ADT760 Commands Set

NOTE: In the system, pressure unit is an independent parameter. Current / voltage unit is used as a parameter along with its numerical value.

A1.1 IEEE488.2

S/N	Command	Description	Parameter	Return Value
1	*CLS	The command removes the following register: Standard event register; Query event register; Operational event register; Status byte register; Error queue.	-	-
2	*ESE <enable value>	Set the value of standard event enable register	<NRf>,0-255	-
3	*ESE?	Read the value of standard event enable register	-	<NR1>
4	*ESR?	Read the value of standard event register. On execution of the order, the value of standard event register will be reset.	-	<NR1>
5	*IDN?	In inquiring the apparatus marking, the	-	Product series No.

S/N	Command	Description	Parameter	Return Value
		return data shall be divided into 2 parts: a.Product series No; b.Software version No.		and software Ver. No.
6	*OPC	After the equipment implements *OPC command, set the "operation complete" of standard event register at 1.	-	-
7	*OPC?	After *OPC? Order, return to 1.	-	1
8	*RST	Reset main program	-	-
9	*SRE <enable value>	Set the value of status byte enable register	<NRf>,0-255	-
10	*SRE?	Read the value of status byte enable register	-	<NR1>
11	*STB?	Read the value of status byte register	-	<NR1>
12	*WAI	Wait for completion of operation.	-	-

A1.2 Measurement and configuration

S/N	Command	Description	Parameter	Return Value
1	MEASure[:SCALar][:PRESsure<n>]?	Pressure measurement. n valuing 1~6. PRESsure1 means reading the pressure of pressure module under control (the value adjusted by air column under the currently set pressure type); PRESsure2 means reading the pressure of internal module (as original value); PRESsure3 means reading the pressure of external module (as original value); PRESsure4 means reading the pressure of positive pressure module (as original value); PRESsure5 means reading the pressure of negative pressure module (as original value); PRESsure6 means reading atmospheric pressure	-	Measurement value: name of unit
2	MEASure[:SCALar]:CURRent?	Current measurement. For multi-channel measurement, n=1~4.	-	Measurement value

S/N	Command	Description	Parameter	Return Value
		On receiving the command, the controller sets the measurement item as mA measurement, conduct measurement, and return to the measurement value. The current measurement has only one range (-30~30) mA, displaying the fixed bit width of 6.		
3	MEASure[:SCALar]:VOLTage?	Voltage measurement		Measurement value
4	MEASure[:SCALar]:SWITch:REGular?	Mechanical Switch status test	-	1 : Open ; 0 : Close.
5	MEASure[:SCALar]:SWITch:PNP?	PNP Switch status test		1 : Open ; 0 : Close.
6	MEASure[:SCALar]:SWITch:NPN?	NPN Switch status test		1 : Open ; 0 : Close.
7	MEASure[:SCALar]:ElECtricity?	Read current measurement value.		Measurement value, unit.
8	SENSe:ElECtricity:FUNCtion “<function>”	Switch measurement type due to “<function>”	Measurement type: “CURRent” : current	-

S/N	Command	Description	Parameter	Return Value
			measurement ; "CURRent:SOURce" :current output "VOLTage": voltage measurement within (-300~300)mV range ; "SWITch:REGular" : Switch tes; "SWITch:PNP" : PNP switch test; "SWITch:NPN" : NPN switch test.	
9	SENSe:ElECtricity:FUNCtion?	Read measurement type	-	
10	SENSe:PRESsure<n>:MODE ABSolute|GAUGe	Pressure type switching, n=1~3 1. Internal pressure module 2. External pressure module A 3. External pressure module B	ABSolute : Absolute pressure ; GAUGe : Gauge pressure ;	-
11	SENSe:PRESsure<n>:MODE?	Read pressure type, n=1~3 1. Internal pressure module	-	Pressure type

