

ADT 22XA RS232 General Command Collection V1.0

I	P	Command	C0	C1	C2	C3	Return (A:F:CMD:...)	Description
MEASURE & SOURCE								
1	R	MITEM	-	-	-	-	<Name>:<Params...>	<p>Read current measurement Item</p> <ol style="list-style-type: none"> 1、 RTD(<RTD>:<Sensor Type Name>:<Wire(2W,3W,4W)>:<Temperature Unit(C,F,K)>) 2、 TC(<TC>:<Sensor Type Name>:<CJC Mode(INT,EXT)>:<CJC Value>:<Temperature Unit(C,F,K)>) 3、 PRESSURE(<PRESSURE>:<Pressure Unit>) 4、 HART(<HART>) 5、 Measure Pulse(<PULSE>:<Edge(0-DOWN,1-UP)>) 6、 Electric Measures(<Measurement Name>) <p>(a) Electric Measures List: "SW", "HZ", "MA", "75MV", "30V", "2WR4H", "3WR4H", "4WR4H", "2WR4K", "3WR4K", "4WR4K"</p> <p>(b) RTD Sensor Type Name: is same with the RTD Sensor type list in the 22XA. such as: "Pt100(385)", "Pt100(391)", and so on .</p> <p>(c) TC Sensor Type Name: is same with the TC Sensor type list in the 22XA. such as: "S", "R", "B", "K", "N", "E", "J", "T", "C", "D", "G", "L", "U"</p>

2	R	SITEM	-	-	-	-	<Name>:<Params...>	<p>Read current source Item</p> <ol style="list-style-type: none"> 1、 RTD(<RTD>:<Sensor type Name>:<Temperature Unit(C,F,K)>) 2、 TC(<TC>:<Sensor type Name>:<CJC Mode(INT,EXT)>:<CJC Value>:[Temperature Unit(C,F,K)>) 3、 PRESSURE(<PRESSURE>:<Pressure Unit>) 4、 Source Pulse(<PULSE>:<Edge(0-DOWN,1-UP)>:<Amplitude>:<Freq>) 5、 Source Hz(<HZ>:<Amplitude>) 6、 Electric Sources(<Source Name>) <p>(a)Electric Sources List: "12V", "75MV", "24VMA", "MA", "R4H", "R4K"</p> <p>(b) RTD Sensor Type Name: as same with the RTD Sensor type list in the 22XA. such as: "Pt100(385)", "Pt100(391)", and so on .</p> <p>(c) TC Sensor Type Name: as same with the TC Sensor type list in the 22XA. such as: "S", "R", "B", "K", "N", "E", "J", "T", "C", "D", "G", "L", "U"</p>
3	R	MVAL	-	-	-	-	[Name]:[Value]:[Uni	<p>Read current measuring value</p> <ol style="list-style-type: none"> 1、 RTD([RTD):[Temperature Value]:[Temperature Unit(C,F,K)]:[Resistance Value]:[OHM]) 2、 TC([TC):[Temperature Value]:[Temperature Unit(C,F,K)]:[MilliVolts Value]:[MV]:[CJC Value]) 3、 PRESSURE([PRESSURE):[Pressure Value]:[Pressure Unit]) 4、 HART([HART):[PV]:[PV Unit]:[PVAO]:[Percentage]:[CA]) 5、 Electric Measures([Measurement Name]:[Measure Value]:[Measure Unit]) <p>Electric Measures List: "SW", "PULSE", "HZ", "MA", "75MV", "30V", "2WR4H", "3WR4H",</p>

