

Netvox LoRaWAN Application Command V1.8.2

VersionHistory

Date	Version	Description	Note
2017-05-03	0.1	InitVersion	
2017-05-09		Add ConfigureCmd,PQOSCmd	
2017-06-07	0.2	Add R311A、RB11E、R311G Cmd	
2017-06-12	0.3	Add RA07 cmd	
2017-07-05	0.4	Add ADR Config cmd, LowBatteryIndicator	
2017-07-06	0.5	Add IRDectionTimeSupport	
2017-08-02	0.6	Add RA07 Reportcmd	
2017-08-16	0.7	Add R311W Reportcmd	
2017-08-17	0.8	Add ChangeActiveModeAndInfoCmd	
2017-08-29	0.9	Add RB11E,R801A Support	
2017-09-08	1.0	Add RA07 temp/humid/ WindSpeed/WindDirection /Atomsphere reportcmd	
2017-09-14	1.1	Add CayenneTxPeriodCmdSupport	
2017-09-19	1.2	Add resumenetworkinfocmd	
2017-10-30	1.3	Add R726 RA02A Devicetype Support	
2017-11-01	1.4	Add R718A Devicetype Support	
2017-11-29	1.5	Add 5TE Electrical Conductivity Suport in Reporttype=0x0A Add RA07W Devicetype Support	
2017-12-28	1.5.1	Add ReadLoRaWANStack Version Support Add R727 DevicetypeSupport	
2018-01-13	1.5.2	Add R809A DevicetypeSupport	
2018-01-24	1.5.3	Add RB02I RA02C DevicetypeSupport	
2018-02-02	1.6	Add R718W DevicetypeSupport	
2018-03-08	1.7	Add R718X MultiDevice Support	
2018-04-12	1.7.1	Add R718MA Cmd definition Add RA07A/R726A/R727A DeviceType Support Add R718MBB/R728MBC DeviceType Support	
2018-05-03	1.8	Add R718 MultiChannel DeviceType Support,such as R718B2/R718B4 etc	
2018-05-15	1.8.1	Add R311B/R311C/R312A/R311D/R311FA/R311FB/R311FC Device Support	
2018-05-28		Add RA07A/R726A/R727A Devicetype	
2018-06-08		Modify R312->R312A,Add new R312 Devicetype	
2018-06-19	1.8.2	Modify R311C->R311CA,Add new R311CB devicetype	

1、 ReportDataCmd(UpDirection)

FPort: 0x06

Bytes	1	1	1	Var(Fix=8 Bytes)
	Version	DeviceType	ReportType	NetvoxPayloadData

Version— 1 bytes —0x01—the Version of NetvoxLoRaWAN Application Command Version

DeviceType— 1 byte – Device Type of Device

0x01—R711

0x02—R311A

0x03—RB11E

0x04—R311G

0x05—RA07

0x06—R311W

0x07—RB11E1

0x08—R801A

0x09—R726

0x0A—RA02A

0x0B—R718A

0x0C—RA07W

0x0D—R727

0x0E—R809A

0x0F—R211

0x10—RB02I

0x11—RA02C

0x12—R718WB

0x13—R718AB

0x14—R718B2

0x15—R718CJ 0x16—R718CK 0x17—R718CT 0x18—R718CR

0x19—R718CE

0x1A—R718DA 0x1B—R718DB

0x1C—R718E

0x1D—R718F

0x1E—R718G

0x1F—R718H

0x20—R718IA

0x21—R718J

0x22—R718KA 0x23—R718KB

0x24—R718LA 0x25—R718LB

0x26—R718MA 0x27—R718MBA 0x28—R718MC

0x29—R718N

0x2A—R718IB

0x2B—R718MBB

0x2C—R718MBC

0x2D—R7185N
 0x2E—R718B4
 0x2F—R718DA2
 0x30—R718S
 0x31—R718T
 0x32—R718WA
 0x33—R718WD
 0x34—R718X
 0x35—RA0716
 0x36—R72616
 0x37—R72716
 0x38—R718CJ4 0x39—R718CK4 0x3A—R718CT4 0x3B—R718CR4
 0x3C—R718CE4
 0x3D—R718DB2 0x3E—R718F2
 0x3F—R718H2 0x40—R718H4
 0x41—R718IA2 0x42—R718IB2
 0x43—R718J2
 0x44—R718KA2
 0x45—R718LB2
 0x46—R718WA2 0x47—R718WB2 0x48—R718T2
 0x49—R718N1 0x4A—R718N3
 0x4B—R311B 0x4C—R311CA 0x4D—R312A 0x4E—R311D
 0x4F—R311FA 0x50—R311FB 0x51—R311FC
 0x52—RA07A 0x53—R726A 0x54—R727A
 0x55—R312 0x56—R311CB
 0xFF—ALL Device
 Other —Reserved

ReportType – 1 byte –the Presentation of the NetvoxPayLoadData, according the devicetype

