_PROT_VOLT ;
- XR300_SET_PROT_CURR;
- XR300_SET_OUT_ON_OFF;
- XR300_QUERY_STATUS;
- XR300_SET_CURR;
- XR300_SET_VOLT;
- XR300_MEAS_CURR;
- XR300_MEAS_VOLT;
- XR300_CLEAR_TRIP;
- XR300_RESET.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 74 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.1. XR300_SET_PROT_VOLT

Description This command allows to set the voltage value of the voltage protection.

Syntax XR300_SET_PROT_VOLT <Power Number> <Voltage> [Error-flag]

Where:

Power number [1]: number of the instrument.

Voltage [(0÷300) V] : voltage value setting in Volt.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_SET_PROT_VOLT 1 240 [0]

1 is the Power number.

240 is the set voltage value.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 75 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.2. XR300_SET_PROT_CURR

Description This command allows to set the current value of the current protection.

Syntax XR300_SET_PROT_CURR <Power Number> <Current> [Error-flag]

Where:

Power number [1]: is the number relative to the instrument.

Current [(0÷13.2) A] : it is the current value set in Ampere.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_SET_PROT_CURR 1 12 [0]

1 is the Power number.

12 is the set current value.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 76 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.3. XR300_SET_OUT_ON_OFF

Description This command allows to turn instrument output on or off.

Syntax XR300_SET_OUT_ON_OFF <Power Number> <Status> [Error-flag]

Where:

Power number [1]: number of the instrument.

Status [ON, OFF] : state (on or off) of the instrument output.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

XR300_SET_OUT_ON_OFF 1 ON [0]

1 is the Power number.

ON means that the instrument output is turned on.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 77 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.4. XR300_QUERY_STATUS

Description This command allows to query the instrument status.

Syntax XR300_QUERY_STATUS <Power Number> <Status> [Error-flag]

Where:

Power number [1]: number of the instrument.

Status [ON, OFF] : state (turned on or off) of the instrument.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_QUERY_STATUS 1 ON [0]

1 is the Power number.

ON means that the instrument is turned on.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 78 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.5. XR300_SET_CURR

Description This command allows to set the current value.

Syntax XR300_SET_CURR <Power Number> <Current> [Error-flag]

Where:

Power number [1]: number of the instrument.

Current [(0÷13.2) A] : it is the current value set in Ampere.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_SET_CURR 1 12 [0]

1 is the Power number.

12 is the set current value.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 79 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.6. XR300_SET _VOLT

Description This command allows to set the voltage value.

Syntax XR300_SET _VOLT <Power Number> <Voltage> [Error-flag]

Where:

Power number [1]: is the number relative to the instrument.

Voltage [(0÷300) V] : it is the voltage value set in Volt.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_SET _VOLT 1 240 [0]

1 is the Power number.

240 is the set voltage value.

[0] means that the test sequence will go on if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 80 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.7. XR300_MEAS_CURR

Description This command allows to acquire the value of the measured current. This value will be checked with a range specified by min and max values.

Syntax XR300_MEAS_CURR <Power Number> <min> <max> [Error-flag]

Where:

Power number [1]: number of the instrument.

Min [A]: it is lower limit for the measured current.

Max [A]: it is the upper limit for the measured current.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_MEAS_CURR 1 0.4 0.5 [1]

1 is the Power number.

0.4 is lower value for the current.

0.5 is the upper value for the current.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 81 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.8. XR300_MEAS_VOLT

Description This command allows to acquire the value of the measured voltage. This value will be checked with a range specified by min and max values.

Syntax XR300_MEAS_VOLT <Power Number> <min> <max> [Error-flag]

Where:

Power number [1]: number of the instrument.

Min [V]: lower limit for the measured voltage.

Max [V]: upper limit for the measured voltage.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_MEAS_VOLT 1 235 245 [0]

1 is the Power number.

0.4 is lower value for the voltage.

0.5 is the upper value for the voltage.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 82 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.9. XR300_CLEAR_TRIP

Description This command allows to clear the over-voltage trip or the over-current trip.

Syntax XR300_CLEAR_TRIP <Power Number> [Error-flag]

Where:

Power number [1]: number of the instrument.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_CLEAR_TRIP 1 [1]

1 is the Power number.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 83 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.2.10. XR300_RESET

Description This command allows to reset the instrument.

Syntax XR300_RESET <Power Number> [Error-flag]

Where:

Power number [1]: number of the instrument.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

XR300_RESET 1 [1]

1 is the Power number.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

6.3.5.3. Agilent E3649

Instrument identification: Agilent E3649



Use: This unit is used to supply single voltage 0-35V, 1.4A

- PSL_SET_OUTPUT_ON_OFF;
- PSL_ACQ_ON_OFF_STAT;
- PSL_SET_VOLT_CURR;
- PSL_SET_CURR;
- PSL_SET_VOLT;
- PSL_ACQ_CURR_MEAS;
- PSL_ACQ_VOLT_MEAS;
- PSL_SET_VOLTAGE_PROTECT;
- PSL_AUTOTEST;
- PSL_RESET;
- PSL_ACQ_MEAS_FROM_FILE.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 85 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.1. PSL_SET_OUTPUT_ON_OFF

Description This command allows to set the output on or off of the power supply.

Syntax PSL_SET_OUTPUT_ON_OFF <POWER_SELECTION> <Status> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

Status [ON, OFF]: status (on or off) of the output;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_SET_OUTPUT_ON_OFF PSL1 ON [1]

PSL1 is the power selection code.

ON means that the instrument is turning on.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 86 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.2. PSL_ACQ_ON_OFF_STAT

Description This command allows to retrieve the output status (on or off) of the power supply.

Syntax PSL_ACQ_ON _OFF_STAT < POWER_SELECTION > <Status> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

Status [ON, OFF]: output status (on or off) that must be returned from the power supply ;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_ACQ_ON_OFF_STAT PSL2 ON [1]

PSL2 1 is the power selection label.

ON means that the instrument must be returned the output value ON.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 87 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.3. PSL_SET_VOLT_CURR

Description This command allows to set the voltage and the current value.

Syntax

PSL_SET_VOLT_CURR <POWER_SELECTION> <TRACK_SELECTION> <Voltage> <Current> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

TRACK_SELECTION [OUT1, OUT2] : assigned output port.

Voltage [(0÷36,05) V] : voltage value;

Current [(0÷1,442) A] : current value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_SET_VOLT_CURR PLS1 OUT1 2 1 [1]

PLS1 is the power selection label;

OUT1 is the output port label;

2 is the voltage value;

1 is the current value.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 88 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.4. PSL_SET_CURR

Description This command allows to set the current value.

Syntax

PSL_SET_CURR <POWER_SELECTION> <TRACK_SELECTION> <Current> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

TRACK_SELECTION [OUT1, OUT2] : assigned output port.

Current [(0÷1,442) A] : current value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_SET_CURR PLS1 OUT1 0,895 [1]

PLS1 is the power selection label;

OUT1 is the output port label;

0,895 is the current value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 89 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.5. PSL_SET_VOLT

Description This command allows to set the voltage value.

Syntax

PSL_SET_VOLT < POWER_SELECTION > <TRACK_SELECTION> <Voltage> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus

TRACK_SELECTION [OUT1, OUT2] : assigned output port

Voltage [(0÷36,05) V] : voltage value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_SET_VOLT PLS1 OUT1 24 [1]

PLS1 is the power selection label;

OUT1 is the output port label;

24 is the voltage value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 90 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.6. PSL_ACQ_CURR_MEAS

Description This command allows to perform a current measure. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax

PSL_ACQ_CURR_MEAS <POWER_SELECTION> <TRACK_SELECTION> <min value> <max value> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

TRACK_SELECTION [OUT1, OUT2] : assigned output port.

min value: minimum acceptable value expressed in [A].

max value: maximum acceptable value expressed in [A].

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_ACQ_CURR_MEAS PLS1 OUT1 0.1 0.5 [1]

PLS1 is the power selection label;

OUT1 is the output port label;

0.1 is the min value for the current;

0.5 is the max value for the current;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 91 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.7. PSL_ACQ_VOLT_MEAS

Description This command allows to perform a voltage measure. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax

PSL_ACQ_VOLT_MEAS <POWER_SELECTION> <TRACK_SELECTION> <min value> <max value> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

TRACK_SELECTION [OUT1, OUT2] : assigned output port.

min value: minimum acceptable value expressed in [V].

max value: maximum acceptable value expressed in [V].

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_ACQ_VOLT_MEAS PLS1 OUT1 4 10 [1]

PLS1 is the power selection label;

OUT1 is the output port label;

4 id the min value for the voltage;

10 is the max value for the voltage;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 92 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.8. PSL_SET_VOLTAGE_PROTECT

Description This command allows to set the value of the voltage protection.

Syntax

PSL_SET_VOLTAGE_PROTECT <POWER_SELECTION> <TRACK_SELECTION> <OVP> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

TRACK_SELECTION [OUT1, OUT2] : assigned output port.