4	R	SVVAL	-	-	-	-	[Name]:[Value]:[Unit]	<p>Read current Sourcing value</p> <p>1、RTD([RTD):[Temperature Value]:[Temperature Unit(C,K,F)]:[Resistance Value]:[OHM])</p> <p>2、TC([TC):[Temperature Value]:[Temperature Unit(C,K,F)]:[MilliVolts Value]:[MV):[CJC Value])</p> <p>3、PRESSURE([PRESSURE):[Pressure Value]:[Pressure Unit])</p> <p>4、Electric Source([Source Name]:[Source Value]:[Source Unit])</p> <p>Electric Source List: "PULSE", "HZ", "12V", "75MV", "24VMA", "MA", "R4H", "R4K"</p>
5	W	SVVAL	C0	-	-	-	:OK	<p>Write the value to source in current source item and current unit.</p> <p>Address:W:SVVAL:<Source Value></p>
6	W	MUNIT	C0	-	-	-	:OK	<p>Write the unit for current measurement item (only is valid for RTD, TC and PRESSURE measure items)</p> <p>1、RTD,TC(<Temperature Unit(=012,CKF)>)</p> <p>2、PRESSURE(<Pressure Unit(=0-10,"Pa", "kPa", "MPa", "psi", "bar", "mbar", "inHg", "mmHg", "inH2O", "mmH2O", "kgf/cm2")>), according to the range of pressure module, some pressure units are not support to</p>
7	W	SUNIT	C0	-	-	-	:OK	<p>Write the unit for current source item (only is valid for RTD, TC and PRESSURE source items)</p> <p>1、RTD,TC(<Temperature Unit(=012,CKF)>)</p> <p>2、PRESSURE(<Pressure Unit(=0-10,"Pa", "kPa", "MPa", "psi", "bar", "mbar", "inHg", "mmHg", "inH2O", "mmH2O", "kgf/cm2")>), according to the range of pressure module, some pressure units are not support to</p>
8	W	MZERO	-	-	-	-	:OK	<p>Zero the measured value for measurement items listed blow:</p> <p>"75MV", "12V", "PULSE", "400ohm", "4K ohm", "mA", "Pressure"</p> <p>Tx: Address:W:MZERO</p>
9	W	SRESET	-	-	-	-	:OK	<p>Reset the sourced value for source items listed blow:</p> <p>"75MV", "12V", "HZ", "400ohm", "4K ohm", "mA"</p> <p>Tx: Address:W:SRESET</p>

10	W	MVOLT	-	-	-	-	:OK	Switch to 30V measurement Tx: Address:W:MVOLT
11	W	MMILLIVOLT	-	-	-	-	OK	Switch to 75mV measurement Tx: Address:W:MMILLIVOLT
12	W	MFREQ	-	-	-	-	:OK	Switch to frequency measurement Tx: Address:W:MFREQ
13	W	MPULSE	C0	-	-	-	OK	Switch to pulse measurement Tx: Address:W:MPULSE:[Edge(=0-DOWN,1-UP)(Optional,Default 0)]
14	W	MOHM	C0	C1	-	-	:OK	Switch to ohm measurement Tx: Address:W:MOHM:<Range(=0-400ohm,1-4kohm)><Wire(=2,3,4)>
15	W	MSWITCH	-	-	-	-	:OK	Switch to switch test. Tx: Address:W:MSWITCH
16	W	MCUR	-	-	-	-	:OK	Switch to current measurement. Tx: Address:W:MCUR
17	W	MTC	C0	C1	C2	C3	:OK	Switch to TC measurement Tx: Address:W:MTC:<Sensor Type List Index(=0-12)><Temperature Unit(=012,CKF)><CJC Mode(=0-INTERNAL,1-EXTERNAL)><CJC Value> note: TC Sensor Type list is same with the TC Sensor type list in the 22XA. such as: "S", "R", "B", "K", "N", "E", "J", "T", "C", "D", "G", "L", "U".
18	W	MRTD	C0	C1	C2	-	:OK	Switch to RTD measurement Tx: Address:W:MRTD:<Sensor Type(=0-10)><Wire(=2,3,4)><Temperature Unit(=012,CKF)> note: RTD Sensor Type List list is same with the TC Sensor type list in the 22XA.
19	W	MPRESSURE	C0	-	-	-	:OK	Switch to pressure measurement Tx: Address:W:MPRESSURE:[Pressure Unit(Optional)] Pressure Unit List: "Pa", "kPa", "MPa", "psi", "bar", "mbar", "inHg", "mmHg", "inH2O", "mmH2O", "kgf/cm2"

