ADT260Ex SCPI Commands Set- User Version

--V0.0.18

1 Commands Instruction

SCPI means Standard Commands for Programmable Instruments, which defines a set of standard syntax and commands for controlling programmable instruments. It communicates with the instrument through ASCII string format. A command generally consists of a series of keywords, some of which also need have parameters. In the protocol, the command is specified in the following form: * IDN?. In use, it can be the full name or only abbreviations containing uppercase letters. Usually, instrument commands can be divided into controlling commands and query commands. The controlling commands do not have return values, its result can be checked by sending the command SYSTem: ERRor?. The query commands have returned value, and it is also ASCII string.

1.1 Format

Each command includes two parts: **keyword** and **parameter**, different keywords are separated by a colon ':', followed by optional parameters. If there is a "?" after the command, it indicates it is query command. The keyword and the first parameter should be separated by a space

For example:

Command **MEASure:FUNCtion V** has first keyword **MEASure**, and the second keyword is **FUNCtion**. The keywords are separated by ":", with **V** being the parameter and separated from the keywords by space.

Command **MEASure:FUNCtion?** The question mark "?" indicates a query.

1.2 About the symbol

The following symbols are not sent with the command.

a. Vertical line |

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

b. Square brackets []

The content in square brackets can be omitted.

c. Triangle brackets<>

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

1.3 About the abbreviation

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

For example: **MEASure:VALUe?** Can be abbreviated as **MEAS:VALU?**

1.4 Terminator

The SCPI command must include a command terminator, which can be one of the follows (excluding double quotation marks): "\r\n", "\r", "\n" or "\0". In some serial communication software, select the option "send line break" means that the software will automatically send the command terminator.

2 Command lists

2.1 IEEE488.2 common commands

No	Commands	Description	Parameter	Returned value
1	*CLS	Clear error queue	-	-
2	*IDN?	Device identification query, the returned data is divided into 4 parts: 1. Product serial number 2. Software version 3. Sub-model type 4. Model	-	1. Product serial number 2. Software version 3. Sub-model type 4. Model
3	*RST	Program reset	-	-

2.2 Measurement and configuration commands

No	Commands	Description	Parameter	Returned value
1	MEASure:RANGe? "<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >"	Read the range of the current measure item, up to 6 channels, but must be the current channel	Double quoted string, separated by "," Channel name: V|mV|mA|Hz|Pulse|Switch | DRTD_CH1| DRTD_CH2|DPM|EPMA|EPMB|IPM|ATM	"channel name, lower limit, upper limit, unit ID", different sequences are separated by semicolons; Each sequence contains "channel name, lower limit, upper limit, unit ID;
2	MEASure:RTD1:CONFig?	Read RTD1 channel configuration (available when RTD_CH1 is in current list) For device with firmware version DPC-EX V0.33.29.8 and higher, we suggest replace this commands with **DATAlogger:RTD#:RTDConfig?**	-	Parameter 1, Parameter 2 [Parameter 3, Parameter 4] Parameter 1: Sensor type: Please refer to appendix 5. Parameter 2: wires 2(2 wires), 3(3 wires), 4(4 wires) Parameter 3: temperature unit 1000(K),1002(F),1001(℃) Parameter 4: decimal digits(0,1,2,3) Parameter 3 and parameter 4 are only for non-ohm sensor
3	MEASure:RTD1:CONFig <int>,0|1|2[,<int>,0|1|2|3]	Set RTD1 channel configuration (available when RTD_CH1 is in current list and data log has not started) For device with firmware version DPC-EX V0.33.29.8 and higher, we suggest replace this commands with **DATAlogger:RTD#:RTDConfig**	Parameter 1, Parameter 2 [Parameter 3, Parameter 4] Parameter 1: Sensor type: Please refer to appendix 5. Parameter 2: wires 2(2 wires), 3(3 wires), 4(4 wires) Parameter 3: temperature unit 1000(K),1002(F),1001(℃) Parameter 4: decimal digits (0,1,2,3) Parameter 3 and parameter 4 are only for non-ohm sensor	-