NetvoxPayLoadData– Fixed bytes (Fixed =8bytes)–

De vic e	Device Type	Repo rtTyp e	NetvoxPayLoadData			
AL L	ALL(ac cordin g device type not FF)	0x00	SoftwareVe rsion(1Byte) Eg.0x0A— V1.0	HardwareVersion(1 Byte)	DateCode(4By tes,eg 0x20170503)	Reserved(2Bytes,fixed 0x00)
R7 11/ x0B/0x	0x01/0 x0B/0x	0x01	Battery(1By te,	Temperature(Signe d2Bytes,unit:0.01	Humidity(2By tes,unit:0.01	Reserved(3Bytes,fixed 0x00)

R7 18 A/ R7 18 AB	13		unit:0.1V)	° C)	%)	
R7 18 CJ/ CK /C R/ CE	0x15/1 6/17/18 /19	0x01	Battery(1Byte, unit:0.1V)	Temperature1(Signed2Bytes, unit:0.1 ° C)	Temperature2 (Signed2Bytes, unit:0.1 ° C)	Reserved(3Bytes, fixed 0x00)
R7 18 CJ4 /C K4/ CR 4/C E4	0x38/0 x39/0x 3A/0x3 B/0x3C	0x01	Battery(1Byte, unit:0.1V)	Temperature1(Signed2Bytes, unit:0.1 ° C)	Temperature2 (Signed2Bytes, unit:0.1 ° C)	Reserved(3Bytes, fixed 0x00)
		0x02	Battery(1Byte, unit:0.1V)	Temperature3(Signed2Bytes, unit:0.1 ° C)	Temperature4 (Signed2Bytes, unit:0.1 ° C)	Reserved(3Bytes, fixed 0x00)
R7 18 B2	0x14	0x01	Battery(1Byte, unit:0.1V)	Temperature1(Signed2Bytes, unit:0.1 ° C)	Temperature2 (Signed2Bytes, unit:0.1 ° C)	Reserved(3Bytes, fixed 0x00)
R7 18 B4	0x2E	0x01	Battery(1Byte, unit:0.1V)	Temperature1(Signed2Bytes, unit:0.1 ° C)	Temperature2 (Signed2Bytes, unit:0.1 ° C)	Reserved(3Bytes, fixed 0x00)
		0x02	Battery(1Byte, unit:0.1V)	Temperature3(Signed2Bytes, unit:0.1 ° C)	Temperature4 (Signed2Bytes, unit:0.1 ° C)	Reserved(3Bytes, fixed 0x00)
R7 18 DA /R 71 8D B/ R7 18J / R7 18 LB	0x1A/0 x1B/0x 21/0x2 5/0x27/ 0x4F	0x01	Battery(1Byte, unit:0.1V)	Status(1Byte 0:off 1:on)		Reserved(6Bytes, fixed 0x00)

/R 71 8M BA /R 31 1F A							
R7 18 DA 2/R 71 8D B2/ R7 18 F2/ R7 18J 2/R 71 8J2 /R 71 8L B2/ R3 11 CA /R 31 1C B	0x2F/0 x3D/0x 3E/0x4 3/0x45/ 0x4C/0 x56	0x01	Battery(1Byte, unit:0.1V)	Status1(1Byte 0:off 1:on)	Status2(1Byte 0:off 1:on)	Reserved(5Bytes, fixed 0x00)	
R3 11 A/ R7 18 F	0x02/0 x1D	0x01	Battery(1Byte, unit:0.1V)	ContactSwitchOnOff(1Byte 0:off 1:on)	Reserved(6Bytes, fixed 0x00)		
R7 18 G	0x1E	0x01	Battery(1Byte, unit:0.1V)	illuminance (4Bytes, unit:1Lux)	Reserved(3Bytes, fixed 0x00)		
R7	0x1C	0x01	Battery(1Byte)	DataX(Signed 2Byte)	DataY(Signed)	DataZ(Signed)	Angle(Signed)