S/N	Command	Description	Parameter	Return Value
		2. External pressure module A 3. External pressure module B		
12	SENSe:PRESsure<n>:DIGit 4|5|6|7|MINimum|MAXimum	Set pressure value display bit wide. 7 bit is only available for quartz pressure module. n=1~3 1. Internal pressure module 2. External pressure module A 3. External pressure module B	Bit wide: MIN stands for minimum bit wide; MAX stands for maximum bit wide ;	-
13	SENSe:PRESsure<n>:DIGit? [MINimum|MAXimum]	Set pressure value display bit wide. n=1~3 1. Internal pressure module 2. External pressure module A 3. External pressure module B	MINimum stands for minimum bit wide; MAXimum stands for maximum bit wide; Current set Ignore this parameter	Bit wide
14	SENSe:PRESsure<n>:RANGe:UPPer?	Read the upper limit of current pressure control module	-	Upper limit, unit
15	SENSe:PRESsure<n>:RANGe:LOWer?	Read the lower limit of current pressure control module	-	Lower limit, unit
16	SENSe:PRESsure<n>:ZER	Zero pressure measurement value of	-	-

S/N	Command	Description	Parameter	Return Value
	O	current pressure control module. n=1~3 1. Internal pressure module 2. External pressure module A 3. External pressure module B		
17	SENSe:ElECtricity:ZERO	Zero current electrical measurement value	-	-
18	SENSe:VOLTage[:DC]:RANGe? [MINimum|MAXimum]	Read voltage measurement range	MINimum stands for minimum range ; MAXimum stands for maximum range ; All available ranges will be returned if ignore this parameter.	Lower limit, upper limit
19	SENSe:CURRent[:DC]:RANGe?	Read current measurement range	-	Lower limit, upper limit
20	SENSe<n>:ONLine?	Read pressure module status. n=1~3 1. Internal pressure module 2. External pressure module A		1 : Online 0 : Offline

S/N	Command	Description	Parameter	Return Value
		3. External pressure module B		
21	SENSe<n>:VERSionSW|HW	Read pressure module version. n=1~3 1. Internal pressure module 2. External pressure module A 3. External pressure module B	SW：Software Version HW：Hardware Version	

A1.3 Output

S/N	Command	Description	Parameter	Return Value
1	[SOURce:]PRESsure<pressure_value>	Set targeted pressure value and output pressure.	Pressure value : <numeric_value> , unit is the current set unit of system	-
2	[SOURce:]PRESsure?	Read target pressure value	-	Target value, unit
3	[SOURce:]PRESsure:LIMit:UPPer?	Read pressure output upper limit	-	Upper limit, unit
4	[SOURce:]PRESsure:LIMit:LOWer?	Read pressure output lower limit	-	Lower limit, unit
5	[SOURce:]PRESsure:SLEW <value>	Set pressure control rate	Pressure control rate: <numeric_value> , unit is the current set unit of system	-
6	[SOURce:]PRESsure:SLEW? [LOWer|UPPer]	Read pressure control rate	LOWer: Read lower limit UPPer: Read upper limit Read current	Pressure control rate, unit

S/N	Command	Description	Parameter	Return Value
			pressure control rate if ignore this parameter	
7	[SOURce:]PRESsure:SLEW :TYPEMAX|CUSTom	Set pressure control rate type	Max: Maximum rate Custom: Custom rate	-
8	[SOURce:]PRESsure:SLEW :TYPE?	Read pressure control rate type	-	Pressure control rate type
9	[SOURce:]PRESsure:TOLe rance<value>	Set pressure stability	Pressure stability: <numeric_value> , %FS	-
10	[SOURce:]PRESsure:TOLe rance?	Read pressure stability	-	Pressure stability
11	OUTPut[:PRESsure]:MOD E CONTrol|MEASure|VENT	Set controller working type	CONTrol ; MEASure ; VENT.	-
12	OUTPut[:PRESsure]:MOD E?	Read controller working type	-	controller working type
13	OUTPut[:PRESsure]:STABl	Read pressure stability status	-	1 : Stable ; 0 : Unstable

S/N	Command	Description	Parameter	Return Value
	e?			
14	OUTPut:GPIO<n>[:STATus]<Boolean>|LOW|HIGH	Set IO port status， n=1~30， stands for the IO port pin position. For example, GPIO2 stands for the second pin of IO port.	1 or HITH：High electrical level； 0 or LOW：Low electrical level	-
15	OUTPut:GPIO<n>[:STATus]?	Read IO port status	-	1：High electrical level； 0：low electrical level
16	OUTPut:24V[:STATe] 0|1|OFF|ON	Set 24V power status	1 or ON 0 or OFF	OK, ERROR
17	OUTPut:24V[:STATe]?	Read 24V power status	-	24V power status
18	[OUTPut:]CURRent:SOURce<Value>[,<Mode>]	Current output	Value：current output value Mode： Output mode 0：Original value 1：End value Default is 1	
19	[OUTPut:]CURRent:SOURce?	Read current output value		

