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SCPI COMMAND REFERENCE

TH8300 Series

Companion to the TH8300 Series Operation Manual. Full SCPI command syntax, parameters and examples for remote control of the TH8300/TH8310 modular programmable DC electronic load over RS232, LAN, USBTMC, USBCDC or GPIB.

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TH8300 Series SCPI Command Reference

Remote Control Commands — TH8300 / TH8310

This document lists the complete SCPI (Standard Commands for Programmable Instruments) command set for the TH8300 series modular DC electronic load, for use over any of the instrument's supported remote interfaces: RS232, LAN, USBTMC, USBCDC or GPIB. For interface wiring, parameters and set-up, see Chapter 6 of the companion *TH8300 Series Operation Manual*. SCPI is a standard capability across the TH8300 range and is not model-specific. MODBUS is not supported by this instrument.

Notation & syntax conventions

Symbol	Meaning
NR1	Integer, e.g. `123`
CRD	Character/keyword, e.g. `H`, `M`, `L`
`{ }`	Curly brackets enclose the parameter options for a command; the brackets themselves are not sent.
`|`	Vertical bar separates alternative parameter choices; not sent with the command.
`< >`	Pointed brackets mark a parameter that must be given a value; the brackets themselves are not sent.
`[ ]`	Square brackets mark an optional command element that may be omitted; if omitted, the instrument uses its default.
`<space>`	A literal space character between the command and its parameter.
`^END`	EOI (end-of-line) signal for the GPIB bus.

Commands are case-insensitive; capital letters in a command name mark its short form (e.g. `CURRent` may be sent as `CURR`). `[SOURce[1|2]:]` is optional and, when omitted, defaults to channel 1. A command ending in `?` queries the instrument; one without `?` sets a value.

> **NOTE**
>
> TH8300 modules are numbered per-channel: dual-channel modules use channel numbers 1, 2, 3, 4 ...; single-channel modules use 1, 3, 5, 7 ... Select the active channel with `:CHANnel[:LOAD]` before sending a per-channel command (§2.3).

1

Common & Basic Control

1.1 IEEE 488.2 common commands

Command	Function	Parameters	Example
`*IDN?`	Returns the instrument identification string: company, model, software version.	—	`*IDN?` → `Tonghui,TH8300,Version:1.0.0`
`*RST`	Resets the instrument to factory defaults, including all parameter settings. Restarts automatically once complete.	—	`*RST`

1.2 CHANnel subsystem

Command	Function	Parameters	Example
`:CHANnel[:LOAD]` `:CHANnel[:LOAD]?`	Selects the channel that subsequent commands apply to, or queries the current channel.	NR1 (channel number), or `ALL`	`:CHAN:LOAD 1`; `:CHAN ALL`; `:CHAN?`
`:CHANnel:ACTive` `:CHANnel:ACTive?`	Turns the selected module on or off.	CRD|NR1 — OFF|0, ON|1	`:CHAN:ACT 1`
`:CHANnel:ID?`	Returns the selected module's model/identity.	—	`:CHAN:ID?`

1.3 ABORt, RUN & LOAD subsystems

Command	Function	Parameters	Example
`:ABORt`	Turns all modules off.	—	`:ABORt`
`:RUN`	Starts current pull-load on all modules.	—	`:RUN`
`:LOAD[:STATe]` `:LOAD[:STATe]?`	Starts/stops the selected module pulling current, or queries its status.	CRD|NR1 — OFF|0, ON|1	`:LOAD ON`; `:LOAD 0`; `:LOAD?`
`:LOAD:PROTection?`	Queries the selected module's protection (trip) status.	—	`:LOAD:PROT?`
`:LOAD:PROTection:CLEAr`	Clears a protection trip and resets the module's load state.	—	`:LOAD:PROT:CLEA`
`:LOAD:SHORt[:STATe]` `:LOAD:SHORt[:STATe]?`	Enables/disables short-circuit simulation on the selected module.	CRD|NR1 — OFF|0, ON|1	`:LOAD:SHOR ON`

2

Measurement Commands

2.1 FETCh subsystem

Returns the most recent measurement without triggering a new one.