R7 18 E			Battery(1Byte, unit:0.1V)	ADCRawValue(2Bytes,1mg)	ADCRawValue2(2Bytes, unit:1mg)	Reserved(1Byte, unit:1mg)	Reserved(1Byte, unit:1mg)
R7 18 A/ R7 18 B	0x20/0 x2A	0x01	Battery(1Byte, unit:0.1V)	ADCRawValue(2Bytes, unit:1mv)	Reserved(5Bytes, fixed 0x00)		
R7 18 A/ R7 18 B2	0x41/0 x42	0x01	Battery(1Byte, unit:0.1V)	ADCRawValue1(2Bytes, unit:1mv)	ADCRawValue2(2Bytes, unit:1mv)	Reserved(3Bytes, fixed 0x00)	
R7 18 KA	0x22	0x01	Battery(1Byte, unit:0.1V)	Current(1Bytes, unit:1mA)	Reserved(6Bytes, fixed 0x00)		
R7 18 KA 2	0x44	0x01	Battery(1Byte, unit:0.1V)	Current1(1Bytes, unit:1mA)	Current2(1Bytes, unit:1mA)	Reserved(5Bytes, fixed 0x00)	
R7 18 KB	0x23	0x01	Battery(1Byte, unit:0.1V)	Resistive(4Bytes, unit:1Ohms)	Reserved(3Bytes, fixed 0x00)		
RB 11 E/ RB 11 E1	0x03/0 x07	0x01	Battery(1Byte, unit:0.1V)	Temperature(Signed 2Bytes, unit:0.01 ° C)	Illuminance (2Bytes, unit:1 Lux)	Occupancy(1 Byte 0:Un Occupancy 1:Occupancy)	Reserved(2Bytes, fixed 0x00)
R3 11 G/ R3 11 B	0x04/0 x4B	0x01	Battery(1Byte, unit:0.1V)	Illuminance (2Bytes, unit:1Lux)	Reserved(5Bytes, fixed 0x00)		
RA 07/ R7 26/ R7 27/ RA 07	0x05/0 x09/0x 0D/0x5 2/0x53/ x054	0x01	Battery(1Byte, unit:0.1V)	PM1.0(2Bytes, CF=1, 1ug/m3)	PM2.5(2Bytes, CF=1, 1ug/m3)	PM10(2Bytes, CF=1, 1ug/m3)	Reserved(1Byte, fixed 0x00)
		0x02	Battery(1Byte, unit:0.1V)	PM1.0(2Bytes, 1ug/m3)	PM2.5(2Bytes, 1ug/m3)	PM10(2Bytes, 1ug/m3)	Reserved(1Byte, fixed 0x00)

A/ R7 26 A/ R7 27 R	0x03	Battery(1Byte, unit:0.1V)	0.3um PM(2Byte ,1pcs)	0.5um PM(2Byte ,1pcs)	1.0um PM(2Byte ,1 pcs)	Reserve d(1Byte s,fixe d0x00)
	0x04	Battery(1Byte, unit:0.1V)	2.5um PM(2Byte ,1pcs)	5.0um PM(2Byte ,1pcs)	10um PM(2Byte ,1 pcs)	Reserve d(1Byte s,fixe d0x00)
	0x05	Battery(1Byte, unit:0.1V)	O3(2Byte ,0.1ppm)	CO(2Byte ,0.1ppm)	NO(2Byte ,0 .1ppm)	Reserve d(1Byte s,fixe d0x00)
	0x06	Battery(1Byte, unit:0.1V)	NO2(2Byte ,0.1ppm)	SO2(2Byte ,0.1ppm)	H2S(2Byte , 0.1ppm)	Reserve d(1Byte s,fixe d0x00)
	0x07	Battery(1Byte, unit:0.1V)	CO2(2Byte ,0.1ppm)	NH3(2Byte ,0.1ppm)	Noise(2Byte ,0.1db)	Reserve d(1Byte s,fixe d0x00)
	0x08	Battery(1Byte, unit:0.1V)	PH(2Byte ,0.01pH)	Temperaturewith PH(Signed 2Bytes,unit:0.01 ° C)	ORP(Signed 2Byte ,1mv)	Reserve d(1Byte s,fixe d0x00)
	0x09	Battery(1Byte, unit:0.1V)	NTU(2Byte ,0.1ntu)	Temperaturewith NTU(Signed 2Bytes,unit:0.01 ° C)	EC5SoildHu midtiy(2Byt es,unit:0.01 %)	Reserve d(1Byte s,fixe d0x00)
	0x0A	Battery(1Byte, unit:0.1V)	5TESoildHumidtiy(2Bytes,unit:0.01%)	5TESoildTemp(Si gned 2Bytes,unit:0.01 ° C)	WaterLevel(2Bytes,unit: 1cm)	5TEEC(1Bytes, unit:0.1 db/m)
	0x0B	Battery(1Byte, unit:0.1V)	TemperaturewithL DO(Signed 2Bytes,unit:0.01 ° C)	LDO'DO Value(2Bytes,uni t:0.01ppm)	LDO'Sat Value(2Byte s,unit:0.1%)	Reserve d(1Byte s,fixe d0x00)
	0x0C	Battery(1Byte, unit:0.1V)	Temperature(Signe d2Bytes,unit:0.01 ° C)	Humidity(2Bytes, unit:0.01%)	WindSpeed(2Bytes,unit: 0.01m/s)	Reserve d(1Byte s,fixe d0x00)
	0x0D	Battery(1Byte, unit:0.1V)	WindDirection(2By tes)	Atomsphere(4Bytes,unit:0.01m bar)		Reserve d(1Byte s,fixe d0x00)