No	Commands	Description	Parameter	Returned value
4 -	MEASure:RTD2:CONFig?	Read RTD2 channel configuration (available when RTD_CH2 is in current list) For device with firmware version DPC-EX V0.33.29.8 and higher, we suggest replace this commands with **DATAlogger:RTD#:RTDConfig?**	-	Parameter 1, Parameter 2 [Parameter 3, Parameter 4] Parameter 1: Sensor type: Please refer to appendix 5. Parameter 2: wires 2(2 wires), 3(3 wires), 4(4 wires) Parameter 3: temperature unit 1000(K),1002(F),1001(℃) Parameter 4: decimal digits (0,1,2,3) Parameter 3 and parameter 4 are only for non-ohm sensor
5	MEASure:RTD2:CONFig <int>,0|1|2[,<int>,0|1|2|3]	Set RTD2 channel configuration (available when RTD_CH2 is in current list and data log has not started) For device with firmware version DPC-EX V0.33.29.8 and higher, we suggest replace this commands with **DATAlogger:RTD#:RTDConfig**	Parameter 1, Parameter 2 [Parameter 3, Parameter 4] Parameter 1: Sensor type: Please refer to appendix 5. Parameter 2: wires 2(2 wires), 3(3 wires), 4(4 wires) Parameter 3: temperature unit 1000(K),1002(F),1001(℃) Parameter 4: decimal digits (0,1,2,3) Parameter 3 and parameter 4 are only for non-ohm sensor	-
6	MEASure:VALUe? "<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >"	Read the measured value of the current measure item, up to 6 channels, but must be the current channel	Double quoted string, separated by “,” Channel name: V|mV|mA|Hz|Pulse|Switch | DRTD_CH1| DRTD_CH2|DPM|EPMA|EPMB|IPM|ATM	“channel name, measured value, unit ID“, different sequences are separated by semicolons; Each sequence contains “channel name, measured value, unit ID “; For DRTD channel, it has two measured

No	Commands	Description	Parameter	Returned value
				values, they are “channel name, measured value, unit ID, measured value 2, measured value 2 unit ID“; For ATM channel, it is “channel name, measured value, unit ID, env.temperature, 1001”;
7	MEASure:ZERO <UnquoStr >	Channel zero (available when the channel is in current list and data log has not started)	Parameter 1: channel name: V| mV| mA| Hz| Pulse| DRTD_CH1| DRTD_CH2| DPM|EPMA|EPMB|IPM	-
8	MEASure:CZERo <UnquoStr >	Cancel channel zero (available when the channel is in current list and data log has not started)	Parameter 1: channel name: V| mV| mA| Hz| Pulse| DRTD_CH1| DRTD_CH2| DPM|EPMA|EPMB|IPM	-
9	MEASure:CURRent24V?	Read the loop power status of current channel	-	1(on), 0(off)
10	MEASure:CURRent24V <boolean>| On|Off	Set the loop power status of current channel	0 or Off 1 or On	-
11	DATAlogger:RTD#:RTDConfig?	Read designated RTD channel configuration, channel is defined by suffix (1 or 2) Firmware version should be at least DPC-EX V0.33.29.8 Examples: DATAlogger:RTD1:RTDConfig:ECHO? DATAlogger:RTD2:RTDConfig:ECHO?		Sensor name Temperature unit ID Resolution 0->0 1->0.1 2->0.01 3->0.001 Wire 2,3,4

No	Commands	Description	Parameter	Returned value
12	DATAlogger:RTD#:RTDConfig	Set designated RTD channel configuration, channel is defined by suffix (1 or 2) Firmware version should be at least DPC-EX V0.33.29.8 Examples: DATAlogger:RTD1:RTDConfig:ECHO "Cu50(428)", 1002,2,2 DATAlogger:RTD1:RTDConfig:ECHO "ohm",1281,3,4	Parameter 1 Sensor type, such as: "Pt50(385)" ,"400ohm","Cu50(428)" Parameter 2 unit ID Parameter 3 resolution 0,1,2,3 Parameter 4 wires 2,3,4	None

2.3 Pressure commands

No	Commands	Description	Parameter	Returned value
1	PRESsure:RANGe? 0|1|2|3|4,0|1	Read the range of designated module (valid when the module is online)	Parameter 1:0 IPM; 1 ExtA；2 ExtB；3 DP; 4 ATM Parameter 2:0 origin range，1 display range	Lower limit，upper limit，unit ID，G|A|D
2	PRESsure? 0|1|2|3|4	Read the measured value of the designated module (valid when the module online)	0: IPM 1: ExtA 2: ExtB 3: DP 4: ATM	measured value，unit ID，G|A|D
3	PRESsure:EPM:STAT? 1|2	Read the online status of external module	Parameter: 1 ExtA；2 ExtB；	0 offline；1 online
4	PRESsure:UNIT 0|1|2|3,<int>|<QuoteStr>	Set the unit of designated module (valid when the module is online and it is the current module)	Parameter 1: 0 IPM; 1 ExtA；2 ExtB; 3 DP Parameter 2: unit ID or unit string (allow users set custom unit string, case sensitive, cannot be special mark like ℃,℉, need double quote mark)	-