A1.4 Calculation

S/N	Command	Description	Parameter	Return Value
1	CALCulate[:PRESsure]:LIMit:LOWer<low>	Set pressure lower limit	Pressure lower limit, unit is the current set unit of system	-
2	CALCulate[:PRESsure]:LIMit:LOWer?	Read pressure lower limit	-	Pressure lower limit, unit
3	CALCulate[:PRESsure]:LIMit:UPPer<high>	Set pressure upper limit	Pressure upper limit, unit is the current set unit of system	-
4	CALCulate[:PRESsure]:LIMit:UPPer?	Read pressure upper limit	-	Pressure upper limit, unit
5	CALCulate[:PRESsure]:LIMit:STATe<Boolean>|ON|OFF	Set whether the output range limit is enabled	1 or ON : Enable 0 or OFF : Disable	-
6	CALCulate[:PRESsure]:LIMit:STATe?	Inquire whether the output range limit is enabled	-	1 : Enable 0 : Disable
7	CALCulate[:PRESsure]:LIMit:VENT<value>	Set venting pressure	Venting pressure: <numeric_value> ,	-

S/N	Command	Description	Parameter	Return Value
			unit is the current set unit of system	
8	CALCulate[:PRESsure]:LIMit:VENT?	Read venting pressure	-	Venting pressure, unit

A1.5 System

S/N	Command	Description	Parameter	Return Value
1	SYSTem:VERSion? [<module>]	Read module SCPI Ver No.. Default is the system SCPI version number	"APPLication" : Main program version "CONTroller:FIRMware" : Controller firmware version "CONTroller:HARDware" : Controller hardware version "ElECtricity:FIRM	Version number

S/N	Command	Description	Parameter	Return Value
			ware" : Electrical measurement board firmware version "ElECtricity:HARDware" : Electrical measurement board hardware version	
2	SYSTem:ERRor[:NEXT]?	Check next error item in the error queue, and delete the item from the queue. The error queue can store 50 pieces of error information. The last piece will be replaced by -350 "Queue overflow" in the case of over 50 pieces. System power off or *CLS order can remove error queue.	-	Error information
3	SYSTem:DATE?	Read system date	-	Year, month, day
4	SYSTem:TIME?	Read system time	-	Hour, minute, second
5	SYSTem:KLOCk<Boolean>|ON|OFF	Set screen lock	1 or ON: Lock screen ;	-

S/N	Command	Description	Parameter	Return Value
			0 or OFF: Unlock screen	
6	SYSTem:KLOCk ?	Read screen lock status	-	1 : Lock 0 : Unlock
7	SYSTem:MAINtenance:MODE<Boolean>|ON|OFF	Set system maintenance status	1 or ON: Maintenance start 0 or OFF: Maintenance stop	-
8	SYSTem:MAINtenance:STATe?	Read system maintenance status	-	Outlet pressure, positive, and negative pressure venting status InProgress : Being venting Completed : Complete venting Failed : Venting failed
9	SYSTem:COMMunicate:SOCKet:WLAN[:STATe]<Boolean>|ON|OFF	Set WIFI status NOTE : The serial port will be disabled if WiFi is on. During conversion time,	1 or ON : Turn on WIFI ; 0 or OFF : Turn off	-

S/N	Command	Description	Parameter	Return Value
		communicate with controller through the Ethernet.	WIFI	
10	SYSTem:COMMunicate:SOCKet:WLAN[:STATe]?	Read WIFI Status	-	1： WIFI is on ; 0： WIFI is off
11	SYSTem:COMMunicate:SOCKet:WLAN:ADDRess<IP address>	Set WIFI IP address	IP address : Without quotation marks, the format is <NR1>.<NR1>.<NR1>.<NR1>	-
12	SYSTem:COMMunicate:SOCKet:WLAN:ADDRess?	Read WIFI IP address	-	IP address
13	SYSTem:COMMunicate:SOCKet:WLAN:MASK <IP address>	Set subnet mask	IP address : Without quotation marks, the format is <NR1>.<NR1>.<NR1>.<NR1>	-
14	SYSTem:COMMunicate:SOCKet:WLAN:MASK?	Read subnet mask	-	IP address