20	W	SVOLT	C0	-	-	-	:OK	Switch to 12V source Tx: Address:W:SVOLT:[Default Output Value(Optional)]
21	W	SMILLIVOLT	C0	-	-	-	OK	Switch to 75mV source Tx: Address:W:SMILLIVOLT:[Default Output Value(Optional)]
22	W	SFREQ	C0	C1	-	-	:OK	Switch to frequency source Tx: Address:W:SFREQ:[Amplitude(Optional)]:[Default Output Value(Optional)]
23	W	SPULSE	C0	C1	C2	C3	:OK	Switch to pulse source Tx: Address:W:SPULSE:<Edge(=0-DOWN,1-UP)>:<Amplitude>:<Frequency>:[Default Output Value(Optional)]
24	W	SOHM	C0	C1	-	-	:OK	Switch to ohm source Tx: Address:W:SOHM:<Range(0-400ohm,1-4k ohm)>:[Default Output Value(Optional)]
25	W	STC	C0	C1	C2	C3	:OK	Switch to TC Simulate Tx: Address:W:STC:<Sensor Type List Index(0-12)>:<Temperature Unit(012,CKF)>:<CJC Mode(0-INT,1-EXIT)>:<CJC Value> note: TC Sensor Type list is same with the TC Sensor type list in the 22XA. such as: "S", "R", "B", "K", "N", "E", "J", "T", "C", "D", "G", "L", "U".
26	W	SRTD	C0	C1	C2	-	:OK	Switch to RTD Simulate Tx: Address:W:SRTD:<Sensor Type List Index>:<Temperature Unit(012,CKF)>:[Default Output Value(Optional)] note: RTD Sensor Type List list is same with the TC Sensor type list in the 22XA.
27	W	SCUR	C0	C1	-	-	:OK	Switch to current source Tx: Address:W:SCUR:<0-INT,1-EXT>:[Default Output Value(Optional)]
28	W	SPRESSURE	C0	-	-	-	:OK	Switch to pressure source Tx: Address:W:SPRESSURE:[Pressure Unit(Optional)] Pressure Unit List: "Pa", "kPa", "MPa", "psi", "bar", "mbar", "inHg", "mmHg", "inH2O", "mmH2O", "kgf/cm2"

29	R	SPULSTATUS	-	-	-	-		Read current pulse sourcing state Tx: Address:R:SPULSTATUS Return:0-not start or stop、 1-sourcing.
30	W	SPULSESTART	-	-	-	-	OK	Start to source pulse(only is valid for the source value > 0) Tx: Address:W:SPULSESTART
31	W	SPULSESTOP	-	-	-	-	OK	Stop to source pulse Tx: Address:W:SPULSESTOP
SWITCH ACTION DATA								
32	R	MSWDATACNT	-	-	-	-	Count	Read the count of on-off trigger data Tx: Address:R:MSWDATACNT
33	R	MSWDATA	C0	-	-	-	Params....	Read the trigger data Tx: Address:R:MSWDATA:[Index:0-] Rx: Address:F:MSWDATA:[0-CLOSE,1-OPEN]:[Output Value]:[Output Unit]
34	R	MSWDATALAST	-	-	-	-	Params....	Read the last trigger data Tx: Address:R:MSWDATALAST Rx: Address:F:MSWDATALAST:[0-CLOSE,1-OPEN]:[Output Value]:[Output Unit]
35	W	CLSSWDATA	-	-	-	-	OK	Clear all trigger data Tx: Address:W:CLSSWDATA
EXTERNAL PRESSURE MODULE								
36	R	PMRMD	-	-	-	-	<Value>:<Unit>	Read the pressure value of Pressure Module. Tx: Address:R:PMRMD
37	R	PMRAN	-	-	-	-	<LRV>:<URV>:<Unit> >	Read the range of Pressure Module. Tx: Address:R:PMRAN
38	R	PMONLINE	-	-	-	-	TURE/FALSE	Read the connection state of Pressure Module Tx: Address:R:PMONLINE
MACHINE PROPERTIES								
39	R	OMODEL	-	-	-	-	Mode information	Read the machine model information Tx: Address:R:OMODEL
40	R	OMFGDATE	-	-	-	-	<yyyy>:<mm>:<dd>	Read the manufactured date of the machine. Tx: Address:R:OMFGDATE