No	Commands	Description	Parameter	Returned value
5	PRESsure:BASEconfig? 0|1|2|3	Read the parameter of designated module (valid when the module is online)	Parameter 1: 0 IPM ; 1 ExtA；2 ExtB；3 DP	When parameter= 0 | 1 | 2，return: 1: Unit ID， 2: G|A， 3: resolution， 4: measurement frequency， 5: tare enable， 6: tare value， 7: stabilization enable， 8: stabilization value% 9: stabilization time When parameter= 3，return: 1: Unit ID， 2: stabilization enable， 3: stabilization value% 4: stabilization time
6	PRESsure:BASEconfig 0|1|2|3,<int>|<QuoteStr>,<boolean>,<value>,<value>[,G|A,<int>,<int>,<boolean>,<value>]	Set the parameter of designated module (valid when the module is online and it is the current module)	Parameter 1: 0 IPM; 1 ExtA；2 ExtB; 3 DP When parameter 1=0 | 1 | 2， 2: unit ID or unit string (allow users set custom unit string, case sensitive, cannot be special mark like ℃,℉, need double quote mark) 3: stabilization enable(0|1) 4: stabilization value [0.001~5] % 5: stabilization time[1~60](unit: s) 6: G|A(G:GP，A:AP)	-

No	Commands	Description	Parameter	Returned value
			7: resolution [4~6] 8: measurement frequency[1~10](unit: Hz) 9: tare enable(0|1) 10: tare value When parameter 1=3， 2: unit ID or unit string (allow users set custom unit string, case sensitive, cannot be special mark like ℃,°F, need double quote mark) 3: stabilization enable(0|1) 4: stabilization value [0.001~5] % 5: stabilization time [1~60](unit: s)	
7	DIFFpressure:BASEconfig?	Read DP module(app) parameter	-	Parameter 1: status, 0=disable；1=enable Parameter 2: original resolution Parameter 3: original lower limit Parameter 4: original upper limit Parameter 5: original unit ID Parameter 6: calculation，0=A-B；1=B-A
8	DIFFpressure:BASEconfig <boolean>,4|5|6|7,<value>,<value>,<int>|<QuoteStr>,0|1	Set DP module(app) parameter	Parameter 1: status, 0=disable；1=enable Parameter 2: original resolution Parameter 3: original lower limit Parameter 4: original upper limit Parameter 5:original range unit ID or unit string (allow users set custom unit string, case sensitive, cannot be special mark like ℃,°F, need double quote mark)	-

No	Commands	Description	Parameter	Returned value
			Parameter 6: calculation，0=A-B；1=B-A	
9	PRESsure:STABleconfig? 0|1|2|3	Read stabilization parameter of designated module (valid when the module is online)	0:IPM 1:ExtA 2:ExtB 3:DP	0|1(enable status)，stabilization value(%)，stabilization time(s)
10	PRESsure:STABleconfig 0|1|2|3, <boolean>,<value>,<int>	Set stabilization parameter of designated module (valid when the module is online and it is the current channel)	Parameter 1:0 IPM；1 ExtA；2 ExtB；3 DP Parameter 2: stabilization enable, 0=disable，1=enable Parameter 3: stabilization value [0.001~5] % Parameter 4: stabilization time[1~60](unit: s)	-
11	PRESsure:TAREconfig? 0|1|2	Read the tare parameter of the designated module (valid when the module is online)	Parameter 1:0 IPM;1 ExtA；2 ExtB；	Parameter 1: 0=disable，1=enable Parameter 2: tare value Parameter 3: Unit ID
12	PRESsure:TAREconfig 0|1|2,0|1,<Numeric>	Set the tare parameter of the designated module (valid when the module is online and it is the current channel)	Parameter 1:0 IPM; 1 ExtA；2 ExtB； Parameter 2: tare enable, 0=disable，1=enable Parameter 3: tare value(based on current Unit)	-
13	PRESsure:FILTer? 0|1|2|3	Read the filter parameter of the designated module (valid when the module is online)	Parameter 1:0 IPM;1 ExtA；2 ExtB；3 DP	Parameter 1:0|1，enable status Parameter 2:0，first-order filter；1，average filter Parameter 3: When Parameter 2=0，first-order filter coefficient； When Parameter 2=1， window size
14	PRESsure:FILTer 0|1|2|3, <boolean>,0|1,<value>	Set the filter parameter of the designated module (valid when the module is online	Parameter 1: 0 IPM; 1 ExtA；2 ExtB；3 DP Parameter 2: enable status 0|1，	-