Command	Function	Example
`:FETCh:ALLCurrent?`	Current measurement, all modules.	`:FETC:ALLC?`
`:FETCh:ALLPower?`	Power measurement, all modules.	`:FETC:ALLP?`
`:FETCh:ALLVoltage?`	Voltage measurement, all modules.	`:FETC:ALLV?`
`:FETCh:ALLVoltage:MAX?`	Maximum voltage measurement, all modules.	`:FETC:ALLV:MAX?`
`:FETCh:ALLVoltage:MIN?`	Minimum voltage measurement, all modules.	`:FETC:ALLV:MIN?`
`:FETCh:CURRent?`	Current measurement, selected module.	`:FETC:CURR?`
`:FETCh:POWer?`	Power measurement, selected module.	`:FETC:POW?`
`:FETCh:VOLTage?`	Voltage measurement, selected module.	`:FETC:VOLT?`
`:FETCh:VOLTage:PEAK+?`	Peak voltage, selected module.	`:FETC:VOLT:PEAK+?`
`:FETCh:VOLTage:PEAK-?`	Valley voltage, selected module.	`:FETC:VOLT:PEAK-?`
`:FETCh:AH?`	Discharged capacity (Ah), timing/BATT measurement mode.	`:FETC:AH?`
`:FETCh:WH?`	Discharged energy (Wh), timing/BATT measurement mode.	`:FETC:WH?`
`:FETCh:TIME?`	Elapsed time, timing measurement mode.	`:FETC:TIME?`
`:FETCh:FREQuency?`	Current frequency, SWP or SINE test mode.	`:FETC:FREQ?`

2.2 MEASure subsystem

Triggers a new measurement and returns the result.

Command	Function	Example
`:MEASure:ALLCurrent?`	Current measurement, all modules.	`:MEAS:ALLC?`
`:MEASure:ALLPower?`	Power measurement, all modules.	`:MEAS:ALLP?`
`:MEASure:ALLVoltage?`	Voltage measurement, all modules.	`:MEAS:ALLV?`
`:MEASure:CURRent?`	Current measurement, selected module.	`:MEAS:CURR?`
`:MEASure:POWer?`	Power measurement, selected module.	`:MEAS:POW?`
`:MEASure:VOLTage?`	Voltage measurement, selected module.	`:MEAS:VOLT?`

2.3 SHOW subsystem

Command	Function	Parameters	Example
`:SHOW[:DISPlay]`	Switches which channel/value a dual-channel module's display shows.	CRD — L|R (channel), A|B (set-value slot)	`:SHOW:DISP L`; `:SHOW:DISP A`

3

General Mode Setup

3.1 MODE subsystem

Command	Function	Parameters
`:MODE` `:MODE?`	Sets or queries the module's operating mode, including range tier (Low/Medium/High, where applicable).	CRD|NRf — `CCL/CCM/CCH, CRL/CRM/CRH, CVL/CVM/CVH, CPL/CPM/CPH, CCDL/CCDM/CCDH` (DYN), `CCFSL/CCFSM/CCFSH` (SWP), `LEDL/LEDM/LEDH` (CR-LED), `BATL/BATM/BATH`, `TIML/TIMM/TIMH`, `MPPTL/MPPTM/MPPTH`, `OCPL/OCPM/OCPH`, `OVPL/OVPM/OVPH`, `OPPL/OPPM/OPPH`, `SWDL/SWDM/SWDH` (SINE), `LISTL/LISTM/LISTH`, `PROG` (AUTO)

Example: `:MODE CCH` (CC mode, high range); `:MODE?` (query current mode).

3.2 CURRent:STATic (CC mode)

Command	Function	Parameters	Example
`:CURRent:STATic:L1` `:L1?`	Current set value A.	NR1 — value	`:CURR:STAT:L1 1`
`:CURRent:STATic:L2` `:L2?`	Current set value B.	NR1 — value	`:CURR:STAT:L2 2`
`:CURRent:STATic:RISE` `:RISE?`	Rising slope.	NR1 — value	`:CURR:STAT:RISE 1`
`:CURRent:STATic:FALL` `:FALL?`	Falling slope.	NR1 — value	`:CURR:STAT:FALL 1`
`:CURRent:STATic:VOLTage:RANGe` `:RANGe?`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2	`:CURR:STAT:VOLT:RANG 1`