SNAPSHOT								
41	R	SNAPCOUNT	-	-	-	-	Count	Read the count of the snapshot files. Tx: Address:R:SNAPCOUNT
42	R	SNAPSHOT	-	-	-	-	Params....	Read the information of the snapshot file according to the index. Tx: Address:R:SNAPSHOT:<Index(0,1,2...)> Rx: Address:F:SNAPSHOT:<Snapshot Tag>:<Time(yyyy-MM-dd hh/mm/ss)>:<DC24V-OFF/DC24V-ON>:<Measure Tvne>:<Measure
43	W	SNAPSHOT	C0	-	-	-	OK	Capture a snapshot Tx: Address:W:ADDSNAPSHOT:<Snapshot Name(Optional)>
44	W	DELETESNAP	-	-	-	-	OK	Delete the snapshot file according to the index. Tx: Address:W:DELETESNAP:<Index(0,1,2...)>
45	W	OERASESNAP	-	-	-	-	OK	Delete all snapshot files Tx: Address:W:OERASESNAP
SETUP								
46	R	DC24V	-	-	-	-	OFF/ON	Read the state of DC24V Tx: Address:R:DC24V
47	W	DC24V	-	-	-	-	OK	Write the state of DC24V Tx: Address:W:DC24V:<OFF/ON>
48	R	SYSTEMDATE	-	-	-	-	<yyyy>:<MM>:<dd>	Read the system date Tx: Address:R:SYSTEMDATE
49	W	SYSTEMDATE	-	-	-	-	OK	Write the system date Tx: Address:W:SYSTEMDATE:<yyyy>:<MM>:<dd>
50	R	ODATEFORMA T	-	-	-	-	0/1/2	Read the format of the system date Tx: Address:R:ODATEFORMAT System Date Format List: 012("yyyy-mm-dd", "mm-dd-yyyy", "dd-mm-
51	W	ODATEFORMA T	-	-	-	-	OK	Write the format of the system date Tx: Address:W:ODATEFORMAT:<0/1/2> System Date Format List: 012("yyyy-mm-dd", "mm-dd-yyyy", "dd-mm-yyyy")
52	R	SYSTEMTIME	-	-	-	-	hh:mm:ss	Read the system time Tx: Address:R:SYSTEMTIME

53	W	SYSTEMTIME	-	-	-	-	OK	Write the system time Tx: Address:W:SYSTEMTIME:<hh>:<mm>:<ss>
54	R	BACKLIGHT	-	-	-	-	[0/10/20...100]:[%]	Read the brightness of the calibrator Tx: Address:R:BACKLIGHT Backlight Levels: (0,10...,100)%
55	W	BACKLIGHT	-	-	-	-	OK	Write the brightness of the calibrator Tx: Address:W:BACKLIGHT:<Value> Backlight Value= 0,10, 20, 30, 40, 50, 60, 70, 80, 90 or 100.
56	R	BACKLIGHTOFF	-	-	-	-	0/1/2...	Read the mode of backlight off. Tx: Address:R:BACKLIGHTOFF Automatic Backlight Off List: "Never", "5 Minutes", "10 Minutes", "30 Minutes", "1 Hour"
57	W	BACKLIGHTOFF	-	-	-	-	OK	Write the mode of backlight off. Tx: Address:W:BACKLIGHTOFF:<mode list index=0/1/2...> Automatic Backlight Off List: "Never", "5 Minutes", "10 Minutes", "30 Minutes", "1 Hour"
58	R	OPOWEROFF	-	-	-	-	0/1/2...	Read the mode of power off. Tx: Address:R:OPOWEROFF Automatic Poweroff Items List: "Never", "30 Minutes", "1 hour", "2 hours"
59	W	OPOWEROFF	-	-	-	-	OK	Write the mode of power off. Tx: Address:W:OPOWEROFF:<0/1/2...> Automatic Poweroff Items List: "Never", "30 Minutes", "1 hour", "2 hours"
60	R	OVERRANGEBEEP	-	-	-	-	OFF/ON	Read the setting of over range beep. Tx: Address:R:OVERRANGEBEEP
61	W	OVERRANGEBEEP	-	-	-	-	OK	Write the setting of over range beep. Tx: Address:W:OVERRANGEBEEP:<OFF/ON>