No	Commands	Description	Parameter	Returned value
		and it is the current channel)	Parameter 3: 0，first-order filter；1，average filter Parameter 4: when parameter 3=0，first-order filter coefficient [0.01~1]；when parameter 3=1， window size [1~50]	
15	PRESsure:EPM:STAT? 1|2	Read the online status of external module	Parameter: 1 ExtA；2 ExtB；	0 offline；1 online

2.4 Calibration commands

No.	Commands	Description	Parameter	Returned value
1	CALibration:EM:DATA 123456,<item>,<count>,<points>,<values>,<year>,<month>,<day>	Write EM board calibration data. Cannot be used when the device is in calibration (valid when the measurement item is in the current channel)	1. 123456: user calibration； 2.item: measurement item； 【 0: (-30~30)V measure，unit V 1: (-300~300)mV measure，unit mV 2: (-30~30)mA measure，unit mA 3: (0.01~50k)Hz measure，unit Hz】 3.count； 4.points: calibration points(quoted string, separated by comma) 5.values: reference value(quoted string, separated by comma) 6.year 7.month 8.day	-
2	CALibration:EM:DATA? 123456,<item>	Read EM board calibration data. Cannot be used when the device is in	1. 123456: user calibration； 2. measurement item【 0: (-30~30)V measure，unit V	Points, calibration point list (quoted string, separated by comma), reference value list

No.	Commands	Description	Parameter	Returned value
		calibration (valid when the measurement item is in the current channel)	1: (-300~300)mV measure，unit mV 2: (-30~30)mA measure，unit mA 3: (0.01~50k)Hz measure，unit Hz】	(quoted string, separated by comma), year, month, day Return “No Calibration Data” when there is no calibration data
3	CALibration:EM:PRESet 123456,<item>	Reset/ clear EM board calibration data. Cannot be used when the device is in calibration (valid when the measurement item is in the current channel) (EM firmware needs to be EM-EX V00.00.00.12 or later)	1. 3721: clear manufacturer calibration data； 123456: restore to manufacturer calibration data； 2.measurement item【 0: (-30~30)V measure，unit V 1: (-300~300)mV measure，unit mV 2: (-30~30)mA measure，unit mA 3: (0.01~50k)Hz measure，unit Hz】	-
4	CALibration:DRTD:DATA 123456,<item>,<count>,<points>,<values>,<year>,<month>,<day>	Read DRTD calibration data. Cannot be used when the device is in calibration (valid when the measurement item is in the current channel)	1: 123456: user calibration 2: item: measurement item 【 0: CH1(0~400)Ω measure, unit Ω 1: CH2(0~400)Ω measure, unit Ω】 3: count: 4: points: calibration points(quoted string, separated by comma) 5: values: reference values(quoted string, separated by comma) 6: year 7: month 8: day	-
5	CALibration:DRTD:DATA?	Read DRTD calibration data. Cannot	1: 123456: user calibration	Points, calibration point list (quoted string,

No.	Commands	Description	Parameter	Returned value
	123456,<item>	be used when the device is in calibration (valid when the measurement item is in the current channel)	2: item: measurement item 【 0: CH1(0~400)Ω measure, unit Ω 1: CH2(0~400)Ω measure, unit Ω】	separated by comma), reference value list (quoted string, separated by comma), year, month, day Return “No Calibration Data” when there is no calibration data
6	CALibration:DRTD:PRESet 123456,<item>	Reset/ clear DRTD calibration data. Cannot be used when the device is in calibration (valid when the measurement item is in the current channel)	1: 123456: user calibration 2: item: measurement item 【 0: CH1(0~400)Ω measure, unit Ω 1: CH2(0~400)Ω measure, unit Ω】	-
7	CALibration:BARosensor:DUALdata 123456,<point1>, <value1>,<point2>, <value2>,<year>,<month>,<day>	Write dual-point calibration data of the barometric sensor, unit is kPa, absolute. Cannot be used when the device is in calibration	1. 123456: user calibration； 2.point1: reference point 1 [60~130] kPa； 3.value1: original measure value 1, kPa； 4.point2: reference point 2 [60~130] kPa； 5.value2: original measure value 2，kPa； 6.year 7.month 8.day	-
8	CALibration:BARosensor:DUALdata? 123456	Read dual-point calibration data of the barometric sensor, unit is kPa, absolute Cannot be used when the device is in calibration	123456: user calibration	If calibration data exists: points，calibration points list(quoted string, separated by comma), reference value list (quoted string, separated by comma)，year，month，day If calibration data doesn’t exist:

No.	Commands	Description	Parameter	Returned value
				No Calibration Data
9	CALibration:BARosensor:PRESetdual 123456	Restore dual-point calibration data of the barometric sensor Cannot be used when the device is in calibration	123456: user calibration	-
10	CALibration:BARosensor:OFFSet 123456,<point>,<value>,<year>,<month>,<day>	Write single-point calibration data of barometric sensor, unit kPa Cannot be used when the device is in calibration	1. 123456: user calibration; 2.point: reference value [60~130] kPa 3.value: original measure value，kPa 3.year 4.month 5.day	-
11	CALibration:BARosensor:OFFSet? 123456	Read single-point calibration data of barometric sensor, unit kPa Cannot be used when the device is in calibration	123456: user calibration	If calibration data exists: reference value，readout, year，month，day If calibration data doesn't exist: No Calibration Data
12	CALibration:BARosensor:PRESetoffset 123456	Restore single-point calibration data of barometric sensor Cannot be used when the device is in calibration	123456: user calibration	-

2.5 System commands

No.	Commands	Description	Parameter	Returned value
1	SYSTem:VERSion? ["APPLication"|"HARDware"|"EM:FIR	Read the device version information (note to input correct parameter)	Optional parameter: APPLication" host version，	The default return is host version, otherwise it will be corresponding versions

No.	Commands	Description	Parameter	Returned value
	Mware"|"EM:HARDware"|"DTM:FIRMware"|"DTM:HARDware"|"IPM:FIRMware"|"IPM:HARDware"|"EPMA:FIRMware"|"EPMA:HARDware"|"EPMB:FIRMware"|"EPMB:HARDware"]		"HARDware" OS hardware version, "EM:FIRMware" EM board firmware version, "EM:HARDware" EM board hardware version, "DTM:FIRMware" dual-channel RTD measurement board firmware version, "DTM:HARDware" dual-channel RTD measurement board hardware version, "IPM:FIRMware" internal pressure module firmware version, "IPM:HARDware" internal pressure module hardware version, "EPMA:FIRMware" external pressure module A firmware version, "EIPMA:HARDware" external pressure module A hardware version, "EPMB:FIRMware" external pressure module B firmware version, "EIPMB:HARDware" external pressure module A hardware version.	
2	SYSTem:ERRor?	Read the next error item in error queue and delete it. Error queue can store up to 20 items. If more than 20 items, the last one will be -350, " Queue overflow" Powering off the system or send *CLS	-	Error massage

No.	Commands	Description	Parameter	Returned value
		command can clear the error queue		
3	SYSTem:ERRor:COUNt?	Read the count of error items	-	-
4	SYSTem:SN?	Read unit's serial number	-	Serial number
5	SYSTem:MODEl?	Read unit's model	-	Model
6	SYSTem:DATE <year>,<month>,<day>	Set system date	Year:< numeric_value>; [2000~2099] Month:< numeric_value>; Day:< numeric_value>	-
7	SYSTem:DATE?	Read system date	-	Year, month, day
8	SYSTem:TIME <hour>,<minute>,<second>	Set system time	hour:< numeric_value>; minute:< numeric_value>; second:< numeric_value>	-
9	SYSTem:TIME?	Read system time	-	Hour, minute, second
10	SYSTem:BATTery:Backlight?	Read backlight status	-	1，ON；0，OFF
11	SYSTem:BATTery:Backlight 0|1	Set backlight status	1，ON；0，OFF	
12	SYSTem:BATTery:BLOFf?	Read auto backlight off time: 1: 30 s 2: 5 mins 3: 30 mins	-	1|2|3
13	SYSTem:BATTery:BLOFf 1|2|3	Set auto backlight off time: 1: 30 s 2: 5 mins 3: 30 mins	1|2|3	-
14	SYSTem:BATTery:ASLeep?	Read auto sleep time: 0: never		0|3|4|5