R311W	0x06	0x01	Battery(1Byte, unit:0.1V)	Water1Leak(1Byte 0:noleak 1:leak)	Water2Leak(1Byte 0:noleak 1:leak)	Reserved(5Bytes, fixed 0x00)
R801A	0x08	0x01	Battery(1Byte, unit:0.1V)	Temperature1(Signed2Bytes, unit:0.01 ° C)	Temperature2(Signed2Bytes, unit:0.01 ° C)	Reserved(3Bytes, fixed 0x00)
RA02A	0x0A	0x01	Battery(1Byte, unit:0.1V)	FireAlarm(1Byte 0:noalarm 1:alarm)	HighTempAlarm(1Byte 0:noalarm 1:alarm)	Reserved(5Bytes, fixed 0x00)
RA07W	0x0C	0x01	Battery(1Byte, unit:0.1V)	WaterLeakLocation (2Bytes ,10cm)(Normal_0000, SenorNotConnected_FFFF, OtherValue_LeakLocation)	Reserved(5Bytes, fixed 0x00)	
R809A	0x0E	0x01	OnOff(1Byte, OFF_0x00, ON_0x01)	Energy(4Byte, unit:1wh)	Reserved(3Bytes, fixed 0x00)	
		0x02	Vol(2Bytes, Unit:1V)	Current(2Bytes, Unit:1ma)	Power(2Bytes, Unit:1W)	Reserved(2Bytes, fixed 0x00)
RB02I/R718T/R312A/R312	0x10/0x31/0x4D/0x55	0x01	Battery(1Byte, unit:0.1V)	Alarm(1Byte 0:noalarm 1:alarm)/Doorbell(1Byte 0:nodoorbell 1:doorbell)	Reserved(6Bytes, fixed 0x00)	
R718T2	0x48	0x01	Battery(1Byte, unit:0.1V)	Alarm1(1Byte 0:noalarm 1:alarm)	Alarm2(1Byte 0:noalarm 1:alarm)	Reserved(5Bytes, fixed 0x00)
RA02C	0x11	0x01	Battery(1Byte, unit:0.1V)	COAlarm(1Byte 0:noalarm 1:alarm)	HighTempAlarm(1Byte 0:noalarm 1:alarm)	Reserved(5Bytes, fixed 0x00)
R718WB/R718	0x12/0x32	0x01	Battery(1Byte, unit:0.1V)	WaterLeak (1Byte 0:noLeak1:Leak)	Reserved(6Bytes, fixed 0x00)	

W A							
R7 18 W A2/ R7 18 W B2	0x46/0 x47	0x01	Battery(1Byte, unit:0.1V)	WaterLeak 1(1Byte 0:noLeak1:Leak)	WaterLeak 2(1Byte 0:noLeak1:Leak)	Reserved(5Bytes,fix ed 0x00)	
R7 18 W D	0x33	0x01	Battery(1Byte, unit:0.1V)	TankRawData(2Byte s,Unit: 1mv)	TankLevel(1B yte,Unit:1%)	Reserved(4Bytes,fix ed 0x00)	
R7 18 M A/ R3 11 D	0x26/0 x4E	0x01	Battery(1Byte, unit:0.1V)	RSSI(2Bytes,Signed Vaule,Unit:1dbm)	SNR(1Byte,S igned Value)	HeartInterv al(2Bytes,Un it:1s)	Reserved(2B ytes,fix ed 0x00)
RA 07 16/ R7 26 16/ R7 27 16	0x35/0 x36/x0 37	0x01	Battery(1Byte, unit:0.1V)	Temperature(Signe d2Bytes,unit:0.01 ° C)	Humidity(2B ytes,unit:0.0 1%)	PM2.5(2Byt e 1ug/m3)	Reserved(1B ytes,fix ed 0x00)
R7 18 M BB /R 31 1F B	0x2B/0 x50	0x01	Battery(1Byte, unit:0.1V)	WorkCount(4Bytes)		Reserved(3Bytes,fix ed 0x00)	
R7 18 M BC /R 31	0x2C/0 x51	0x01	Battery(1Byte, unit:0.1V)	Workdurationtime(4Bytes,unit:1s)		Reserved(3Bytes,fix ed 0x00)	

1F C							
R7 18 N1	0x49	0x01	Battery(1Byte, unit:0.1V)	Current(2Bytes, Unit:1ma)	Reserved(5Bytes, fixed 0x00)		
R7 18 N3	0x4A	0x01	Battery(1Byte, unit:0.1V)	Current1(2Bytes, Unit:1ma)	Current2(2Bytes, Unit:1ma)	Current3(2Bytes, Unit:1ma)	Reserved(1Bytes, fixed 0x00)

Battery(1Byte, unit:0.1V):Bit7 represent lowbattery Bit6-0 represent batteryvoltage
When Battery is 0x00,it reset is powered by DC/AC powersource
For RA07/R726/R727, when report data is all FF, it represent the sensor is disconnected

PayLoadDecodeExample:

010B012409EA1A90000000

01---protocalversion

0B---ReportType,represent R718A

01---reporttype

24-----battery,represent 3.6v

09EA---temperature,represent 25.38°C

1A90---humidity,represent 68.00%

000000---reserveddata

2、 ConfigureCmd(Bi-Direction)