62	R	OLANG	-	-	-	-	0/1/2...	Read the system language info. Tx: Address:R:OLANG Rx: <list index>:<language name>:<language id>
63	W	OLANG	-	-	-	-	OK	Write the system language Tx: Address:W:OLANG:<language list index=0/1/2...>
SYSTEM								
64	W	OBEEP	C0	C1	C2	-	OK	Communication Test, the calibrator is beep. Tx: Address:W:OBEEP:[freq(Optional)]:[multiples(Optional)]:[count(Optional)]
65	R	VERSION	-	-	-	-	<Version>:<Modification Time>	Read the software version. Tx: Address:R:VERSION
66	R	BATV	-	-	-	-	<V1>:<V2>	Read the voltage of the battery. Tx: Address:R:BATV
67	R	OKEYVALUE	-	-	-	-	<KEY NAME>:<PRESS/DOWN>	Read the key value and key state. Tx: Address:R:OKEYVALUE
68	W	OCLSKEY	-	-	-	-	OK	Clear the key state. Tx: Address:W:OCLSKEY
69	W	OKEYVALUE	-	-	-	-	OK	Simulate the key press. Tx: Address:W:OKEYVALUE:<KEY=esc/setup/...>
70	W	OSHUTDOWN	-	-	-	-	-	Shutdown the calibrator Tx: Address:W:OSHUTDONW
71	W	ORESTART	-	-	-	-	OK	Restart the calibrator Tx: Address:W:OREATART
72	W	OLOCKKEY	C0	-	-	-	OK	Lock or unlock the keyboard. Tx: Address:W:OLOCKKEY:<TRUE=lock, FALSE=unlock>
73	W	INITUPGRADE	-	-	-	-	OK	Into the state of firmware upgrading Tx: Address:W:INITUPGRADE
74	W	RESFACTORY	C0	-	-	-	OK	Factory restore (from DPC V02.02) Tx: Address:W:RESFACTORY:<password>

Custom RTDs Library								
75	R	CUSTRTDCNT	-	-	-	-	<Count>	<p>Read the count of customized rtd. Tx: Address:R:PRTDCNT</p>
76	R	CUSTRTDPARAM	C0	-	-	-	<Param>...	<p>Read the parameters of the customized RTD according to the index. Tx: Address:R:CUSTRTDPARAM:[Index=0/1/2...] Address:F:CUSTRTDPARAM:<RTD Alias>:<RTD Type(1,2)>:<E LRV>:<E URV>:<Temperature LRV>:<Temperature URV>:<R0>:<A>::<C>:<A4>:<B4> note: RTD Type=1, the customized RTD is custom SPRT. if only use the positive temperature, A4 and B4 can ignore; if only use the negative temperature, A、B and C can ignore; RTD Type=2, the customized RTD is custom industry RTD. , A4 and B4 can</p>
77	W	DELCUSTRTD	C0	-	-	-	OK	<p>Delete the customized RTD according to the index. Address:W:DELPRTD:<Index=0/1/2...></p>
78	T	NEWCUSTRTD	-	-	-	-	<Param....>	<p>Create the custom RTD Tx: Address:T:NEWPRTD:<RTD Alias>:<RTD Type(=1/2)>:<Temperature LRV>:<Temperature URV>:<R0>:<A>::<C>:<A4>:<B4> note: RTD Type=1, the customized RTD is custom SPRT. if only use the positive temperature, A4 and B4 can set to zero; if only use the negative temperature, A、B and C can set to zero; RTD Type=2, the customized RTD is custom industry RTD. , A4 and B4 can set to zero; if only use the positive temperature, C is zero.</p>

Error code list:		
1	1001	the command format error.
2	1002	the command address error.
3	1003	the command property error.
4	1004	command too long.

5	1005	parameter too many (>4).
6	1006	the command does not exist.
7	1011	the current state does not support the command.
8	1012	the parameter format is illegal.
9	1013	the value of the parameter is over range.
10	1014	password error.
11	1015	not support the pressure unit.
12	1016	file name already exists.
13	1021	has entered the command calibration process.
14	1022	the calibration process is running
15	1023	the calibration process is not completed