OVP [(0÷36,05) V] : voltage protection value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_SET_VOLTAGE_PROTECT PLS1 OUT1 30 [1]

PLS1 is the power selection label;

OUT1 is the output port label;

30 is the voltage value chosen protection;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 93 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.9. PSL_AUTOTEST

Description This command allows to run the embedded auto-test of the instrument.

Syntax PSL_AUTOTEST <POWER_SELECTION> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_AUTOTEST PLS1 [1]

PLS1 is the power selection label;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 94 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.3.10. PSL_RESET

Description This command allows to reset the instrument.

Syntax PSL_RESET <POWER_SELECTION> [Error-flag]

Where:

POWER_SELECTION [PLS1, PLS2]: assigned address of the PAD GPIB Bus.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSL_RESET PLS1 [1]

PLS1 is the power selection label;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.5.4. Agilent 6644A

Instrument identification: Agilent 6644A



Use: This unit is used to supply single voltage 0-60V, 3.5A.

- PSM_SET_OUTPUT_ON_OFF;
- PSM_ACQ_ON_OFF_STAT;
- PSM_SET_CURR;
- PSM_SET_VOLT;
- PSM_ACQ_CURR_MEAS;
- PSM_ACQ_VOLT_MEAS;
- PSM_SET_VOLT_PROTECT;
- PSM_AUTOTEST;
- PSM_RESET;
- PSM_ACQ_MEAS_FROM_FILE.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 97 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.4.1. PSM_SET_OUTPUT_ON_OFF

Description This command allows to set the output on/ off of the power supply.

Syntax PSM_SET_OUTPUT_ON_OFF <POWER_SELECTION > <Status> [Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

Status [ON, OFF]: it is the status (on or off) of the output;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_SET_OUTPUT_ON_OFF PSM1 ON [1]

PSM1 is the power selection label;

ON means that the output is turned on;

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 98 of 213 Date : 17/06/2014
-----------------------	------------	--

6.3.5.4.2. PSM_ACQ_ON_OFF_STAT

Description This command allows to retrieve the output status (on or off) of the power supply

Syntax PSM_ACQ_ON_OFF_STAT <POWER_SELECTION> <Status> [Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

Status [ON, OFF]: output status (on or off) that must be returned from the power supply;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_ACQ_ON_OFF_STAT PSM1 ON [1]

In this example,

PSM1 is the power selection label;

ON means that the instrument must be returned the output value ON

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 99 of 213 Date : 17/06/2014
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6.3.5.4.3. PSM_SET_CURR

Description This command allows to set the current value.

Syntax PSM_SET_CURR <POWER_SELECTION> <Current> [Error-flag]

Where:

POWER_SELECTION : assigned address of the PAD GPIB Bus.

Current [(0÷3,5) A] : it is the current value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_SET_CURR PSM1 0,895 [1]

PSM1 is the power selection label;

0,895 is the current value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 100 of 213 Date : 17/06/2014
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6.3.5.4.4. PSM_SET_VOLT

Description This command allows to set the voltage value.

Syntax PSM_SET_VOLT <POWER_SELECTION> <Voltage> [Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

Voltage [(0÷5,5) V]: it is the voltage value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_SET_VOLT PSM1 3 [1]

PSM1 is the power selection label;

3 is the voltage value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 101 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.4.5. PSM_ACQ_CURR_MEAS

Description This command allows to perform a current measure. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax PLS_ACQ_ CURR_MEAS <POWER_SELECTION> <min value> <max value>
[Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

min value: minimum acceptable value expressed in [A].

max value: maximum acceptable value expressed in [A].

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_ACQ_ CURR_MEAS PSM1 0.1 0.5 [1]

PSM1 is the power selection label;

0.2 is the min value for the current;

0.5 is the max value for the current;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 102 of 213 Date : 17/06/2014
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6.3.5.4.6. PSM_ACQ_VOLT_MEAS

Description This command allows to acquire the data about a voltage measure. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax PSM_ACQ_VOLT_MEAS <POWER_SELECTION> <min value> <max value>
[Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

min value: minimum acceptable value expressed in [V].

max value: maximum acceptable value expressed in [V].

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_ACQ_VOLT_MEAS PSM1 4 5 [1]

In this example,

PSM1 is the power selection label;

4 id the min value for the voltage;

5 is the max value for the voltage;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 103 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.4.7. PSM_SET_VOLTAGE_PROTECT

Description This command allows to set the value of the voltage protection.

Syntax PSM_SET_VOLTAGE_PROTECT <POWER_SELECTION> <OVP> [Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

OVP [(0÷5,5) V] : value of the voltage protection;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_SET_VOLTAGE_PROTECT PSM1 4 [1]

PSM1 is the power selection label;

4 is the voltage value chosen protection;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 104 of 213 Date : 17/06/2014
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6.3.5.4.8. PSM_AUTOTEST

Description This command allows to run the embedded auto-test of the instrument.

Syntax PSM_AUTOTEST <POWER_SELECTION> [Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_AUTOTEST PSM1 [1]

PSM1 is the power selection label;
[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 105 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.4.9. PSM_RESET

Description This command allows to reset the instrument.

Syntax PSM_RESET <POWER_SELECTION> [Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSM_RESET PSM1 [1]

PSM1 is the power selection label;

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 106 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.4.10. PSM_ACQ_MEAS_FROM_FILE

Description This command allows to perform a voltage or current measure. The value returned from the instrument will be checked within a range specified by a label that specified the min and max range values in a text or excel file.

Syntax

PSM_ACQ_MEAS_FROM_FILE <POWER_SELECTION> <Measure Type> <File name> <Sheet> <Label>
[Error-flag]

Where:

POWER_SELECTION: assigned address of the PAD GPIB Bus.

Measure type: voltage or current.

File: The name of the file where the range labels are.

Sheet: If <File> is a excel file, it specifies the sheet where the range labels are, else don't care.

Label: Is the string that is used to extract the values [min, max] of the range.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

**PSL_ACQ_CURR_MEAS_FROM_FILE PSM1 OUT1 VOLTAGE "My_file.txt" ""
"MY_RANGE" [1]**

PSM1 is the power selection label;

OUT1 is the output port label;

VOLTAGE is the type of measure

MyFile.txt is the file name

MY_RANGE is the label that contains the min and max range values

[1] means that the test sequence will stop if the test will be not passed.

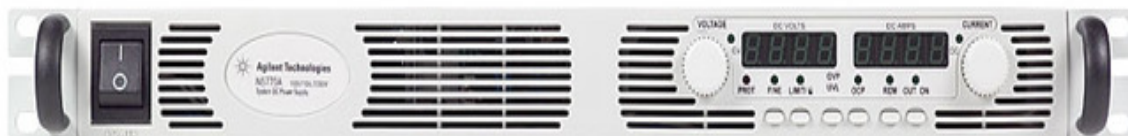
Database

N.A.

Modulo:
M-NT Nota Tecnica_000.doc

6.3.5.5. Agilent N5747A

Instrument identification: Agilent N5747A



Use: This unit is used to supply single voltage 0-60V, 12.5A.

- PSH_SET_OUTPUT_ON_OFF;
- PSH_ACQ_ON_OFF_STAT;
- PSH_SET_CURR;
- PSH_SET_VOLT;
- PSH_ACQ_CURR_MEAS;
- PSH_ACQ_VOLT_MEAS;
- PSH_RESET;
- PSH_VOLT_LIMIT;
- PSH_VOLT_PROT_LEVEL;
- PSH_CURR_PROT_STATUS;
- PSH_ACQ_MEAS_FROM_FILE.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 108 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.5.1. PSH_SET_OUTPUT_ON_OFF

Description This command allows to set the output on/off of the power supply.

Syntax PSH_SET_OUTPUT_ON_OFF <POWER_SELECTION> <Status> [Error-flag]

Where:

POWER_SELECTION [PSH1, PSH2]: assigned address of the PAD GPIB Bus.

Status [ON, OFF]: status (on or off) of the output;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSH_SET_OUTPUT_ON_OFF PSH1 OFF [1]

PSH1 is the power selection code.

ON means that the output is turning on.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 109 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.5.2. PSH_ACQ_OUTPUT_ON_OFF

Description This command allows to retrieve the output status (on or off) of the power supply.

Syntax PSH_ACQ_ON _OFF < POWER_SELECTION > <Status> [Error-flag]

Where:

POWER_SELECTION [PSH1, PSH2]: assigned address of the PAD GPIB Bus.

Status [ON, OFF]: output status (on or off) that must be returned from the power supply;;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSH_ACQ_ON_OFF_STAT PSH1 OFF [1]

PSH1 1 is the power selection label.

OFF means that the output is off.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 110 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.5.3. PSH_SET_CURR

Description This command allows to set the current value.

Syntax PSH_SET_CURR <POWER_SELECTION> <Current> [Error-flag]

Where:

POWER_SELECTION [PSH1, PSH2]: assigned address of the PAD GPIB Bus.