FPort: 0x07

Bytes	1	1	Var(Fix =9 Bytes)
	CmdID	DeviceType	NetvoxPayLoadData

CmdID– 1 bytes –

DeviceType– 1 byte – Device Type of Device

0x01——R711

0x02——R311A

0x03——RB11E

0x04——R311G

0x05——RA07

0x06——RA311W

0x07——RB11E1

0x08——R801A

0x09——R726

0x0A——RA02A

0x0B——R718A

0x0C——RA07W

0x0D—R727
0x0E—R809A
0x0F—R211
0x10—RB02I
0x11—RA02C
0x12—R718WB
0x13—R718AB
0x14—R718B2
0x15—R718CJ 0x16—R718CK 0x17—R718CT 0x18—R718CR
0x19—R718CE
0x1A—R718DA 0x1B—R718DB
0x1C—R718E
0x1D—R718F
0x1E—R718G
0x1F—R718H
0x20—R718IA
0x21—R718J
0x22—R718KA 0x23—R718KB
0x24—R718LA 0x25—R718LB
0x26—R718MA 0x27—R718MBA 0x28—R718MC
0x29—R718N
0x2A—R718IB
0x2B—R718MBB
0x2C—R718MBC
0x2D—R7185N
0x2E—R718B4
0x2F—R718DA2
0x30—R718S
0x31—R718T
0x32—R718WA
0x33—R718WD
0x34—R718X
0x35—RA0716
0x36—R72616
0x37—R72716
0x38—R718CJ4 0x39—R718CK4 0x3A—R718CT4 0x3B—R718CR4
0x3C—R718CE4
0x3D—R718DB2 0x3E—R718F2
0x3F—R718H2 0x40—R718H4
0x41—R718IA2 0x42—R718IB2
0x43—R718J2
0x44—R718KA2
0x45—R718LB2
0x46—R718WA2 0x47—R718WB2 0x48—R718T2

0x49—R718N1 0x4A—R718N3
 0x4B—R311B 0x4C—R311CA 0x4D—R312A 0x4E—R311D
 0x4F—R311FA 0x50—R311FB 0x51—R311FC
 0x52—RA07A 0x53—R726A 0x54—R727A
 0x55—R312 0x56—R311CB

0xFF—ALL Device

Other —Reserved

NetvoxPayloadData— var bytes (Max=9bytes)—

Description	Device	Command	Device Type	NetvoxPayloadData				
Off	R809 A	0x90	0x0E	Reserved (9Bytes,Fixed 0x00)				
On		0x91		Reserved (9Bytes,Fixed 0x00)				
Toggle		0x92		Reserved (9Bytes,Fixed 0x00)				
ClearEnergy		0x93		Reserved (9Bytes,Fixed 0x00)				
ConfigReportReq		0x01		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	CurrentChange(2byte Unit:1mA)	PowerChange (2byte Unit:1W)	Reserved (1Byte,Fixed 0x00)
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)			
ReadConfigReportReq		0x02		Reserved (9Bytes,Fixed 0x00)				
ReadConfigReportRsp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	CurrentChange(2byte Unit:1mA)	PowerChange (2byte Unit:1W)	Reserved (1Byte,Fixed 0x00)
ConfigReportReq	R718 N1/R 718N 3	0x01	0x49/ 0x4A	MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	CurrentChange(2byte Unit:1mA)	Reserved (3Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)			
ReadConfigReportReq		0x02		Reserved (9Bytes,Fixed 0x00)				
ReadConfigReportRsp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	CurrentChange(2byte Unit:1mA)	Reserved (3Bytes,Fixed 0x00)	
ConfigReportReq	R711/R718A/R	0x01	0x01/ 0x0B/ 0x13	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Temperature Change(2byte Unit:0.01℃)	HumidityChange (2byte Unit:0.01%)