S/N	Command	Description	Parameter	Return Value
15	SYSTem:COMMunicate:SOCKet:WLAN:GATeway <IPaddress>	Set WIFI gateway	IP address : Without quotation marks, the format is <NR1>.<NR1>.<NR1>.<NR1>	-
16	SYSTem:COMMunicate:SOCKet:WLAN: GATeway?	Read WIFI gateway	-	IP address
17	SYSTem:COMMunicate:SOCKet:WLAN:MAC?	Read WIFI MAC address	-	MAC address
18	SYSTem:COMMunicate:SOCKet:WLAN:DHCP[:STATe] <Boolean>|OFF|ON	Set WIFI DHCP status	1 or ON: DHCP on; 0 or OFF: DHCP off	-
19	SYSTem:COMMunicate:SOCKet:WLAN:DHCP[:STATe]?	Read WIFI DHCP status	-	1: DHCP on; 0: DHCP off
20	SYSTem:COMMunicate:SOCKet:WLAN:SSID? [ALL]	If this parameter is ALL, the search is performed, and returns all the search to the SSID name and encryption methods. If ignoring parameters, returns the current	-	{["ssid: encryption method"]}

S/N	Command	Description	Parameter	Return Value
		connection name and SSID encryption, no connection or not to return to the hot search""		
21	SYSTem:COMMunicate:SOCKet:WLAN:CONNect <ssid>,encryptionMode[,<password>]	Connect to specific hot spot	1) ssid: Hot spot name, string with quotation marks ; 2) encryptionMode: encryption method , OPEN|WPA|WPA2 ; 3) password: password, string with quotation marks	-
22	SYSTem:COMMunicate:SOCKet:WLAN:CONNect?	Read WIFI connection status	-	Successfully, Initialization, SSIDNotFound SSIDNotConfigured, JoinFaile

S/N	Command	Description	Parameter	Return Value
				ScaningConfiguredSSID WaitingIPConfiguration ModuleJoinedListeningSockets
23	SYSTem:COMMunicate:SOCKet:WLAN:DISConnect	Disconnect WIFI	-	-
24	SYSTem:COMMunicate:SOCKet:WLAN:DBM?	Read WIFI DBM value	-	DBM value , uint is dBm

A1.6 Status

S/N	Command	Description	Parameter	Return Value
1	STATus:OPERation:ENABle<enable value>	Set operation status enable register	Enable value: <numeric_value>, 0-65535	-
2	STATus:OPERation:ENABle?	Read operation status enable register	-	<enable value>:NR1
3	STATus:OPERation[:EVENt]?	Read the value of operation status register. On execution of the command, the value of operation status register shall be reset.	-	<value>:NR1
4	STATus:QUEStionable:ENABle<enable value>	Set problem data enable register	Enable value : <numeric_value>, 0-65535	-
5	STATus:QUEStionable:ENABle?	Read problem data enable register	-	<enable value>:NR1
6	STATus:QUEStionable[:EVENt]?	Read the value of problem data incident Register. The value of the problem data enable register will be cleared after the command is executed.	-	<value>:NR1
7	STATus:PRESet	Remove the value operation status enable register and problem data enable register	-	-

A1.7 Unit

S/N	Command	Description	Parameter	Return Value
1	UNIT:PRESsure<n><unit_name>|<unit_ID>	Set pressure unit	Unit :Can be a unit name or unit ID, unit name is a string with quotes, unit ID is number.	-
2	UNIT:PRESsure<n>?	Read pressure unit	-	Unit name
3	UNIT:PRESsure<n>:ID?	Read system unit ID n= 1~3 1. Internal pressure module 2. External pressure module A 3. External pressure module B		Unit ID