3.3 VOLTage:STATic (CV mode)

Command	Function	Parameters	Example
`:VOLTage:STATic:L1` `:L1?`	Voltage set value A.	NR1 — value	`:VOLT:STAT:L1 1`
`:VOLTage:STATic:L2` `:L2?`	Voltage set value B.	NR1 — value	`:VOLT:STAT:L2 2`
`:VOLTage:STATic:TYPE` `:TYPE?`	CV execution category — matches the module's CV control behaviour to the source type (§3.5 of the Operation Manual).	CRD|NR1 — CURR/PSU|0, VOLT/PSU|1	`:VOLT:STAT:TYPE 0`
`:VOLTage:STATic:RESponse` `:RESponse?`	CV-mode response speed.	CRD|NR1 — FAST|0, NORMAL|1, SLOW|2	`:VOLT:STAT:RES 0`

3.4 RESistance:STATic (CR mode)

Command	Function	Parameters	Example
`:RESistance:STATic:L1` `:L1?`	Resistance set value A.	NR1 — value	`:RES:STAT:L1 1`
`:RESistance:STATic:L2` `:L2?`	Resistance set value B.	NR1 — value	`:RES:STAT:L2 2`
`:RESistance:STATic:CURRent:RANGe` `:RANGe?`	Current range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2	`:RES:STAT:CURR:RANG 1`

3.5 POWer:STATic (CP mode)

Command	Function	Parameters	Example
`:POWer:STATic:L1` `:L1?`	Power set value A.	NR1 — value	`:POW:STAT:L1 1`
`:POWer:STATic:L2` `:L2?`	Power set value B.	NR1 — value	`:POW:STAT:L2 2`

`:POWer:STATic:RISE` `:RISE?`	Rising slope.	NR1 — value	`:POW:STAT:RISE 1`
`:POWer:STATic:FALL` `:FALL?`	Falling slope.	NR1 — value	`:POW:STAT:FALL 1`
`:POWer:STATic:VOLTage:RANGe` `:RANGe?`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2	`:POW:STAT:VOLT:RANG 1`

4

Dynamic & Frequency Sweep (DYN / SWP)

DYN and SWP are configured under the `CURRent` subsystem (not `ADVance`).

4.1 CURRent:DYNamic (DYN mode)

Command	Function	Parameters
`:CURRent:DYNamic:L1 / :L2`	Current level 1 / level 2.	NR1 — value
`:CURRent:DYNamic:RISE / :FALL`	Rising / falling slope.	NR1 — value
`:CURRent:DYNamic:T1 / :T2`	Duration 1 / duration 2.	NR1 — value (s)
`:CURRent:DYNamic:REPeat`	Number of repetitions.	NR1 — value
`:CURRent:DYNamic:VOLTage:RANGe`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Each command also has a `?` query form, e.g. `:CURR:DYN:L1?`.
Example: `:CURR:DYN:L1 10;CURR:DYN:L2 20;CURR:DYN:RISE 1;CURR:DYN:FALL 1;CURR:DYN:T1 1;CURR:DYN:T2 2;CURR:DYN:REP 10;CURR:DYN:VOLT:RANG 1`

4.2 CURRent:SWEep (SWP mode)

Command	Function	Parameters
`:CURRent:SWEep:L1 / :L2`	Current level 1 / level 2.	NR1 — value
`:CURRent:SWEep:RISE / :FALL`	Rising / falling slope.	NR1 — value
`:CURRent:SWEep:FSTArt`	Start frequency.	NR1 — value (Hz)
`:CURRent:SWEep:FEND`	End frequency.	NR1 — value (Hz)
`:CURRent:SWEep:FSTEp`	Step frequency.	NR1 — value (Hz)
`:CURRent:SWEep:DWELl`	Dwell time per step.	NR1 — value (s)
`:CURRent:SWEep:DUTY`	Duty cycle.	NR1 — value (0–1)
`:CURRent:SWEep:VOLTage:RANGe`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Each command also has a `?` query form.
Example: `:CURR:SWE:L1 10;CURR:SWE:L2 20;CURR:SWE:FSTA 100;CURR:SWE:FEND 1000;CURR:SWE:FSTE 100;CURR:SWE:DWEL 1;CURR:SWE:DUTY 0.5;CURR:SWE:VOLT:RANG 1`

5

Advanced Test Modes — ADVance subsystem

5.1 CR-LED

Command	Function	Parameters
`:ADVance:LED:V / :V?`	Conduction (threshold) voltage.	NR1 — value
`:ADVance:LED:R / :R?`	Resistance value.	NR1 — value
`:ADVance:LED:CURRent:RANGe / :RANGe?`	Current range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:LED:V 1; ADV:LED:R 1; ADV:LED:CURR:RANG 1`