ConfigReportRsp	718AB	0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
ReadConfigReportReq		0x02		Reserved (9Bytes,Fixed 0x00)						
ReadConfigReportRsp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	TemperatureChange(2byte Unit:0.01℃)	HumidityChange(2byte Unit:0.01%)		
ConfigReportReq	R718CJ/CKCT/C R/CE/ R718CJ4/C K4/CT4/CR4/CE4	0x01	0x15/16/17	MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	TemperatureChange(2byte Unit:0.1℃)	Reserved(2Bytes,Fixed 0x00)		
ConfigReportRsp		0x81	/18/19/0x38/0x3	Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
ReadConfigReportReq		0x02	9/3x3A/0x3	Reserved (9Bytes,Fixed 0x00)						
ReadConfigReportRsp		0x82	B/0x3C	MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	TemperatureChange(2byte Unit:0.1℃)	Reserved(2Bytes,Fixed 0x00)		
SetThermocoupleTypeReq		0x03	0x15 or 0x16 or 0x17	ThermocoupleType(1Byte,0x00_Jtype, 0x01_Ktype,0x02_Ttype,0x03_Rtype, 0x04_Etype)				Reserved (8Bytes,Fixed 0x00)		
SetThermocoupleTypeRsp		0x83	0x17 or 0x18	Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
GetThermocoupleTypeReq		0x04	Or 0x19 Or	Reserved (9Bytes,Fixed 0x00)						
GetThermocoupleTypeRsp		0x84	0x38/0x39/3x3A/0x3B/0x3C	ThermocoupleType(1Byte,0x00_Jtype, 0x01_Ktype,0x02_Ttype,0x03_Rtype, 0x04_Etype)				Reserved (8Bytes,Fixed 0x00)		
SetR718MBTypeReq	R718MBA	0x03	0x27/0x2B/	R718MBType(1Bytes,0x01_R718MBA, 0x02_R718MBB,0x03_R718MBC)			Reserved (8Bytes,Fixed 0x00)			
SetR718MBTypeRsp	/R718MBB/R7	0x83	0x2C	Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
GetR718MBTypeReq	18MBC	0x04		Reserved (9Bytes,Fixed 0x00)						
GetR718MBTypeRsp		0x84		R718MBType(1Bytes,0x01_R718MBA,			Reserved (8Bytes,Fixed 0x00)			

TypeRsp				0x02_R718MBB,0x03_R718MBC)				
SetActiveThresholdReq		0x05		Threshold(2Bytes)	Deactivetime(1Byte,Unit:1s)	Reserved (6Bytes,Fixed 0x00)		
SetActiveThresholdRsp		0x85		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)			
GetActiveThresholdReq		0x06		Reserved (9Bytes,Fixed 0x00)				
GetActiveThresholdRsp		0x86		Threshold(2Bytes)	Deactivetime(1Byte,Unit:1s)	Reserved (6Bytes,Fixed 0x00)		
SetR718MBTypeReq		0x03		R311FType(1Bytes,0x01_R311FA,0x02_R311FB,0x03_R311FC)		Reserved (8Bytes,Fixed 0x00)		
SetR718MBTypeRsp		0x83		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)			
GetR718MBTypeReq	R311	0x04		Reserved (9Bytes,Fixed 0x00)				
GetR718MBTypeRsp	FA/R311F	0x84	0x4F 0x50/	R311FType(1Bytes,0x01_R311FA,0x02_R311FB,0x03_R311FC)		Reserved (8Bytes,Fixed 0x00)		
SetActiveThresholdReq	B/R311FC	0x05	0x51	Threshold(2Bytes)	Deactivetime(1Byte,Unit:1s)	Reserved (6Bytes,Fixed 0x00)		
SetActiveThresholdRsp		0x85		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)			
GetActiveThresholdReq		0x06		Reserved (9Bytes,Fixed 0x00)				
GetActiveThresholdRsp		0x86		Threshold(2Bytes)	Deactivetime(1Byte,Unit:1s)	Reserved (6Bytes,Fixed 0x00)		
ConfigReportReq		0x01		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	TemperatureChange(2byte Unit:0.1°C)	Reserved (2Bytes,Fixed 0x00)
ConfigReportRsp	R718B2/R	0x81	0x14/ 0x2E	Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)			
ReadConfigReportReq	718B4	0x02		Reserved (9Bytes,Fixed 0x00)				
ReadConfigReportRsp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	TemperatureChange(2byte Unit:0.1°C)	Reserved (2Bytes,Fixed 0x00)
ConfigReportReq	R718KA/R718K	0x01	0x22/ 0x44	MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	CurrentChange(1byte Unit:1mA)	Reserved (3Bytes,Fixed 0x00)
ConfigReportRsp	A2	0x81		Status(0	Reserved (8Bytes,Fixed 0x00)			

rtRsp				x00_suc cess)					
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)					
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	CurrentChang e (1byte Unit: 1mA)	Reserved (3Bytes,Fixed 0x00)	
ConfigRepo rtReq	R718 IA/R7 18IB/ R718 IA2/R 718I B2	0x01		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	ADCRawValue Change(2byte Unit:1mV)	Reserved (2Bytes,Fixed 0x00)	
ConfigRepo rtRsp		0x81	0x20/ 0x2A/	Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)				
ReadConfig ReportReq		0x02	0x41/ 0x42	Reserved (9Bytes,Fixed 0x00)					
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	ADCRawValue Change (2byte Unit: 1mV)	Reserved (2Bytes,Fixed 0x00)	
ConfigRepo rtReq	R718 WD	0x01		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	TankLevelCha nge(1Byte,Un it:1%)	Reserved (3Bytes,Fixed 0x00)	
ConfigRepo rtRsp		0x81		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)				
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)					
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	TankLevelCha nge(1Byte,Un it:1%)	Reserved (3Bytes,Fixed 0x00)	
SetTankLev elRangeReq		0x03	0x33	MinSens orVolutag e(1Byte, Unit:100 mv)	MaxSens orVoltage (1Byte,Uni t: 100mv)	Reserved (7Bytes,Fixed 0x00)			
SetTankLev elRangeRsp		0x83		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)				
GetTankLev elRangeReq		0x04		Reserved (9Bytes,Fixed 0x00)					
GetTankLev elRangeRsp	0x84		MinSens orVolutag	MaxSens orVoltage	Reserved (7Bytes,Fixed 0x00)				