No.	Commands	Description	Parameter	Returned value
		3: 30 mins; 4: 60 mins; 5: 90 mins;		
15	SYSTem:BATTery:ASLeep 0|3|4|5	Set auto sleep time: 0: never 3: 30 mins; 4: 60 mins; 5: 90 mins;	0|3|4|5	-
16	SYSTem:BATTery:POTime?	Read auto power off time: 0: never 3: 30 mins; 4: 60 mins; 5: 90 mins;	-	0|3|4|5
17	SYSTem:BATTery:POTime 0|3|4|5	Set auto power off time: 0: never 3: 30 mins; 4: 60 mins; 5: 90 mins;	0|3|4|5	-
18	SYSTem:BATTery:CHARging?	Read battery(charge) status		0 normal; 1 low battery; 2 charging;
19	SYSTem:BATTery:TYPE?	Read battery type		0: dry battery 1: Li-ion battery
20	SYSTem:BATTery:ADAPter?	Read the power adaptor status		0: no adaptor

No.	Commands	Description	Parameter	Returned value
				1: adaptor plugged
21	SYSTem:BATTery:VOLTage?	Read battery voltage (unit: V)		Battery voltage
22	SYSTem:SCREentest <Int>	Read screen test result	Types of test: 0: dead pixel detection; 1: touch test 2: button test 3: beep test	Result: 0: no result 1: failure 2: pass
23	SYSTem:SCREentest:CLR [0|1|2|3]	Clear result of screen test	Below parameters are optional. In case of no parameter, all results will be returned. 0: clear dead pixel detection; 1: clear touch test; 2: clear button test; 3: clear beep test;	-
24	SYSTem:SCREentest? <Int>	Read screen test result	Types of test: 0: dead pixel detection; 1: touch test 2: button test 3: beep test	Result: 0: no result 1: failure 2: pass
25	SYSTem:LANGuage?	Read system language		[0: 简体中文；1: English；2: 繁體中文；3: Deutsche；4: Español；5: Français；6: Italiano；7: 日本語；8: Русский]
26	SYSTem:LANGuage <Int>	Set system language	Parameter [0: 简体中文；1: English；2: 繁體中文；3: Deutsche；4: Español；5: Français；6: Italiano；7: 日本語；8: Русский]	

No.	Commands	Description	Parameter	Returned value
27	SYSTem:BT:STAT?	Read Bluetooth status		0 off；1 on
28	SYSTem:BT:STAT <boolean>|On|Off	Set Bluetooth status	0, Off 1, On	
29	SYSTem:BT:MAC?	Read Bluetooth MAC address		Bluetooth MAC address sample: 68:0a:e2:de:a6:3d
30	SYSTem:BT:NAME?	Read Bluetooth name		Bluetooth name
31	SYSTem:PWR:OFF	Power off		

2.6 Display commands

No.	Commands	Description	Parameter	Returned value
1	DISPlay:HOME	Jump to Home screen	-	
2	DISPlay:SCREen <val>	Jump to designated screen	0: dead pixel detection； 1: touch test 2: button test 3: beep test 4: Calibrator 5: Home	
3	DISPlay:SCREen:SHOT	Screenshot		
4	DISPlay:SCREen:LOCK <Boolean>|ON|OFF	Set screen lock status	0|OFF unlocked ;1|ON locked	None
5	DISPlay:SCREen:LOCK?	Read screen lock status	None	0|OFF unlocked ;1|ON locked
6	DISPlay:ACLOud:CAPTcha <Boolean>[,<QuoteStr>,<Value>]	Enable/disable verification code window example: DISPlay:ACLOud:CAPTcha:ECHO 1,	1: 0|1(off | on) 2: Display content of verification code window 3: Display time of verification code window (minute)	None

No.	Commands	Description	Parameter	Returned value
		"123456",1 DISPlay:ACLOud:CAPTcha:ECHO 0		

2.7 Data management commands

No.	Commands	Description	Parameter	Returned value
1.	DATamanager:COUNt? LEAKtest| SAFEtyvalvetest |SNAPshot| DATAlogger|ATT	Read data count	LEAKtest SAFEtyvalvetest SNAPshot: DATAlogger: ATT: air tightness test	Data count
2.	DATamanager:INFo? LEAKtest| SAFEtyvalvetest |SNAPshot| DATAlogger| ATT,<Numeric>,<Numeric>	Read data information	1: LEAKtest SAFEtyvalvetest SNAPshot DATAlogger ATT: air tightness test 2: start, start data position (start from 0) 3: count , read length,[1 ~ data count]	Information (base64 format string, items are separated by comma)
3.	DATamanager:DEL LEAKtest| SAFEtyvalvetest |SNAPshot| DATAlogger|ATT,< QuoteStr>	Delete test result	1: LEAKtest SAFEtyvalvetest SNAPshot DATAlogger ATT: air tightness test 2: name of delete operation (quoted)	Success or not 0|1
4.	DATamanager:DEL:ALL LEAKtest|	Delete all test result	1: LEAKtest	Success or not 0|1