5.2 BAT (battery discharge test)

Command	Function	Parameters
`:ADVance:BAT:MODE / :MODE?`	Discharge mode.	CRD|NR1 — CC|0, CR|1, CP|2
`:ADVance:BAT:VALue / :VALue?`	Pull-load (discharge) value.	NR1 — value
`:ADVance:BAT:CONDition / :CONDition?`	Termination mode.	CRD|NR1 — VOLTage|0, TIME|1, CAPACITY|2, ENERGY|3
`:ADVance:BAT:LEVEL / :LEVEL?`	Termination threshold.	NR1 — value
`:ADVance:BAT:RISE / :FALL`	Rising / falling slope.	NR1 — value
`:ADVance:BAT:VOLTage:RANGe / :RANGe?`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:BAT:MODE 2; ADV:BAT:VAL 1; ADV:BAT:COND 1; ADV:BAT:LEVEL 1; ADV:BAT:RISE 1; ADV:BAT:FALL 1; ADV:BAT:VOLT:RANG 1`

5.3 TIMING (elapsed-time test)

Command	Function	Parameters
`:ADVance:TIMing:MODE / :MODE?`	Test mode.	CRD|NR1 — CC|0, CR|1, CP|2
`:ADVance:TIMing:VALue / :VALue?`	Pull-load (test) value.	NR1 — value
`:ADVance:TIMing:TRIGger:MODE / :MODE?`	Trigger mode.	CRD|NR1 — FALL|0, RISE|1, HOLDUP|2
`:ADVance:TIMing:TRIGger:VSTArt / :VSTArt?`	Start (trigger) voltage.	NR1 — value
`:ADVance:TIMing:TRIGger:VEND / :VEND?`	End (termination) voltage.	NR1 — value
`:ADVance:TIMing:ENDVoltage / :ENDVoltage?`	Hold-mode termination voltage.	NR1 — value
`:ADVance:TIMing:TOUT / :TOUT?`	Time-out (duration).	NR1 — value (s)
`:ADVance:TIMing:RISE / :FALL`	Rising / falling slope.	NR1 — value
`:ADVance:TIMing:VOLTage:RANGe / :RANGe?`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:TIM:MODE 2; ADV:TIM:VAL 10; ADV:TIM:TRIG:MODE 1; ADV:TIM:TRIG:VSTA 5; ADV:TIM:TRIG:VEND 10; ADV:TIM:TOUT 2; ADV:TIM:RISE 1; ADV:TIM:FALL 1; ADV:TIM:VOLT:RANG 1`

5.4 OCPT (over-current protection test)

Command	Function	Parameters
:ADVance:OCP:ISTArt / :IEND	Start / termination current.	NR1 — value
:ADVance:OCP:STEP / :STEP?	Number of steps.	NR1 — value
:ADVance:OCP:DWELl / :DWELl?	Dwell time per step.	NR1 — value (s)
:ADVance:OCP:SPECification:H / :L	Upper / lower current limit.	NR1 — value
:ADVance:OCP:TRIGger:VOLTage / :VOLTage?	Trigger voltage.	NR1 — value
:ADVance:OCP:LATCh / :LATCh?	Pull-load lock.	CRD|NR1 — OFF|0, ON|1
:ADVance:OCP:RESult?	Returns the test result.	—
:ADVance:OCP:VOLTage:RANGe / :RANGe?	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:OCP:VOLT:RANG 1; ADV:OCP:ISTA 10; ADV:OCP:IEND 20; ADV:OCP:STEP 100; ADV:OCP:DWEL 1; ADV:OCP:SPEC:H 25; ADV:OCP:SPEC:L 15; ADV:OCP:TRIG:VOLT 5; ADV:OCP:LATC 1`

5.5 OVPT (over-voltage protection test)

Command	Function	Parameters
:ADVance:OVP:VOLTage / :VOLTage?	Trigger voltage.	NR1 — value
:ADVance:OVP:RESult?	Returns the test result.	—