Current [(0÷12,5) A] : current value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSH_SET_CURR PSH1 0.5 [1]

PSH1 is the power selection label;

0,5 is the current value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 111 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.5.4. PSH_SET_VOLT

Description This command allows to set the voltage value.

Syntax PSH_SET_VOLT < POWER_SELECTION > <Voltage> [Error-flag]

Where:

POWER_SELECTION [PSH1, PSH2]: assigned address of the PAD GPIB Bus.

Voltage [(0÷62,85) V]: voltage value;

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSH_SET_VOLT PSH1 23 [1]

PSH1 is the power selection label;

23 is the voltage value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 112 of 213 Date : 17/06/2014
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6.3.5.5.5. PSH_ACQ_CURR_MEAS

Description This command allows to perform a current measure. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax PSH_ACQ_CURR_MEAS <POWER_SELECTION> <min value> <max value> [Error-flag]

Where:

POWER_SELECTION [PSH1, PSH2]: assigned address of the PAD GPIB Bus.

min value: minimum acceptable value expressed in [A].

max value: maximum acceptable value expressed in [A].

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSH_ACQ_CURR_MEAS PSH1 0 0.0001 [1]

PSH1 is the power selection label;

0 is the min value for the current;

0.0001 is the max value for the current;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 113 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.5.6. PSH_ACQ_VOLT_MEAS

Description This command allows to perform a voltage measure. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax PSH_ACQ_VOLT_MEAS <POWER_SELECTION> <min value> <max value> [Error-flag]

Where:

POWER_SELECTION [PSH1, PSH2]: assigned address of the PAD GPIB Bus.

min value: minimum acceptable value expressed in [V].

max value: maximum acceptable value expressed in [V].

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

PSH_ACQ_VOLT_MEAS PSH1 22.8 23.2 [1]

PSH1 is the power selection label;

22.8 is the min value for the voltage;

23.8 is the max value for the voltage;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 114 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.5.5.7. PSH_VOLT_LIMIT (T.B.W.)

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 115 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.5.5.8. PSH_CURR_PROT_STATUS (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 116 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.5.5.9. PSH_VOLT_PROT_LEVEL (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 117 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.5.5.10. PSH_RESET (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 118 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.5.5.11. PSH_ACQ_MEAS_FROM_FILE (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

6.3.6. Multimeter

Instrument identification: Agilent 34401A



Use: This unit is used as the default rack-mounted instrument for voltage and current measurements.

- DMM_SET_CONFIG_VOLTAGE;
- DMM_ACQ_MEASURE_VOLTAGE;
- DMM_SET_CONFIG_CURRENT ;
- DMM_ACQ_MEASURE_CURRENT ;
- DMM_SET_CONFIG_RESISTANCE ;
- DMM_ACQ_MEASURE_RESISTANCE ;
- DMM_SET_CONFIG_RES_4WIRE;
- DMM_ACQ_MEASURE_RES_4WIRE;
- DMM_SET_CONFIG_FREQUENCY ;
- DMM_ACQ_MEASURE_FREQUENCY;
- DMM_SET_TRIGGER_STATUS ;
- DMM_SET_TRIGGER_DELAY ;
- DMM_ACQ_READ ;
- DMM_AUTOTEST;
- DMM_RESET;
- DMM_ACQ_READ_FROM_FILE;
- DMM_SET_ACTUAL_INSTR.

6.3.6.1. DMM_SET_CONFIG_VOLTAGE

Description This command allows to set the voltage configuration.

Syntax DMM_SET_CONFIG_VOLTAGE < Type > < Range > < Resolution > [Error-flag]

Where:

Type [AC,DC]: it allows to set the type of the measurement.

Range: it allows to set the range, choosing one of the items present in the following table.

100mV
1V
10V
100V
1000V
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_SET_CONFIG_VOLTAGE DC DEF DEF [1]

In this example,

DC is the type of the measurement;

DEF is the range;

DEF is resolution chosen;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.6.2. DMM_ACQ_MEASURE_VOLTAGE

Description This command allows to perform a voltage measurement. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax

DMM_ACQ_MEASURE_VOLTAGE <Type> <Range> <Resolution> <Min Value> <Man Value> [Error-flag]

Where:

Type [AC,DC]: it allows to set the type of measurement.

Range: it allows to set the range, choosing the value present in the following table:

100mV
1V
10V
100V
1000V
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Min Value [V]: minimum value expressed in voltage.

Max value [V]: maximum value expressed in voltage.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_ACQ_MEASURE_VOLTAGE DC DEF DEF 1 10 [1]

DC is the type of the measurement;

DEF is the range;

DEF is resolution chosen;

1 is the min voltage value;

10 is the max voltage value;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.6.3. DMM_SET_CONFIG_CURRENT

Description This command allows to set the current configuration.

Syntax

DMM_SET_CONFIG_CURRENT <Type> <Range> <Resolution> [Error-flag]

Where:

Type [AC,DC]: it allows to set the type of the measurement.

Range: it allows to set the range, choosing the value present in the following table:

10mA
100mA
1A
10A
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_SET_CONFIG_CURRENT DC 10mA DEF [1]

DC is the type of the measurement;

10Ma is the current range;

DEF is resolution chosen;

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

6.3.6.4. DMM_ACQ_MEASURE_CURRENT

Description This command allows to perform a current measurement. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax

DMM_ACQ_MEASURE_CURRENT <Type> <Range> <Resolution> <min value> <max value> [Error-flag]

Where:

Type [AC,DC]: it allows to set the type of the measurement.

Range: it allows to set the range, choosing the value present in the following table:

10mA
100mA
1A
10A
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Min Value [A] : it the minimum acceptable value expressed in Ampere.

Max value [A]: it is the maximum acceptable value expressed in Ampere.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_ACQ_MEASURE_CURRENT DC 10mA DEF 2 8 [1]

DC is the type of the measurement;

10Ma is the current range;

DEF is resolution chosen;

1 is the min value of the current;

8 is the max value of the current;

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

6.3.6.5. DMM_SET_CONFIG_RESISTANCE and DMM_SET_CONFIG_RES_4WIRE

Description This command allows to set the configuration about a resistance measure (2-wire or 4-wire).

Syntax

DMM_SET_CONFIG_RESISTANCE <Range> <Resolution> [Error-flag]
DMM_SET_CONFIG_RES_4WIRE <Range> <Resolution> [Error-flag]

Where:

Range: it allows to set the range, choosing the value present in the following table:

100ohm
1Kohm
10Kohm
100Kohm
1Mohm
10Mohm
100Mohm
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_SET_CONFIG_RESISTANCE 100Kohm DEF [1]
DMM_SET_CONFIG_RES_4WIRE 100Kohm DEF [1]

100Kohm is the resistance range;

DEF is resolution chosen;

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.6.6. DMM_ACQ_MEASURE_RESISTANCE and DMM_ACQ_MEASURE_RES_4WIRE

Description This command allows to perform the a resistance measurement (2-wire or 4-wire). The value returned from the instrument will be checked within a range specified by min and max values.

Syntax

```
DMM_ACQ_MEASURE_RESISTANCE <Range> <Resolution> <min value> <max value> [Error-flag]
DMM_ACQ_MEASURE_RES_4WIRE <Range> <Resolution> <min value> <max value> [Error-flag]
```

Where:

Range: it allows to set the range, choosing the value present in the following table:

100ohm
1Kohm
10Kohm
100Kohm
1Mohm
10Mohm
100Mohm
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Min Value [Ohm] : acceptable minimum value expressed in Ohm.

Max value [Ohm]: acceptable maximum value expressed in Ohm.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.
-

Example

```
DMM_ACQ_MEASURE_RESISTANCE 100Kohm DEF 500 150000 [1]
DMM_ACQ_MEASURE_RES_4WIRE 100Kohm DEF 500 150000 [1]
```

100Kohm is the resistance range;

DEF is resolution chosen;

500 is the min value;

150000 is the max value;

[1] means that the test sequence will stop if the test will be not passed.

6.3.6.7. DMM_SET_CONFIG_FREQUENCY

Description This command allows to set the configuration for a frequency measurement.

Syntax

DMM_SET_CONFIG_FREQUENCY <Range> <Resolution> [Error-flag]

Where:

Range: it allows to set the range, choosing the value present in the following table:

100mV
1V
10V
100V
1000V
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_SET_CONFIG_FREQUENCY DEF DEF [1]

DEF is the frequency range;

DEF is resolution chosen;

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

6.3.6.8. DMM_ACQ_MEASURE_FREQUENCY

Description This command allows to perform a frequency measurement. The value returned from the instrument will be checked within a range specified by min and max values.

Syntax

DMM_ACQ_MEASURE_FREQUENCY <Range> <Resolution> <min value> <max value>[Error-flag]

Where:

Range: it allows to set the range, choosing the value present in the following table:

100mV
1V
10V
100V
1000V
MIN
MAX
DEF

Resolution [MIN, MAX, DEF]: it allows to set the resolution.

Min Value [Hz] : acceptable minimum value expressed in Hz.