	SAFEtyvalvetest |SNAPshot| DATAlogger|ATT		SAFEtyvalvetest SNAPshot DATAlogger ATT: air tightness test	
5.	DATamanager:LENGth? LEAKtest| SAFEtyvalvetest |SNAPshot| DATAlogger|ATT,< QuoteStr>	Read data length	1: LEAKtest SAFEtyvalvetest SNAPshot DATAlogger ATT: air tightness test 2: data name(quoted)	Data length
6.	DATamanager:DATA? LEAKtest| SAFEtyvalvetest |SNAPshot| DATAlogger|ATT,< QuoteStr>,<Numeric>,<Numeric>	Read designated data	1: LEAKtest SAFEtyvalvetest SNAPshot DATAlogger ATT: air tightness test 2: data name (quoted) 3: starting position (start from 0) 4: read data length	Base64 format string
7.	DATamanager:LENGth:BYINdex? LEAKtest|SAFEtyvalvetest| SNAPshot|DATAlogger|ATT, <Numeric>	Read data length based on file index	1: LEAKtest SAFEtyvalvetest SNAPshot ATT: air tightness test 2: file index	Data length
8.	DATamanager:DATA:BYINdex? LEAKtest|SAFEtyvalvetest|	Read data based on file index	1: LEAKtest SAFEtyvalvetest	Base64 format string

	SNAPshot|DATAlogger| ATT,<Numeric >,<Numeric>,<Numeric>		SNAPshot ATT: air tightness test 2: file index 3: starting position (start from 0) 4: read data length	

2.8 Data log commands

No.	Commands	Description	Parameter	Returned value
1.	CHANnel:LIST "<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >,<UnquoStr >"	Enable measurement channels, up to 6 channels	Channel name (double quoted, separated by comma) Optional parameter list: EM (choose only one channel from below) V mV mA Hz Pulse Switch DRTD_CH1 DRTD_CH2 DPM EPMA EPMB IPM ATM	-

			Totally 8 channels, up to 6 can be selected	
2.	CHANnel:LIST?	Read the current enabled channel		Channel name, separated by comma
3.	LOGGer:STARt < Numeric >,< Numeric >,< Numeric >,0|1,<QuoteStr>,<QuoteStr>,<QuoteStr>	Start data log	1: logging interval (unit is “s”, 0.1s resolution) 2: logging count 3: logging duration 4: 24V status, 1= off, 0=on 5: logging name 6: operator 7: note	-
4.	LOGGer:STOP 0|1[,<QuoteStr>,<QuoteStr>,<QuoteStr>]	End data log	1: save data or not. 1=save, 0= do not save 2: logging name 3: operator 4: note	-

2.9 LiveData commands

No.	Commands	Description	Parameter	Returned value
1.	DATA:LIVe?	Request livedata	-	livedata (pb serialized data)
2.	DATA:LIVe:UPLoad <boolean>[,<Numeric>]	Set livedata auto upload on/off	Parameter 1： 0|1 Parameter 2： auto upload interval, unit: s	-
3.	DATA:DEViceinfo?	Request deviceInfo	-	deviceInfo data (pb serialized data)

3 Unit name and ID

Unit ID	Unit
2000	Text
32767	Empty unit

1211	mA
1212	µA
1209	A
1240	V
1243	mV
1281	Ω
1284	kΩ
1283	MΩ
1077	Hz
1081	KHz
1080	MHz
1082	cpm
1083	cph
1084	1/Hz(s)
1085	1/KHz(ms)
1086	1/MHz(us)
9999	Pulse
1000	K
1001	℃
1002	℉
1003	°R
999	°Re
1133	kPa
1130	Pa
1131	GPa

1132	MPa
1134	mPa
1135	µPa
1136	hPa
1137	bar
1138	mbar
1139	torr
1140	atm
1141	psi
1142	psia
1143	psig
1144	gf/cm^2
1145	kgf/cm^2
1147	inH2O@4°C
1148	inH2O@68°F
1150	mmH2O@4°C
1151	mmH2O@20°C
1153	ftH2O@4°C
1154	ftH2O@68°F
1156	inHg@0°C
1158	mmHg@0°C
2001	mtorr
2002	lb/ft^2
2003	tsi
2004	psf