Example: `ADV:OVP:VOLT 10`

5.6 OPPT (over-power protection test)

Command	Function	Parameters
:ADVance:OPP:PSTArt / :PEND	Start / termination power.	NR1 — value
:ADVance:OPP:STEP / :STEP?	Number of steps.	NR1 — value
:ADVance:OPP:DWELl / :DWELl?	Dwell time per step.	NR1 — value (s)
:ADVance:OPP:SPECification:H / :L	Upper / lower power limit.	NR1 — value
:ADVance:OPP:TRIGger:VOLTage / :VOLTage?	Trigger voltage.	NR1 — value
:ADVance:OPP:LATCh / :LATCh?	Pull-load lock.	CRD|NR1 — OFF|0, ON|1
:ADVance:OPP:RESult?	Returns the test result.	—
:ADVance:OPP:VOLTage:RANGe / :RANGe?	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:OPP:VOLT:RANG 1; ADV:OPP:PSTA 10; ADV:OPP:PEND 20; ADV:OPP:STEP 100; ADV:OPP:DWEL 1; ADV:OPP:SPEC:H 25; ADV:OPP:SPEC:L 15; ADV:OPP:TRIG:VOLT 5; ADV:OPP:LATC 1`

5.7 SINE (sine-wave ripple test)

Command	Function	Parameters
`:ADVance:SINE:FREQuency / :FREQuency?`	Sine frequency.	NR1 — value (Hz)
`:ADVance:SINE:IDC / :IDC?`	DC current component.	NR1 — value
`:ADVance:SINE:IAC / :IAC?`	AC current component.	NR1 — value
`:ADVance:SINE:VOLTage:RANGe / :RANGe?`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:SINE:FREQ 100; ADV:SINE:IDC 1; ADV:SINE:IAC 2; ADV:SINE:VOLT:RANG 1`

5.8 LIST (arbitrary current sequence)

Command	Function	Parameters
`:ADVance:LIST:REPeat / :REPeat?`	Number of repetitions.	NR1 — value
`:ADVance:LIST:SEQuence:ALL / :ALL?`	Total number of sequence steps.	NR1 — value
`:ADVance:LIST:DATA <space><Arg1>,<Arg2>,<Arg3>,<Arg4>` `:DATA?<space><Arg1>`	Sets/queries one sequence step's parameters.	Arg1 sequence number; Arg2 current set value; Arg3 duration (s); Arg4 slope
`:ADVance:LIST:VOLTage:RANGe / :RANGe?`	Voltage range.	CRD|NR1 — LOW|L|0, MIDDLE|M|1, HIGH|H|2

Example: `ADV:LIST:REP 10; ADV:LIST:SEQ:ALL 20; ADV:LIST:VOLT:RANG 1; ADV:LIST:DATA 1,1,1,1` (sequence 1: current 1, duration 1 s, slope 1 A/µs) — query: `ADV:LIST:DATA?1`

> **NOTE**
> MPPT does not have a dedicated command subsystem: select the MPPT speed tier (fast/medium/slow) directly through `:MODE MPPTL` / `MPPTM` / `MPPTH`, and set the voltage range with the module's standard voltage-range commands.

6

Automatic Test Program — PROG subsystem

AUTO mode (fully automatic multi-step test program, §3.3 of the Operation Manual) is configured through the top-level `:PROG` subsystem, not under `ADVance`.

Command	Function	Parameters
`:PROG:NSELect / :NSELect?`	Selects the active program (1–10).	NR1 — value
`:PROG:DATA <Arg1..5>` `:DATA?<Arg1>`	Sets/queries a program's top-level parameters.	Arg1 program; Arg2 program type (0 LIST, 1 STEP); Arg3 linked (chained) program; Arg4 repeat count; Arg5 total number of sequences
`:PROG:DATA:LIST <Arg1..16>` `:DATA:LIST?<Arg1>,<Arg2>`	Sets/queries one LIST-type program sequence's parameters.	Arg1 program; Arg2 sequence; Arg3 trigger mode (0 jump, 1 automatic, 2 manual, 3 external); Arg4 test mode (0 CC, 1 CR, 2 CV, 4 CP); Arg5 range (0 Low, 1 Medium, 2 High); Arg6 duration (s); Arg7 pull-load value; Arg8/9 voltage upper/lower limit; Arg10/11 current upper/lower limit; Arg12/13 power upper/lower limit; Arg14 delay time (s); Arg15/16 rising/falling slope
`:PROG:DATA:STEP <Arg1..16>` `:DATA:STEP?<Arg1>`	Sets/queries one STEP-type program's parameters.	Arg1 program; Arg2 trigger mode; Arg3 test mode; Arg4 range; Arg5 duration (s); Arg6/7 starting/termination pull-load value; Arg8/9 voltage upper/lower limit; Arg10/11 current upper/lower limit; Arg12/13 power upper/lower limit; Arg14 delay time (s); Arg15/16 rising/falling slope
`:PROG:SPEC:LIST? <Arg1>,<Arg2>`	Queries the pass/fail test result for one LIST-type sequence.	Arg1 program; Arg2 sequence
`:PROG:SPEC:STEP? <Arg1>`	Queries the pass/fail test result for a STEP-type program.	Arg1 program