Max value [Hz]: acceptable maximum value expressed in Hz.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_ACQ_MEASURE_FREQUENCY DEF DEF 124900 125100 [1]

DEF is the frequency range;

DEF is resolution chosen;

124900 is the min value;

125100 is the max value;

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 128 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.9. DMM_SET_TRIGGER_STATUS

Description This command allows to set the trigger configuration.

Syntax DMM_SET_TRIGGER_STATUS <Trigger> < [Error-flag]

Where:

Trigger [BUS, IMMEDIATE, EXTERNAL] : it allows to set the trigger that the multimeter accepts from a remote interface, setting:

- BUS = if the trigger is software;
- IMMEDIATE= if the trigger is internal and immediate;
- EXTERNAL= if the trigger is hardware.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_SET_TRIGGER BUS [1]

BUS is the trigger type.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 129 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.10. DMM_SET_TRIGGER_DELAY

Description This command allows to set a time interval which is inserted before a measurement.

Syntax DMM_SET_TRIGGER_DELAY <TRIG_DELAY> < DELAY> < [Error-flag]

Where:

TRIG_DELAY [ON, OFF] : it allows to enable or not a time interval which is inserted before a measurement, setting

- ON= if the trigger delay is enabled;
- OFF= is the trigger delay is disabled.

DELAY [(0÷3600)s] : it allows to specify the delay in sec.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_SET_TRIGGER_DELAY ON 50 [1]

ON means that the delay is enabled.

50 is the time interval in sec.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 130 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.11. DMM_ACQ_READ

Description This command allows to read the data measurement.

Syntax DMM_ACQ_READ <min> < max> <udm> [Error-flag]

Where:

Min : it allows to set the minimum acceptable value about a measurement.

Max : it allows to set the maximum acceptable value about a measurement.

Udm: it specifies the unit of measure

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_ACQ_READ 0 1 “volt” [0]

0 is the min value.

1 is the max value.

Volt is the unit of measure.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 131 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.12. DMM_AUTOTEST

Description This command allows to run the embedded auto-test.

Syntax DMM_AUTOTEST [Error-flag]

Where:

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_AUTOTEST [0]

In this example,
[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 132 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.13. DMM_RESET

Description This command allows to reset the instrument.

Syntax DMM_RESET [Error-flag]

Where:

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DMM_RESET [0]

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 133 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.14. DMM_ACQ_READ_FROM_FILE (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 134 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.6.15. DMM_SET_ACTUAL_INSTR (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

6.3.7. Oscilloscopes

Instrument identification: Tektronics DPO7054



Use: This unit is used as the default rack-mounted oscilloscope

- SCP_SET_HORIZONTAL_MODE_SCALE
- SCP_SET_HORIZONTAL_MODE
- SCP_SET_HORIZONTAL_MODE_SAMPLE_RATE
- SCP_SET_HORIZONTAL_MODE_ROLL
- SCP_SET_HORIZONTAL_RECORDLENGTH
- SCP_SET_HORIZONTAL_MODE_LIMIT_REC_LENGTH
- SCP_SET_HORIZONTAL_MAIN_POSITION
- SCP_SET_VERTICAL_BANDWIDTH
- SCP_SET_VERTICAL_COUPLING
- SCP_SET_VERTICAL_LABEL
- SCP_SET_VERTICAL_POSITION
- SCP_SET_VERTICAL_SCALE
- SCP_SET_VERTICAL_CH_TERMINATION
- SCP_SET_TRIGGER_FORCE
- SCP_SET_TRIGGER_LEVEL_TO_50%
- SCP_SET_TRIGGER_EDGE_COUPLING
- SCP_SET_TRIGGER_EDGE_SLOPE
- SCP_SET_TRIGGER_EDGE_SLOPE_AUX
- SCP_SET_TRIGGER_EDGE_SOURCE
- SCP_SET_TRIGGER_MODE
- SCP_SET_TRIGGER_STATE
- SCP_SET_TRIGGER_LEVEL
- SCP_SET_FILESYSTEM_COPY
- SCP_SET_FILESYSTEM_CWD
- SCP_SET_FILESYSTEM_DELETE
- SCP_SET_FILESYSTEM_MKDIR
- SCP_SET_FILESYSTEM_RENAME
- SCP_SET_FILESYSTEM_RMDIR
- SCP_SET_EXPORT_SETTINGS

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 136 of 213 Date : 17/06/2014
-----------------------	------------	---

- SCP_SET_EXPORT_START
- SCP_SET_HARDCOPY_SETTINGS
- SCP_SET_HARDCOPY_START
- SCP_SET_MEASURE_IMMED_TYPE
- SCP_ACQ_MEASURE_IMMED
- SCP_SET_CHANNEL_STATE
- SCP_SET_WAVEFORM_STATE
- SCP_SET_MATH_DEFINE
- SCP_SET_SAVE_WAVEFORM
- SCP_SET_LOCK_FRONT_PANEL
- SCP_RESET
- SCP_AUTOTEST
- SCP_SET_MATH_EDITOR
- SCP_DIS_CLOCK
- SCP_DIS_WAVEFORM
- SCP_DIS_PERSISTENCE_RESET
- SCP_DIS_SCREEN_TEXT
- SCP_DIS_LABEL_TEXT_SHOW
- SCP_DIS_SET_LABEL_TEXT
- SCP_ACQ_MODE
- SCP_ACQ_NUM_SAMPLES
- SCP_ACQ_STATE
- SCP_STOP_AFTER
- SCP_SET_TRIGGER_HOLDOFF
- SCP_TRIGGER_IS_READY
- SCP_ACQ_MEASURE_IMMED_FROM_FILE
- SCP_SET_ACTUAL_INSTR

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 137 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.1. SCP_SET_HORIZONTAL_MODE_SCALE

Description This command allows to set the horizontal scale.

Syntax SCP_SET_HORIZONTAL_MODE_SCALE < Horizontal Scale> [Error-flag]

Where:

Horizontal Scale [(2,5e-11÷1e+3) s/div] : it allows to set the horizontal scale.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_MODE_SCALE 100 [0]

100 means that the horizontal scale is set to 100 ms per division.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 138 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.2. SCP_SET_HORIZONTAL_MODE

Description This command allows to set the horizontal acquisition mode.

Syntax SCP_SET_HORIZONTAL_MODE <Mode> [Error-flag]

Where:

Mode [AUTO, CONSTANT, MANUAL] : it allows to set the horizontal mode, setting:

- AUTO;
- CONSTANT;
- MANUAL.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_MODE AUTO [0]

AUTO means that the default mode is enabled.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 139 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.3. SCP_SET_HORIZONTAL_MODE_SAMPLE_RATE

Description This command allows to set the sample rate for the horizontal acquisition to capture single-shot or transient events.

Syntax SCP_SET_HORIZONTAL_MODE_SAMPLE_RATE <Sample Rates> [Error-flag]

Where:

Sample Rates [(1e+7÷1e+10) MS/s] : it allows to set the sample rate.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_MODE_SAMPLE_RATE 1000 [0]

1000 is the sample rate.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 140 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.4. SCP_SET_HORIZONTAL_MODE_ROLL

Description This command allows to set the roll mode.

Syntax SCP_SET_HORIZONTAL_MODE_ROLL <Roll> [Error-flag]

Where:

Roll [AUTO, ON, OFF] : it allows to enable or not the roll mode, setting:

- AUTO= to turn on automatically the roll mode;
- ON= to turn on the roll mode;
- OFF= to turn off the roll mode.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_MODE_ROLL OFF [0]

OFF means that the roll mode is turned off.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 141 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.5. SCP_SET_HORIZONTAL_RECORDLENGTH

Description This command allows to set the waveform record-length for the horizontal acquisition.

Syntax SCP_SET_HORIZONTAL_RECORDLENGTH < Record Length > [Error-flag]

Where:

Record Length [(1e+6÷1e+7) M] : it allows to set the length.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_RECORDLENGTH 1e+6 [0]

1e+6 is the length.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 142 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.6. SCP_SET_HORIZONTAL_MODE_LIMIT_REC_LENGTH

Description This command allows to set the limit for the waveform record length for the horizontal acquisition.

Syntax

SCP_SET_HORIZONTAL_MODE_LIMIT_REC_LENGTH < Limit Record Length > [Error-flag]

Where:

Limit Record Length [(1e+3÷1e+7) M] : it allows to set the limit length.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_MODE_LIMIT_REC_LENGTH 1e+6 [0]

1e+6 is the length.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 143 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.7. SCP_SET_HORIZONTAL_MAIN_POSITION

Description This command allows to set the trigger point.

Syntax

SCP_SET_HORIZONTAL_MAIN_POSITION < Main Position> [Error-flag]

Where:

Main Position [(0÷100) %] : it allows to set trigger point on the waveform record.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HORIZONTAL_ MAIN_POSITION 50 [0]

50 is relative to the trigger point.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 144 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.8. SCP_SET_VERTICAL_BANDWIDTH

Description This command allows to set the vertical bandwidth.