2005	inH2O@60°F
2006	ftH2O@60°F
2007	cmH2O@4°C
2008	mH2O@4°C
2009	cmHg@0°C
2010	mHg@0°C
2011	kgf/m^2

4 Error definition

No	Error code	Description of error	Explanation
1	0	No error	No error
Command error			
2	120	Command parameter error	Command parameter error
3	-108	Parameter not allowed	Too many parameters，or command without parameters have parameters
4	-109	Missing parameter	Lack parameter
5	-110	Command header error	Command header error
6	-114	Header suffix out of range	Command suffix out of range
7	-123	Numeric overflow	Numeric overflow，the absolute value of the index of the number is greater than 43
8	-151	Invalid string data	Invalid string data，eg.quotation mark missmatch
9	-171	Invalid expression	Invalid expression eg.bracket mismatch
Execution error			
10	-200	Execution error	Execution error
11	-221	Settings conflict	Settings conflict
12	-222	Data out of range	The parameter value exceeds the valid range of the command

No	Error code	Description of error	Explanation
13	-223	Too much data	Too much data to handle
14	-224	Illegal parameter value	Illegal parameter value
15	-230	Data corrupt or stale	Invalid data，or data is being read, no valid data yet
16	-240	Hardware error	Hardware error
17	-256	File name not found	File name not found
18	-282	Illegal program name	Illegal program name
19	220	Measure error	Measure error
20	221	Failed to set meaure function	Failed to set meaure function
21	222	Failed to read measure value	Failed to read measure value
22	223	Failed to zero pressure module	Failed to zero pressure module
23	224	Failed to clear the auto zero value	After zero the pressure module, it will also clear the auto zero value of the controller(valid when enable auto zero function), this error happens when fail to clear the controller's auto zero value
24	240	Control error	Control error
25	241	Failed to set target pressure	Failed to set target pressure
26	242	Failed to set pressure mode	Failed to set pressure mode
27	243	Failed to configure control parameters	Failed to configure control parameters, including controlling rate, pressure stability, pressure type, vent pressure, auto zero setting.
28	260	Calibration error	Calibration error
29	261	Calibration secured	The device is in calibration protection state and unable to perform calibration
30	262	Invalid calibration secure code	Invalid calibration secure code
31	263	Missing calibration value	This error occurs when the calibration value is set without setting the calibration point during current/voltage calibration

No	Error code	Description of error	Explanation
32	264	Missing calibration data	This error occurs when calibration points are set continuously without calibration values set
33	265	Failed to set calibration function	Failed to set calibration function
34	266	Calibration data is not enough	When saving the calibration data, this error occurs if the calibration data does not reach 3 points
35	271	Setion_name_not_found	Section name not found
36	272	Key_name_not_found	Keyname not found
37	291	Update secured	The device is in update protection state and cannot be update
38	292	Invalid update secure code	Invalid update secure code
39	293	Not found the service pack	Not found the update pack
40	294	The service pack unavailable	The update pack unavailable
41	295	AppUpdate not found	AppUpdate.exe not found
Device error			
42	-310	System error	System error
43	-311	Memory error	Memory error
44	-350	Queue overflow	Error queue overflow
45	-360	Communication error	Communication error
46	301	Internal module is not connected	Internal module is not connected
47	302	External module is not connected	External module is not connected
48	303	Supply module is not connected	Positive pressure module is not connected
49	304	Vacuum module is not connected	Negative pressure module is not connected
50	361	Open WLAN Failed	Open WIFI failed
51	362	Set WLAN address mode failed	Set WIFI address mode failed

No	Error code	Description of error	Explanation
52	363	Set WLAN address failed	Set WIFI address failed
53	364	Communication port to WIFI module is not open	Communication port to WIFI module is not open
54	365	WLAN is not connected	WIFI is not connected

5 RTD Sensor list

No. (command code)	Name	Note
0	Resistance signal(ohm)	
1	Pt100(385)	
2	Pt10(385)	
3	Pt50(385)	
4	Pt200(385)	
5	Pt400(385)	Out of device's range, not supported
6	Pt500(385)	Out of device's range, not supported
7	Pt1000(385)	Out of device's range, not supported
8	Pt25(385)	
9	Pt100(3916)	
10	Pt100(3926)	
11	Pt100(3910)	

12	Cu100(428)	
13	Cu100(100M)	
14	Cu50(428)	
15	Cu50(426)	
16	Cu10(427)	
17	Ni100(617)	
18	Ni100(618)	
19	Ni120(672)	
20	Ni1000	Out of device’s range, not supported