Example (STEP program 1): `PROG:DATA 1,1,2,1,1` (program 1, STEP type, linked to program 2, repeat count 1, total sequences 1) — `PROG:DATA:STEP 1,1,0,1,1,1,2,2,0,2,0,2,0,1,1,1`.

7

System Configuration — CONFigure subsystem

Command	Function	Parameters
:CONFigure:VOLTage:LATCh / :LATCh?	Enables the Von/Voff (start/shutdown voltage) function.	CRD|NR1 — OFF|0, ON|1
:CONFigure:VOLTage:ON / :ON?	Start voltage (Von).	NR1 — value
:CONFigure:VOLTage:OFF / :OFF?	Shutdown voltage (Voff).	NR1 — value
:CONFigure:VOLTage:SENse / :SENse?	Enables the remote voltage-sense (V-Sense) terminals.	CRD|NR1 — OFF|0, ON|1
:CONFigure:SOFTstart / :SOFTstart?	Enables soft-start.	CRD|NR1 — OFF|0, ON|1
:CONFigure:SOFTstart:VALue / :VALue?	Soft-start time.	NR1 — value (s)
:CONFigure:COUNttime / :COUNttime?	Enables positive (elapsed) timing display.	CRD|NR1 — OFF|0, ON|1
:CONFigure:CUTOFFtime / :CUTOFFtime?	Enables the countdown timer.	CRD|NR1 — OFF|0, ON|1
:CONFigure:CUTOFFtime:VALue / :VALue?	Countdown time.	NR1 — value (s)
:CONFigure:LVP / :LVP?	Enables low-voltage protection.	CRD|NR1 — OFF|0, ON|1
:CONFigure:ALLRun / :ALLRun?	Enables the ALLRUN function (Operation Manual §5.1).	CRD|NR1 — OFF|0, ON|1
:CONFigure:EXTernal:WAVeform / :WAVeform?	Enables the external current-waveform input (CC mode).	CRD|NR1 — OFF|0, ON|1
:CONFigure:SOUNd / :SOUNd?	Enables the key-press sound.	CRD|NR1 — OFF|0, ON|1

7.1 Module Online & digital I/O

Command	Function	Parameters
`:CONFigure:PARALlel:INITial / :INITial?`	Turns Module Online status on/off (Operation Manual §5.2).	CRD|NR1 — OFF|0, ON|1
`:CONFigure:PARALlel:MODE / :MODE?`	Module Online role.	CRD|NR1 — NONE|0, SLAVE|1, MASTER|2
`:CONFigure:PARALlel:TYPE / :TYPE?`	Module Online connection type.	CRD|NR1 — POWer|0, COPY|1
`:CONFigure:DIO:IN1 / :IN1?`	Digital input 1 function assignment.	NR1 — 0 NONE, 1 EXTERNAL LOAD ON/OFF, 2 REMOTE INHIBIT
`:CONFigure:DIO:IN2 / :IN2?`	Digital input 2 function assignment.	NR1 — 0 NONE, 1 OCP TEST PASS-H, 2 REMOTE INHIBIT
`:CONFigure:DIO:OUT1 / :OUT1?`	Digital output 1 function assignment.	NR1 — 0 NONE, 1 EXTERNAL LOAD ON/OFF, 2 OCP TEST FAIL-L, 3 GONG TOTAL PASS-H, 4 GONG TOTAL FAIL-L, 5 OTP/OVP/OCP/OPP/REV-H, 6 BUS CTRL.ACT-H, 7 BUS CTRL.ACT-L
`:CONFigure:DIO:OUT2 / :OUT2?`	Digital output 2 function assignment.	Same options as DIO:OUT1
`:CONFigure:DIO:VOLTage / :VOLTage?`	Digital I/O logic-level voltage.	NR1 — 1 1.8V, 2 3.3V, 3 5V

> **NOTE**
> The CAN interface is not available on current-production TH8300/TH8310 units and its configuration commands are intentionally omitted from this reference.