Syntax SCP_SET_VERTICAL_BANDWIDTH < Channel> < Bandwidth> [Error-flag]

Where:

Channel [1÷4]: it allows to select the channel.

Bandwidth [20MHz, 250MHz, 150MHz, 500MHz, FULL_BW] : it allows to set bandwidth, selecting a value.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_VERTICAL_ BANDWIDTH 20MHz [0]

In this example,

20MHz is the bandwidth.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 145 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.9. SCP_SET_VERTICAL_COUPLING

Description This command allows to set the coupling type for the input channel.

Syntax SCP_SET_VERTICAL_COUPLING < Channel> < Coupling> [Error-flag]

Where:

Channel [1÷4]: allows to select the channel.

Coupling [AC, DC, GND, DCREJECT] : allows to select one of the coupling types

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_VERTICAL_COUPLING 1 GND [1]

1 is the channel.

GND is the coupling type chosen.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.7.10. SCP_SET_VERTICAL_LABEL

Description This command allows to set the vertical label about a waveform.

Syntax

SCP_SET_VERTICAL_LABEL < SEL_WAVEFORM> < Label > <X Position> <Y Position> [Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

Label : it allows to assign a label to the waveform selected.

X Position [0÷10]: it is the position on the horizontal axis.

Y Position [-10÷10]: it is the position on the vertical axis.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_VERTICAL_LABEL CH2 P5VRT 1 6 [1]

CH2 is the waveform

P5VRT is the label

1 is the position on the horizontal axis

6 is the position on the vertical axis

[1] means that the test sequence will stop if the test will be not passed

Database

N.A.

6.3.7.11. SCP_SET_VERTICAL_POSITION

Description This command allows to set the vertical position of the waveform.

Syntax

SCP_SET_VERTICAL_POSITION < SEL_WAVEFORM> < Ch Position > [Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

Ch Position [-8 ÷ 8]: it allows to drag to change vertical position of waveform.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_VERTICAL_POSITION CH2 1 [1]

In this example,

CH2 is the waveform.

1 is the vertical position.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.7.12. SCP_SET_VERTICAL_SCALE

Description This command allows to set the vertical scale.

Syntax SCP_SET_VERTICAL_SCALE < SEL_WAVEFORM> < Scale> [Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

Scale [(0,001÷10) V/div]: it allows to set the scale expressed in V/div.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_VERTICAL_SCALE CH2 2 [1]

In this example,

CH2 is the waveform.

2 is referred to the scale.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 149 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.13. SCP_SET_VERTICAL_CH_TERMINATION

Description This command allows to set the probe attenuation.

Syntax SCP_SET_VERTICAL_CH_TERMINATION < Channel > <Termination> [Error-flag]

Where:

Channel [1÷4]: it allows to select the channel.

Termination [50_Ohm, 1_MOhm]: it allows to set the probe attenuation.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_VERTICAL_CH_TERMINATION 1 50_Ohm [1]

In this example,

1 is the waveform.

50_Ohm is the probe attenuation.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 150 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.14. SCP_SET_TRIGGER_FORCE

Description This command allows to force the instrument to trigger with an edge trigger.

Syntax SCP_SET_TRIGGER_FORCE [Error-flag]

Where:

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_FORCE [1]

In this example,
[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 151 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.15. SCP_SET_TRIGGER_LEVEL_TO_50%

Description This command allows to set the trigger point at the 50% of that edge.

Syntax SCP_SET_TRIGGER_LEVEL_TO_50% < Trigger Selection > [Error-flag]

Where:

Trigger Selection [TRIGGER_A, TRIGGER_B]: it allows to set the label for the trigger point.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_LEVEL_TO_50% TRIGGER_A [1]

In this example,

TRIGGER_A is the label put on the trigger point selected.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 152 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.16. SCP_SET_TRIGGER_EDGE_COUPLING

Description This command allows to set what part of the signal is passed to the trigger circuit.

Syntax

SCP_SET_TRIGGER_EDGE_COUPLING < Trigger Selection > < Trigger Coupling> <Channel> [Error-flag]

Where:

Trigger Selection [TRIGGER_A, TRIGGER_B]: it allows to set the label for the trigger point.

Trigger Coupling [AC, DC, HF_REJECT, LF_REJECT, NOISE_REJECT, A_TRIGGER] : it allows to select the coupling setting one of the following items:

- AC,
- DC,
- HF_REJECT,
- LF_REJECT,
- NOISE_REJECT,
- A_TRIGGER.

Channel [0÷4]: it allows to select the channel.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_EDGE_COUPLING TRIGGER_A AC 1 [1]

In this example,

TRIGGER_A is the label put on the trigger point selected.

AC is the coupling type selected.

1 is the channel selected.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 153 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.17. SCP_SET_TRIGGER_EDGE_SLOPE

Description This command allows to set the trigger point on the rising or the falling edge of a signal.

Syntax

SCP_SET_TRIGGER_EDGE_SLOPE < Trigger Selection > < Trigger Slope> <Channel> [Error-flag]

Where:

Trigger Selection [TRIGGER_A, TRIGGER_B]: it allows to set the label for the trigger point.

Trigger Slope [RISE, FALL, EITHER] : it allows to set the trigger point, in particular :

- RISE to put the trigger point on the rising edge of the signal;
- FALL to put the trigger point on the falling edge of the signal;
- EITHER to put the trigger point on the rising and falling edge of the signal.

Channel [0÷4]: it allows to set the channel.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_EDGE_SLOPE TRIGGER_A RISE 1 [1]

In this example,

TRIGGER_A is the label put on the trigger point selected.

RISE means that the trigger point is located on the rising edge of the signal.

1 is the channel.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.7.18. SCP_SET_TRIGGER_EDGE_SLOPE_AUX

Description This command allows to set the trigger point on the rising or the falling edge of an auxiliary input signal.

Syntax

SCP_SET_TRIGGER_EDGE_SLOPE_AUX < Trigger Selection > < Trigger Slope> [Error-flag]

Where:

Trigger Selection [TRIGGER_A, TRIGGER_B]: it allows to set the label for the trigger point.

Trigger Slope [RISE, FALL, EITHER] : it allows to set the trigger point, in particular :

- RISE to put the trigger point on the rising edge of the signal;
- FALL to put the trigger point on the falling edge of the signal;
- EITHER to put the trigger point on the rising and falling edge of the signal.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_EDGE_SLOPE TRIGGER_A RISE [1]

In this example,

TRIGGER_A is the label put on the trigger point selected.

RISE means that the trigger point is located on the rising edge of the signal.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

6.3.7.19. SCP_SET_TRIGGER_EDGE_SOURCE

Description This command allows to set the trigger source.

Syntax

SCP_SET_TRIGGER_EDGE_SOURCE < Trigger Selection > <Trigger Source> [Error-flag]

Where:

Trigger Selection [TRIGGER_A, TRIGGER_B]: it allows to set the label for the trigger point.

Trigger Source: it allows to select the source, setting one of the items present in the following table:

CH1
CH2
CH3
CH4
AUX
LINE

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_EDGE_SOURCE TRIGGER_A CH1 [1]

In this example,

TRIGGER_A is the label put on the trigger point selected.

CH1 is the source selected.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 156 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.20. SCP_SET_TRIGGER_MODE

Description This command allows to set how the instrument behaves in the absence of a trigger event.

Syntax SCP_SET_TRIGGER_MODE <Trigger Mode> [Error-flag]

Where:

Trigger mode [AUTO, NORMAL]: it allows to select the trigger mode, setting:

- AUTO = enables the instrument to acquire a waveform even if a trigger does not occur.
- NORMAL = enables the instrument to acquire a waveform only when it is triggered.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_MODE AUTO [1]

In this example,

AUTO means that the waveform will be acquired even if the trigger event is not present.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 157 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.21. SCP_SET_TRIGGER_STATE

Description This command allows to select the turning on or turning off of the trigger.

Syntax SCP_SET_TRIGGER_STATE < Trigger State> [Error-flag]

Where:

Trigger State [ON, OFF]: it allows to select the trigger state, setting:

- ON = to select the trigger;
- OFF = to unselect the trigger.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_STATE ON [1]

In this example,

ON means that the trigger status is turning on.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 158 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.22. SCP_SET_TRIGGER_LEVEL

Description This command allows to select the trigger source and set for it the level.

Syntax

SCP_SET_TRIGGER_LEVEL < Trigger Selection > < Trigger Level > [Error-flag]

Where:

Trigger Selection [TRIGGER_A, TRIGGER_B]: it allows to select the trigger event.

Trigger Level [(-50÷50) V] : it allows to set where on that edge the trigger point occurs.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

SCP_SET_TRIGGER_LEVEL TRIGGER_A 2.5 [1]

In this example,

TRIGGER_A is the trigger event.

2.5 is the level in voltage.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 159 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.23. SCP_SET_FILESYSTEM_COPY

Description This command allows to copy a file.