A1.8 Data Record

S/N	Command	Description	Parameter	Return Value
1	DATALOGGER:COUNt?		Read the total number of data records	Result quantity
2	DATALOGGER:CATalog? <Index>,<count>	Index: Starting position count : Qty. (0-5)	Read data record brief information (GUID, record name, operator, notes, record time, sampling number, sampling interval)	ClassName , Base64 character data , CRC16 check code (Data obtained by anti serialization)
3	DATALOGGER:LOGGerinfo ? <guid>	guid : Unique identifier for data records	Read a record information (the number of channels, channel information, etc.)	ClassName , Base64 character data , CRC16 check code (Data obtained by anti serialization)
4	DATALOGGER:DATA? <guid>,<start>,<length>	guid : Unique identifier for data records start : Relative starting position length :Length of information reading in one	Read log data	data ,Base64 character data , CRC16 check code (Data need to

S/N	Command	Description	Parameter	Return Value
		time (less than 750 bytes)		be converted into an array of byte, and then converted to float values for presentation)
5	DATALOGGER:DELete<guid>	guid : Unique identifier for data records	Delete record	
6	DATALOGGER:CLEar		Clear all records	
7	DATALOGGER:SEARchcount ? <Condition>	Condition : Condition, strings with quotation marks Format : "Type,Param" Type: Searching method 0: Result name 1: operator 2: Note 3: Start and stop time Param: The parameters of the search method, separated by a comma. Muilt-condition searching are available. eg:	Number of searching result which meets the condition	Result quantity

S/N	Command	Description	Parameter	Return Value
		DATALOGGER:SEARchcount? "0,test;1,sun;2,heihei;3,2000/01/28,2016/10/28"		
8	"DATALOGGER:SEARchinfo [:ECHO]? < Condition>,< Index>,< count>"	Conditon: Same as above Index: Starting position count : Qty. (0-5)	Read the brief information that satisfies the condition data record	ClassName，Base64 character data，CRC16 check code (Data obtained by anti serialization)

A1.9 HART

S/N	Command	Description	Parameter	Return Value
1.	HART:SUPPLYMODE?		Read power supply type	0 :Internal ;1 :External ;
2.	HART:SUPPLYMODE Int|Ext|0|1	0 or Int : Internal ; 1 or Ext : External ;	Set power supply type (the electrical measurement will switch to HART measurement if power supply type is changed)	
3.	HART:SEARCHStart|Stop|Zero[,<Numeric>][,<Numeric>]	Start : Start searching ; Stop : Stop searching ; Zero : Only search where address is 0 NOTE: address range parameter can be added follow "Start" and "Stop", such as ",0,15"	HART search ;	
4.	HART:DEVICES?		Return to the searched device list (address and	

S/N	Command	Description	Parameter	Return Value
			type)	
5.	HART:CONnect<address>	Address:	Connect to searched device	
6.	HART:ONLDEVice:PROCess?			PV or 0： Process variable； AO or 1：Digital current value； % or 2：Percentage of pressure range； SV or 3：Secondary variable； TV or 4：Tertiary variable； FV or 5：Quatemary variable；
7.	HART:ONLDEVice:PROCess PV|AO|%|SV|TV|FV|0|1|2|3|4|5	PV|AO|%|SV|TV|FV|0|1|2|3|4|5	Switching process variable	
8.	HART:ONLDEVice:PARame	name: parameter name	Read parameter	

S/N	Command	Description	Parameter	Return Value
	ter? <name>			
9.	HART:ONLDEVice:PARameter[:ECHO] <name>,<“value” >|<value>	name: parameter name value: Value (with a quoted string, or number)	Set parameter	
10.	HART:ONLDEVice:INFO?	No or < parameter name > parameter name listed below: Tag Manufacturer Devicetype Deviceid writeprotect date message descriptor finalassemble preambles universalrev hardwarerev softwarerev devicerev	Return HART device information	Returns all device information values when no parameters are entered; Corresponding parameter values returns when the parameter name is specified;

S/N	Command	Description	Parameter	Return Value
11.	HART:ONLDEVice:SENSor?	No or < parameter name > parameter name listed below: sn unit lrl url minspan	Return sensor information	Returns all device information values when no parameters are entered; Corresponding parameter values returns when the parameter name is specified;
12.	HART:ONLDEVice:OUTput?	No or < parameter name > parameter name listed below: unit lrv urv damping transferFunction	Return HART device output parameter value	Returns all device information values when no parameters are entered; Corresponding parameter values returns when the parameter name is specified;