				e (1Byte,Unit: 100mv)	(1Byte,Unit: 100mv)		
ConfigReportReq	R311 A/ R718	0x01		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)
ConfigReportRsp	DA/R 718D B/R7	0x81		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)		
ReadConfigReportReq	18J/ R718	0x02		Reserved (9Bytes,Fixed 0x00)			
ReadConfigReportRsp	LB/R 718 MA/ R718 MB/ R718 F/R7 18E// R718 MBA /R71 8MB B.R7 18M BC/R 718D B2/R 718F 2/R7 18J2 /R71 8LB2 /R31 1FA/ R311 FB/R 311F C/R3 11D	0x82	0x02/ 0x1A/ 0x1B/ 0x21/ 0x25/ 0x26/ 0x27/ 0x1D/ 0x1C/ 0x27/ 0x2B/ 0x2C/ 0x3D/ 0x3E/ 0x43/ 0x45/ 0x4F/ 0x50/ 0x51/ 0x4E	MinTime(2bytes Unit:s)	MaxTime (2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)

ConfigReportReq	R311 W/R 311C A/R3 11CB	0x01	0x06/ 0x4C/ 0x56	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)			
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)				
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportReq	RB02 I/R71 8T/R 718T 2/R31 2A/R 312	0x01	0x10/ 0x31/ 0x48/ 0x4D	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)			
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)				
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportReq	R718 WB/ R718 WA/ R718 WA2/ R718 WB2	0x01	0x12/ 0x32/ 0x46/ 0x47	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)			
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)				
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportReq	RA02 A	0x01	0x0A	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChang e(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0 x00_suc cess)	Reserved (8Bytes,Fixed 0x00)			
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)				

ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)			
ConfigReportReq	RA02 C	0x01	0x11	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)			
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)						
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Reserved (4Bytes,Fixed 0x00)			
ConfigReportReq	RA07 W	0x01	0x0C	MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	Reserved (5Bytes,Fixed 0x00)				
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)						
ReadConfig ReportRsp		0x82		MinTime (2bytes Unit:s)	MaxTime(2bytes Unit:s)	Reserved (5Bytes,Fixed 0x00)				
SetSensorParaReq		0x03		LineLength(2Bytes,Unit:10cm)	Sensitivity (1Byte,High_0x00,Mid_0x01,Low_0x02)	Reserved (6Bytes,Fixed 0x00)				
SetSensorParaRsp		0x83		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)					
GetSensorParaReq		0x04		Reserved (9Bytes,Fixed 0x00)						
GetSensorParaRsp	0x84	LineLength(2Bytes,Unit:10cm)	Sensitivity (1Byte,High_0x00,Mid_0x01,Low_0x02)	Reserved (6Bytes,Fixed 0x00)						
ConfigRepo	RB11	0x01	0x03/	MinTime	MaxTime(BatteryChan	TemperatureC	illuminance		

rtReq				(2bytes Unit:s)	2bytes Unit:s)	ge(1byte Unit:0.1v)	hange(2byte Unit:0.01℃)	(2byte Unit: 1Lux)	
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)				
ReadConfigReportReq		0x02		Reserved (9Bytes,Fixed 0x00)					
ReadConfigReportRsp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	TemperatureChange(2byte Unit:0.01℃)	illuminance Change (2byte Unit: 1Lux)	
SetIRDisableTimeReq		0x03	0x07	IRDisableTime(2bytes Unit:s)	IRDetectionTime (2bytes Unit:s)	Reserved (7Bytes,Fixed 0x00)			
SetIRDisableTimeRsp		0x83		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)				
GetIRDisableTimeReq		0x04		Reserved (9Bytes,Fixed 0x00)					
GetIRDisableTimeRsp		0x84		IRDisableTime(2bytes Unit:s)	IRDetectionTime (2bytes Unit:s)	Reserved (7Bytes,Fixed 0x00)			
ConfigReportReq		0x01		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Illuminancechange(2bytes Unit: 1Lux)	Reserved (2Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)				
ReadConfigReportReq		0x02		Reserved (9Bytes,Fixed 0x00)					
ReadConfigReportRsp		0x82		MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Illuminancechanges Unit: 1Lux)	Reserved (2Bytes,Fixed 0x00)	
ConfigReportReq		0x01	0x4B	MinTime(2bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Illuminancethreshold (2bytes Unit: 1Lux)	Reserved (2Bytes,Fixed 0x00)	
ConfigReportRsp		0x81		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)				
ReadConfig		0x02		Reserved (9Bytes,Fixed 0x00)					