Syntax

SCP_SET_FILESYSTEM_COPY < source file > < destination file > [Error-flag]

Where:

Source file: it allows to select the source file to copy

Destination file: it allows to select the destination file.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_FILESYSTEM_COPY C:\TEM-S000\Sequences\ file-to-copy.txt C:\TEM-S000\Sequences\ destination.txt [1]

In this example,

file-to-copy.txt is the source file.

destination.txt is the destination file

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 160 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.24. SCP_SET_FILESYSTEM_CWD

Description This command allows to set the current working directory.

Syntax SCP_SET_FILESYSTEM_CWD < Current Work Directory> [Error-flag]

Where:

Current Work Directory: it allows to select the current work directory.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_FILESYSTEM_CWD C:\TEM-S000\Sequences [1]

In this example,

Sequences is the current work directory.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 161 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.25. SCP_SET_FILESYSTEM_DELETE

Description This command allows to delete a file.

Syntax SCP_SET_FILESYSTEM_DELETE < File Name > [Error-flag]

Where:

File Name: it allows to select the file to delete.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_FILESYSTEM_DELETE C:\TEM-S000\Sequences\file-to-delete.txt [1]

In this example,

File-to-delete.txt is the file to delete.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 162 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.26. SCP_SET_FILESYSTEM_MKDIR

Description This command allows to create a directory.

Syntax SCP_SET_FILESYSTEM_MKDIR < New Directory Path > [Error-flag]

Where:

New Directory Path: it allows to select the path of the new directory.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_FILESYSTEM_MKDIR C:\TEM-S000\new-folder [1]

In this example,

C:\TEM-S000\new-folder is the path.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 163 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.27. SCP_SET_FILESYSTEM_RENAME

Description This command allows to rename a file.

Syntax SCP_SET_FILESYSTEM_RENAME < Old File Name> < New File Name> [Error-flag]

Where:

Old File Name: it allows to select the old file.

New File Name: it allows to select the new file name.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_FILESYSTEM_RENAME old-file.txt new-file.txt [1]

In this example,

old-file.txt is the old file.

new-file.txt is the new one.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 164 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.28. SCP_SET_FILESYSTEM_RMDIR

Description This command allows to remove a directory.

Syntax SCP_SET_FILESYSTEM_RMDIR <Directory to remove> [Error-flag]

Where:

Directory to remove: it allows to select the folder to remove.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_FILESYSTEM_RMDIR C:\TEM-S000\ folder-to-remove [1]

In this example,

folder-to-remove is the folder to remove.

new-file.txt is the new one.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 165 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.29. SCP_SET_EXPORT_SETTINGS

Description This command allows to select the file path to export and the format.

Syntax

SCP_SET_EXPORT_SETTINGS <File Path to Export> <EXPORT_FORMAT> <EXPORT_PALETTE>
< EXPORT_READOUT> <EXPORT_VIEW> [Error-flag]

Where:

File Path to Export: it allows to select the path of the file to export.

EXPORT_FORMAT [JPEG, PNG, TIFF] : it allows to select the format of the file to export.

EXPORT_PALETTE [COLOR, INKSAVER, BLACKANDWHITE]: it allows to select the set of colours for the management of digital images.

EXPORT_READOUT [OFFGRATICULE, ONGRATICULE] : it allows to select the presence or not of the graticule, setting:

- OFFGRATICULE = to disable the graticule;
- ONGRATICULE = to enable the graticule.

EXPORT_VIEW [FULLSCREEN, GRATICULE, FULLNOMENU] : it allows to select the view on the screen setting:

- FULLSCREEN = it enables the full screen view;
- GRATICULE = it enables the graticule;
- FULLNOMENU = it enables the view without the menu.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

SCP_SET_EXPORT_SETTINGS C:\TEM-S000\ folder\file-to-export JPEG COLOR ONGRATICULE FULLSCREEN [1]

In this example,

file-to-export is the file to export.

JPEG is the export-format.

COLOR is the palette.

ONGRATICULE means that the graticule is present.

FULLSCREEN means that the view is full screen.

[1] means that the test sequence will stop if the test is not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 166 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.30. SCP_SET_EXPORT_START

Description This command allows to start to export a file.

Syntax SCP_SET_EXPORT_START <File name> [Error-flag]

Where:

File name: it allows to select file to export.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_EXPORT_START file-to-export [1]

file-to-export is the file to export.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 167 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.31. SCP_SET_HARDCOPY_SETTINGS

Description This command allows to select the file path to export and the layout.

Syntax

SCP_SET_HARDCOPY_SETTING < File Path to Export> < HARDCOPY_LAYOUT> <EXPORT_PALETTE>
< EXPORT_READOUT> <EXPORT_VIEW> [Error-flag]

Where:

File Path to Export: it allows to select the path of the file to export.

HARDCOPY_LAYOUT [PORTRAIT, LANDSCAPE]: it allows to select the layout, setting:

- PORTRAIT;
- LANDSCAPE.

EXPORT_PALETTE [COLOR, INKSAVER, BLACKANDWHITE]: it allows to select the set of colours for the management of digital images.

EXPORT_READOUT [OFFGRATICULE, ONGRATICULE] : it allows to select the presence or not of the graticule, setting:

- OFFGRATICULE = to disable the graticule;
- ONGRATICULE = to enable the graticule.

EXPORT_VIEW [FULLSCREEN, GRATICULE, FULLNOMENU] : it allows to select the view on the screen setting:

- FULLSCREEN = it enables the full screen view;
- GRATICULE = it enables the graticule;
- FULLNOMENU = it enables the view without the menu.

Error-flag [0÷1]: depending from the result about a test, it is possible to choose if it is necessary to stop or to continue the test sequence setting:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

**SCP_SET_HARDCOPY_SETTING C:\TEM-S000\ folder\file-to-export LANDSCAPE COLOR ONGRATICULE
FULLSCREEN [1]**

In this example,

file-to-export is the file to export.

LANDSCAPE is the layout.

COLOR is the palette.

ONGRATICULE means that the graticule is present.

FULLSCREEN means that the view is full screen.

[1] means that the test sequence will stop if the test is not passed.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 168 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.32. SCP_SET_HARDCOPY_START

Description This command allows to start to export the file.

Syntax SCP_SET_HARDCOPY_START < File name> [Error-flag]

Where:

File name: it allows to select file to export.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_HARDCOPY_START file-to-export [1]

file-to-export is the file to export.

[1] means that the test sequence will stop if the test will be not passed.

Database

N.A.

6.3.7.33. SCP_SET_MEASURE_IMMED_TYPE

Description This command allows to set the source and the type of the measurement.

Syntax

SCP_SET_MEASURE_IMMED_TYPE < MEASURE_SOURCE> < Measurement Type > [Error-flag]

Where:

MEASURE_SOURCE: it allows to select the source, setting on eof the items present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4
HISTOGRAM

Measurement Type: it allows to select the type of the measurement, setting one of the items present in the following table:

Label
AMPLITUDE : measures the high value less the low value measured over the entire waveform or gated region.
AREA : measures the voltage over time. The area is over the entire waveform or gated region and is measured in volt-seconds. The area measured above the ground is positive, while the area below the ground is negative.
BURST : measures the duration of a burst. The measurement is made over the entire waveform or gated region.
CYC_AREA : measures the voltage over time.
CYC_MEAN : measures the arithmetic mean over the first cycle in the
CYC_RMS : measures the true Root Mean Square voltage over the first cycle in the waveform or the first cycle in the gated region.
DELAY : measures the time between the middle reference (default = 50%) amplitude point of the source waveform and the destination waveform.
DUTY_CYC_DIRST : measures the time between the falling edge and the rising edge of the eye pattern at the mid reference level. It is the peak-to-peak time variation of the first eye crossing measured at the mid-reference as a percent of the eye period.
EXTINTION_RATIO_DB_H/L : measures the extinction ratio of an optical waveform (eye diagram). Extinction dB = $10 \times (\log 10 (\text{High} / \text{Low}))$
EXTINTION_RATIO_%_L/H : measures the extinction ratio of the selected optical waveform. Extinction % = $100.0 \times (\text{Low} / \text{High})$

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 170 of 213 Date : 17/06/2014
-----------------------	------------	---