7.2 Example

```
CONF:SOUN 1; CONF:VOLT:LATC 1; CONF:VOLT:ON 0.2; CONF:VOLT:OFF 0.1; CONF:SOFT 1; CONF:SOFT:VAL 0.001; CONF:COUN 1; CONF:CUTOFF 1; CONF:CUTOFF:VAL 200; CONF:LVP 1; CONF:ALLR 1; CONF:EXT:WAV 1; CONF:VOLT:SEN 1; CONF:PARALL:MODE 2; CONF:PARALL:INIT 1; CONF:PARALL:TYPE 0; CONF:DIO:IN1 1; CONF:DIO:IN2 1; CONF:DIO:OUT1 1; CONF:DIO:OUT2 1; CONF:DIO:VOLT 1
```

8

Digitizing — DIGitizing subsystem

Captures high-speed voltage/current waveform data from the selected module.

Command	Function	Parameters
`:DIGitizing:ABORt`	Disables digitizing.	—
`:DIGitizing:INITiate`	Initializes the digitizing function.	—
`:DIGitizing:STATe / :STATe?`	Enables/queries digitizing.	CRD|NR1 — OFF|0, ON|1
`:DIGitizing:SAMPling:POINt / :POINt?`	Sampling point count.	NR1 — value
`:DIGitizing:SAMPling:TIME / :TIME?`	Sampling time.	NR1 — value (s)
`:DIGitizing:TRIGger:POINt / :POINt?`	Trigger point.	NR1 — value
`:DIGitizing:TRIGger:SOURce / :SOURce?`	Trigger source.	CRD|NR1 — LOADON|0, LOADOFF|1, TTL|2, BUS|3, MANUAL|4
`:DIGitizing:WAVeform:CAPture?`	Transfers captured waveform data from the module to the mainframe.	—
`:DIGitizing:WAVeform:DATA:<V|I>?`	Returns the captured voltage or current waveform, in binary format.	V or I

Example: `DIG:ABOR; DIG:INIT; DIG:STAT 1; DIG:SAMP:POIN 100; DIG:SAMP:TIME 0.02; DIG:TRIG:POIN 100; DIG:TRIG:SOUR 1; DIG:WAV:CAP?; DIG:WAV:DATA:V?; DIG:WAV:DATA:I?`

9

Limit Judgement — SPECification subsystem

Mirrors the Limit Settings described in §3.6 of the Operation Manual.

Command	Function	Parameters
`:SPECification[:PASS]?`	Overall limit-judgement result, all modules.	—
`:SPECification[:PASS]:POWer?`	Power limit-judgement result, all modules.	—
`:SPECification[:PASS]:CURRent?`	Current limit-judgement result, all modules.	—
`:SPECification[:PASS]:VOLTage?`	Voltage limit-judgement result, all modules.	—
`:SPECification:TEST / :TEST?`	Enables/disables limit judgement.	CRD|NR1 — OFF|0, ON|1
`:SPECification:UNIT / :UNIT?`	Limit-window input mode.	CRD|NR1 — VALUE|0, PERCENT|1
`:SPECification:CURRent:C / :H / :L`	Reference / upper / lower current.	value — value size
`:SPECification:VOLTage:C / :H / :L`	Reference / upper / lower voltage.	value — value size
`:SPECification:POWer:C / :H / :L`	Reference / upper / lower power.	value — value size

Example: `SPEC:POW?; SPEC:CURR?; SPEC:VOLT?; SPEC:TEST 1; SPEC:UNIT 1; SPEC:CURR:C 1; SPEC:CURR:H 2; SPEC:CURR:L 0; SPEC:VOLT:C 1; SPEC:VOLT:H 2; SPEC:VOLT:L 0; SPEC:POW:C 1; SPEC:POW:H 2; SPEC:POW:L 0`

APPENDIX

Related Documents & Contact

Related documents

- TH8300 Series Datasheet (Techmize)
- TH8300 Series Operation Manual (Techmize) — interface wiring, parameters and front-panel operation

Contacting Techmize

For technical support, accessories or service, contact Techmize directly or through your authorized Techmize distributor.

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