ReportReq									
ReadConfig ReportRsp		0x82		MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Illuminancethreshold (2bytes Unit: 1Lux)	Reserved (2Bytes,Fixed 0x00)	
ConfigReportReq	R718 G	0x01	0x1E	MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Illuminancechange(4bytes Unit: 1Lux)		
ConfigReportRsp		0x81		Status(0x00 _success)	Reserved (8Bytes,Fixed 0x00)				
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)					
ReadConfig ReportRsp		0x82		MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Illuminancechange(4bytes Unit: 1Lux)		
ConfigReportReq	R718 KB	0x01	0x23	MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Resistive (4bytes Unit: 10Ohm)		
ConfigReportRsp		0x81		Status(0x00 _success)	Reserved (8Bytes,Fixed 0x00)				
ReadConfig ReportReq		0x02		Reserved (9Bytes,Fixed 0x00)					
ReadConfig ReportRsp		0x82		MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	BatteryChange(1byte Unit:0.1v)	Resistive (4bytes Unit: 10Ohm)		
ConfigReportReq	RA07 /R726 /R727 /	0x01	0x05/ 0x09/ 0x0D/ 0x35/	MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	Reserved (5Bytes,Fixed 0x00)			
ConfigReportRsp	RA07 16/R7	0x81	0x36/ 0x37/	Status(0x00 _success)	Reserved (8Bytes,Fixed 0x00)				
ReadConfig ReportReq	2616/ R727	0x02	0x52/ 0x53/	Reserved (9Bytes,Fixed 0x00)					
ReadConfig ReportRsp	16/R A07A /R72 6R/R	0x82	x054	MinTime(2 bytes Unit:s)	MaxTime(2bytes Unit:s)	Reserved (5Bytes,Fixed 0x00)			

SetLDOSettingReq	727A	0x03		LDO's Altiud(2bytes)	LDO's PSU(2bytes)	Reserved (5Bytes,Fixed 0x00)	
SetLDOSettingRsp		0x83		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)		
GetLDOSettingReq		0x04		Reserved (9Bytes,Fixed 0x00)			
GetLDOSettingRsp		0x84		LDO's Altiud(2bytes)	LDO's PSU(2bytes)	Reserved (5Bytes,Fixed 0x00)	
ORPCalibrationReq		0x05		StandORP(2bytes,86mv Or 256 mv)	Reserved (7Bytes,Fixed 0x00)		
ORPCalibrationRsp		0x85		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)		
PHCalibrateReq		0x06		StandPH(2bytes,0PH Or 4PH Or 9PH)	Reserved (7Bytes,Fixed 0x00)		
PHCalibrateRSP		0x86		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)		
NTUCalibrationReq		0x07		StandNTU(2bytes,0 or fullscalentu*10)	Reserved (7Bytes,Fixed 0x00)		
NTUCalibrationRsp		0x87		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)		
SetWireLengthReq		0x08		Lenght(2 bytes,Unit:1cm)	Reserved (7Bytes,Fixed 0x00)		
SetWireLengthRsp		0x88		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)		
GetWireLengthReq		0x09		Reserved (9Bytes,Fixed 0x00)			
GetWireLengthRsp		0x89		Lenght(2 bytes,Unit:1cm)	Reserved (7Bytes,Fixed 0x00)		
SetAckOnOffReq	ALL(0xFF)	0x0F	0xFF	ACKOnOff(1 Byte 1_Ack ON 0_AckOff)	Reserved (8Bytes,Fixed 0x00)		
SetAckOnOffRsp		0x8F		Status(0x00_success)	Reserved (8Bytes,Fixed 0x00)		
GetAckOnOffReq		0x0E		Reserved (9Bytes,Fixed 0x00)			

GetAckOnOffRsp		0x8E		ACKOnOff(1 Byte 1_Ack ON 0_AckOff)	Reserved (8Bytes,Fixed 0x00)	
ResetReq	ALL(0	0x0D	0xFF		Reserved (9Bytes,Fixed 0x00)	
ResetRsp	xFF)	0x8D			Reserved (9Bytes,Fixed 0x00)	
SetADROnOffReq	ALL(0	0x0C	0xFF	ADROnOff(1 Byte 1_ADR ON 0_ADROff)	Reserved (8Bytes,Fixed 0x00)	
SetADRRsp		0x8C		Status(0x00 _success)	Reserved (8Bytes,Fixed 0x00)	
GetADROnOffReq		0x0B		Reserved (9Bytes,Fixed 0x00)		
GetADRRsp		0x8B		ADROnOff(1 Byte 1_ADR ON 0_ADROff)	Reserved (8Bytes,Fixed 0x00)	

Note: mintime present the sensor's sampleperiod,but dont apply on interrupted type sensor's report,such as PIR Sensor, Contact Switch Sensor ,etc. If interrupted type sensor's state change, it send report immediately.

Ack's default value is OFF

ADR 's default value is ON

ResumeNet's default value is ON