EXTINTION_RATIO_L/H: measures the extinction ratio of the selected optical waveform. Extinction Ratio = (High / Low)
EYE_VERTICAL_OPENING: measures the vertical opening of an eye diagram in volts.
EYE_WIDTH: measures the width of an eye diagram in seconds.
FALL_TIME: measures the time taken for the falling edge of the first pulse in the waveform or gated region to fall from a high reference value (default is 90%) to a low reference value (default is 10%).
FREQUENCY: measures the first cycle in the waveform or gated region.
HIGH: measures the High reference (100% level, sometimes called Topline) of a waveform.
HISTOGRAM_HITS: measures the number of points in or on the histogram box.
LOW: measures the Low reference (0% level, sometimes called Baseline) of a waveform.
MAX: finds the maximum amplitude. This value is the most positive peak voltage found.
MEAN: finds the arithmetic mean over the entire waveform or gated region.
MEAN_HIST_BOX: measures the middle point of the histogram box.
MINIMUM: finds the minimum amplitude.
TRIG_to_FALL_EDGE_TIME: measures the time from the trigger point to the first falling edge of the waveform or gated region.
NEGATIVE_DUTY_CYCLE: is the ratio of the negative pulse width to the signal period, expressed as a percentage. The duty cycle is measured on the first cycle in the waveform or gated region. Negative Duty Cycle = (Negative Width) / Period × 100%
NEGATIVE_OVERSHOOT: finds the negative overshoot value over the entire waveform or gated region. Negative Overshoot = (Low - Minimum) / Amplitude × 100%
NEGATIVE_WIDTH: is the distance (time) between the middle reference (default = 50%) amplitude points of a negative pulse. The measurement is made on the first pulse in the waveform or gated region.
BASE_EXTRATIO: measures the base value used in extinction ratio measurements.
TRIG_to_RISE_EDGE_TIME: measures the time from the trigger point to the first positive edge of the waveform or gated region.
EYE_CROSS_LOCATION: measures the location of the eye crossing point expressed as a percentage of EYEHeight.
POSITIVE_DUTY_CYCLE: is the ratio of the positive pulse width to the signal period, expressed as a percentage. It is measured on the first cycle in the waveform or gated region. Positive Duty Cycle = (Positive Width)/Period × 100%
HISTOGRAM_POINT: measures the number of points in the largest bin of the histogram.
FIRST_CYCLE_TIME: is the time required to complete the first cycle in a waveform or gated region.
PHASE: measures the phase difference between two waveforms.
PEAK_TO_PEAK: finds the absolute difference between the maximum and minimum amplitude in the entire waveform or gated region.
PKPK_JITTER: measures the variance (minimum and maximum values) in the time locations of the cross point.
PKPK_NOISE: measures the peak-to-peak noise on a waveform at the mid reference level.
POSITIVE_OVERSHOOT: finds the positive overshoot value over the entire waveform or gated region. Positive Overshoot = (Maximum - High) / Amplitude × 100%
EXTRATIO_TOP_VALUE: measures the top value used in extinction ratio measurements.
POSITIVE_WIDTH: is the distance (time) between the middle reference (default = 50%) amplitude points of a positive pulse. The measurement is made on the first pulse in the waveform or gated region.
EYE_DIA_Q_FACTOR: measures the quality factor.
RISE_TIME: finds the rise time of the waveform.
RMS: finds the true Root Mean Square voltage in the entire waveform or gated region.
RMS_JITTER: measures the variance in the time locations of the cross point.
RMS_NOISE: measures the Root Mean Square noise amplitude on a waveform at the mid reference level.
HISTOGRAM_SDT_DEV1%: measures the percentage of points in the histogram that are within one standard deviation of the histogram mean.
HISTOGRAM_SDT_DEV2%: measures the percentage of points in the histogram that are within two standard deviations of the histogram mean.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 171 of 213 Date : 17/06/2014
-----------------------	------------	---

HISTOGRAM_SDT_DEV3% : measures the percentage of points in the histogram that are within three standard deviations of the histogram mean.
HISTOGRAM_RMS_JITTER : is six × RMSJitter.
SIGNAL_TO_NOISE_RATIO : measures the signal-to-noise ratio.
HISTOGRAM_STD_DEV : measures the standard deviation (Root Mean Square (RMS) deviation) of all acquired points within or on the histogram box.
UNDEFINED : is the default measurement type, which indicates that no measurement type is specified. Once a measurement type is chosen, it can be cleared using this argument.
HISTOGRAM_WAVE_COUNT : measures the number of waveforms used to calculate the histogram.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_MEASURE_IMMED_TYPE CH2 MAX [0]

CH2 is the source selected.

MAX is the measurement set.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 172 of 213 Date : 17/06/2014
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6.3.7.34. SCP_ACQ_MEASURE_IMMED

Description This command allows to acquire the data about a measurement.

Syntax SCP_ACQ_MEASURE_IMMED < min > < max > Error-flag]

Where:

min: it allows to set the minimum value.

max: it allows to set the maximum value.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_ACQ_MEASURE_IMMED 4.5 5.5 [0]

4.5 is the min. value.

5.5 is the max. value.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 173 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.35. SCP_SET_CHANNEL_STATE

Description This command allows to set the channel state.

Syntax SCP_SET_CHANNEL_STATE < channel > < state > Error-flag]

Where:

Channel [1÷4]: it allows to select the channel.

State [ON, OFF] : it allows to select the state, setting:

- ON = to select the channel;
- OFF = to unselect the channel.
-

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_CHANNEL_STATE 4 ON [0]

4 is the channel selected.

ON means that the channel is present.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

6.3.7.36. SCP_SET_WAVEFORM_STATE

Description This command allows to set the waveform state.

Syntax SCP_SET_WAVEFORM_STATE < SEL_WAVEFORM > < state > Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

State [ON, OFF] : it allows to select the state, setting:

- ON = to select the waveform;
- OFF = to unselect the waveform.
-

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_SET_WAVEFORM_STATE CH1 ON [0]

CH1 is the waveform set.

ON means that the waveform is present.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

6.3.7.37. SCP_SET_MATH_DEFINE

Description This command allows to select the waveforms and the math function to execute.

Syntax SCP_SET_MATH_DEFINE < Math Waveform> < state > Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

6.3.7.38. SCP_SET_SAVE_WAVEFORM

Description This command allows to select the waveform and to save it.

Syntax SCP_SET_SAVE_WAVEFORM < Math Waveform> < state > Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

6.3.7.39. SCP_SET_LOCK_FRONT_PANEL

Description This command allows to lock or unlock the front panel.

Syntax SCP_SET_LOCK_FRONT_PANEL < Math Waveform> < state > Error-flag]

Where:

SEL_WAVEFORM: it allows to select the waveform, setting one label present in the following table:

CH1
CH2
CH3
CH4
REF1
REF2
REF3
REF4
MATH1
MATH2
MATH3
MATH4

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 178 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.40. SCP_RESET

Description This command allows to reset the instrument.

Syntax SCP_RESET [Error-flag]

Where:

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_RESET [0]

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 179 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.41. SCP_AUTOTEST

Description This command allows to set the auto-test of the instrument.

Syntax SCP_AUTOTEST [Error-flag]

Where:

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_AUTOTEST [0]

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 180 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.42. SCP_SET_MATH_EDITOR

Description This command allows to open the math editor.

Syntax SCP_SET_MATH_EDITOR [Error-flag]

Where:

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

SCP_AUTOTEST [0]

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 181 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.43. SCP_DIS_CLOCK (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 182 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.7.44. SCP_DIS_WAVEFORM (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 183 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.45. SCP_DIS_PERSISTENCE_RESET (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 184 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.46. SCP_DIS_SCREEN_TEXT (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 185 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.7.47. SCP_DIS_LABEL_TEXT_SHOW (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 186 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.48. SCP_DIS_SET_LABEL_TEXT (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 187 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.7.49. SCP_ACQ_MODE (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 188 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.50. SCP_ACQ_NUM_SAMPLES (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 189 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.7.51. SCP_ACQ_STATE (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 190 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.7.52. SCP_STOP_AFTER (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 191 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.53. SCP_SET_TRIGGER_HOLDOFF (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 192 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.54. SCP_TRIGGER_IS_READY (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 193 of 213 Date : 17/06/2014
------------------------------	------------	---

6.3.7.55. SCP_ACQ_MEASURE_IMMED_FROM_FILE (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 194 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.7.56. SCP_SET_ACTUAL_INSTR (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

6.3.8. DC Electronic Load

Instrument identification: SORENSEN SLM60-60-300.



Use: This instruments are used as electronic loads, especially to test the power supply units.

In the following, a detailed description of the command is proposed.

- DEL_SET_LOAD_ON_OFF;
- DEL_SET_LEVEL;
- DEL_SET_MODE;
- DEL_SET_RESISTANCE;
- DEL_SHORT_ON_OFF;
- DEL_RESET;
- DEL_SET_CURRENT;
- DEL_PRESET_ON_OFF.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 196 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.1. DEL_SET_LOAD_ON_OFF

Description This command allows to turn on or the turn off of the instrument.

Syntax DEL_SET_LOAD_ON_OFF < Mainframe > <Channel> < State > [Error-flag]

Where:

Mainframe [MF_LOAD1, MF_LOAD2] : It allows to set the load.

Channel [1÷4]: it allows to set the channel.

State [ON, OFF]: it allows to select the state, setting:

- ON = to enable the load;
- OFF = to disable the load.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DEL_SET_LOAD_ON_OFF MF_LOAD1 1 ON [0]

In this example,

MF_LOAD1 is the load set.

1 is the channel set.

ON means that the load is enabled.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 197 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.2. DEL_SET_LEVEL

Description This command allows to set the level.

Syntax DEL_SET_LEVEL< Mainframe > <Channel> < Level > [Error-flag]

Where:

Mainframe [MF_LOAD1, MF_LOAD2] : It allows to set the load.

Channel [1÷4]: it allows to set the channel.

Level [HIGH, LOW]: it allows to select the voltage level, setting:

- HIGH = to enable the high voltage;
- LOW = to enable the low voltage.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

DEL_SET_LEVEL MF_LOAD1 1 LOW [0]

In this example,

MF_LOAD1 is the load set.

1 is the channel set.

LOW means that the voltage at the load inputs can be 0.1 to 0.2V

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 198 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.3. DEL_SET_MODE

Description This command allows to set the mode.

Syntax DEL_SET_MODE < Mainframe > <Channel> < Mode > [Error-flag]

Where:

Mainframe [MF_LOAD1, MF_LOAD2] : It allows to set the load.

Channel [1÷4]: it allows to set the channel.

Mode [Const_Current, Const_Resistence, Const_Voltage, Const_Power]: it allows to select the operation supported, setting:

- Const_Current = constant current mode;
- Const_Resistence = constant resistance mode;
- Const_Voltage = constant voltage mode;
- Const_Power = constant power mode.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DEL_SET_MODE MF_LOAD1 1 Const_Current [0]

In this example,

MF_LOAD1 is the load set.

1 is the channel set.

Const_Current is the mode selected.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 199 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.4. DEL_SET_RESISTANCE

Description This command allows to set the resistance value.

Syntax DEL_SET_RESISTANCE < Mainframe > <Channel> < Level > < Value> [Error-flag]

Where:

Mainframe [MF_LOAD1, MF_LOAD2] : It allows to set the load.

Channel [1÷4]: it allows to set the channel.

Level [HIGH, LOW]: it allows to select the voltage level, setting:

- HIGH = to enable the high voltage;
- LOW = to enable the low voltage.

Value [(1÷3750) Ω] : it allows to set the resistance value expressed in Ohm.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DEL_SET_RESISTANCE MF_LOAD1 1 LOW 50 [0]

In this example,

MF_LOAD1 is the load set.

1 is the channel set.

LOW means that the voltage at the load inputs can be 0.1 to 0.2V

50 is the resistance value.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 200 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.5. DEL_SHORT_ON_OFF

Description This command allows to set the short mode.

Syntax DEL_SET_RESISTANCE < Mainframe > <Channel> < Short> [Error-flag]

Where:

Mainframe [MF_LOAD1, MF_LOAD2] : It allows to set the load.

Channel [1÷4]: it allows to set the channel.

Short [ON, OFF]: it allows to select the short mode, setting:

- ON = to enable it;
- OFF = to disable it.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message ("yellow" light) and continue test sequence;
- [1] = if the test is not passed, emit error message ("red" light), stop test sequence and launch Abort sequence.

Example

DEL_SHORT_ON_OFF MF_LOAD1 1 ON [0]

In this example,

MF_LOAD1 is the load set.

1 is the channel set.

ON means that the short mode is set.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 201 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.6. DEL_RESET

Description This command allows to reset the instrument.

Syntax DEL_RESET < Mainframe > [Error-flag]

Where:

Mainframe [MF_LOAD1, MF_LOAD2] : It allows to set the load.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

DEL_RESET [0]

In this example,
[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 202 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.7. DEL_SET_CURRENT (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 203 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.8.8. DEL_PRESET_ON_OFF (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

6.3.9. Progressive Resistance Load

Instrument identification: PCI Programmable 0-16MOhm Resistor Card type Pickering 50-295-021-3/24.



Use: This board is used to simulate resistive sensors.

In the following, a detailed description of the commands is shown.

- RLD_SET_CURR_BOARD
- RLD_SET_RESISTANCE
- RLD_GET_RESISTANCE
- RLD_RESET

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 205 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.9.1. RLD_SET_CURR_BOARD

Description This command allows to choose the current resistor board in a environment of multiboard.

Syntax RLD_SET_CURR_BOARD <board number> [Error-flag]

Where:

board number [1÷10]: it allows to select the current board to operate.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RLD_SET_CURR_BOARD 1 [0]

In this example,

1 is the board selected.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 206 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.9.2. RLD_SET_RESISTANCE

Description This command allows to set the channel and the resistance value.

Syntax RLD_SET_RESISTANCE <Channel> <Value> [Error-flag]

Where:

Channel [1÷3]: it allows to select the channel.

Value [(0÷16777215)Ω]: it allows to set the resistance value.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RLD_SET_RESISTANCE 1 1000 [0]

In this example,

1 is the channel selected.

1000 is the resistance value set.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 207 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.9.3. RLD_GET_RESISTANCE

Description This command allows to get the resistance.

Syntax RLD_GET_RESISTANCE <Channel> <min> <max> [Error-flag]

Where:

Channel [1÷3]: it allows to select the channel.

Min: it allows to set the min value expressed in Ohm.

Max: it allows to set the max value expressed in Ohm.

Error-flag [0÷1]:

- [0] = if the test is not passed, emit warning message (“yellow” light) and continue test sequence;
- [1] = if the test is not passed, emit error message (“red” light), stop test sequence and launch Abort sequence.

Example

RLD_GET_RESISTANCE 1 10 20 [0]

In this example,

1 is the channel selected.

10 is the min value for the resistance.

20 is the max value for the resistance.

[0] means that the test sequence will continue if the test will be not passed.

Database

N.A.

6.3.9.4. RLD_RESET

Description This command allows to reset the current RLD board to its default state.

Syntax RLD_RESET [Error-flag]

Example

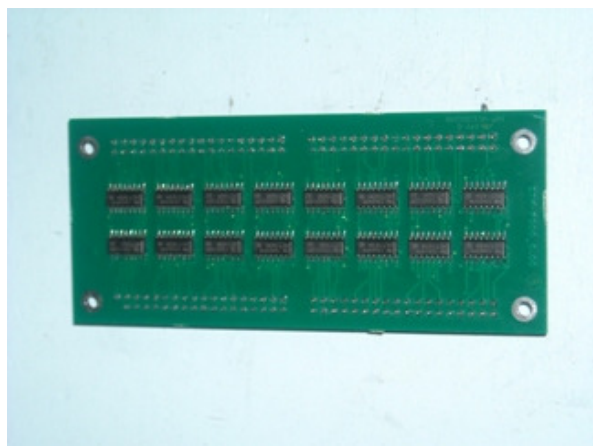
RLD_RESET [0]

Database

N.A.

6.3.10. SkyTech STM (Status Monitor Module)

Instrument identification: Skytech's Status Monitor Board (STM-A000)



Use: this board is a serial to parallel converter, allowing to read up to 128 digital monitor lines using 3 serial command lines.

The STM operates as follows:

- read the 128-bit status frame via 3 control lines: Strobe (Input), Clock (Output) and Data (Output);
- check the status of a single bit of the frame, or
- check the status of all bits of the frame, by means of a comparison matrix

The following commands are available:

- STM_CHECK_STATUS
- STM_CHECK_LINE

6.3.10.1. STM_CHECK_STATUS

This command allows the automatic check of the bits, by-means of a user-defined comparison matrix.

The comparison matrix is named "STM.xls" and must be located in the Config directory, in accordance with the environment settings of the workspace.

Each line of the matrix is structured as follows:

BIT	LABEL	VALUE	IF	LABEL	VALUE
0	DMM_INV_TEST	0	PCDIO	DMM_INV	1
1	CH1_TEST0	0	PCDIO	OSC_CH1_A0	1

and so on (128 lines).

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 209 of 213 Date : 17/06/2014
-----------------------	------------	---

BIT: frame bit identifier (0..127)

LABEL: frame bit label

VALUE: value of the bit

IF: interface to use for comparison (in this case the PCDIO board)

LABEL: Interface's label

VALUE: value of the IF bit that must match the frame bit value

In this example, bit 0 of the frame (named DMM_INV_TEST) must be 0 when the DMM_INV bit of the PCDIO is set to 1 (and viceversa).

6.3.10.2. STM_CHECK_LINE (T.B.W.)

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 210 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.11. SkyTech DIG_COM (Digital Command Module)

Instrument identification:

Use :

The following commands are available:

- DIG_COM
- DIG_COM_DWORD
- DIG_COM_RESET

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 211 of 213 Date : 17/06/2014
-----------------------	------------	---

6.3.11.1. DIG_COM (T.B.W.)

6.3.11.2. DIG_COM_DWORD (T.B.W.)

6.3.11.3. DIG_COM_RESET (T.B.W.)

Modulo:
M-NT Nota Tecnica_000.doc

SKYTECH S.R.L.	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 212 of 213 Date : 17/06/2014
-----------------------	------------	---

7. Enclosure 1

The specific commands for the dedicated I/Fs, for each specific application, are grouped in the enclosure.

<i>SKYTECH S.R.L.</i>	TEM	Doc. : TEM-D000-MU_1.00 Mod. : 6 Page : 213 of 213 Date : 17/06/2014
------------------------------	------------	---

END OF DOCUMENT